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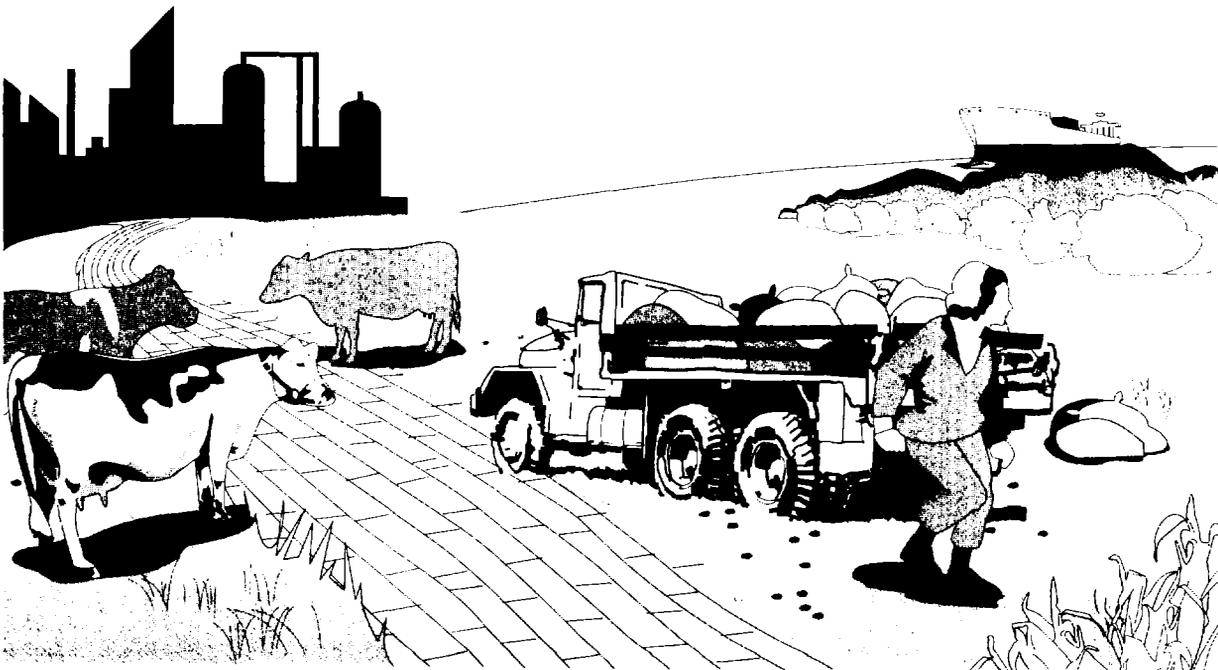


Agriculture in Liberalizing Economies: Changing Roles for Governments

Proceedings of the Fourteenth Agricultural Sector Symposium

Dina Umali-Deininger and Charles Maguire, Editors

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Foreword

Fiscal crisis, which spurred structural adjustment in many developing countries, and the transition of the eastern European countries and the former Soviet Union from planned to market- economies, are two major forces which have driven the reevaluation and consequent readjustment of the roles of the state and the private sector and the ways they interact in the economy. In the agricultural sector, attention has centered on redirecting the state's involvement towards the provision of public goods and addressing market failures in agricultural production, input and output marketing, and the delivery of agricultural support services, while encouraging private sector participation in profitable activities where such involvement could lead to increased economic efficiency.

The theme of the 14th Agricultural Symposium--"Agriculture in Liberalizing Economies: The Changing Roles for Governments"--pursues further the on-going debate of the appropriate role of the state in promoting agricultural growth and development, while at same time seeking to capitalize on important lessons emerging from experiences around the world. The deliberations during the symposium focused on the appropriate design and sequencing of macro-economic and sectoral reforms to promote agricultural growth, agricultural market development, the link between property rights to land and agricultural development, the decentralization of the delivery of agricultural support services, and the role of safety nets in mitigating the adverse consequences of adjustment.

This volume is an assembly of the papers presented during the symposium. In making these papers available in this Proceedings Volume, it is our intention to the share the materials with those within and outside the World Bank who did not have the opportunity to participate, as well as stimulate further discussions on the still evolving debate on the appropriate role of government in agriculture within the rapidly changing domestic and global environment.



Alexander F. McCalla
Director
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Abstract

The 14th World Bank Agricultural Symposium held last January 5-6, 1994, pursues further the on-going debate of the appropriate role of the state in promoting agricultural growth and development, while at same time seeking to capitalize on important lessons emerging from experiences around the world. The deliberations during the symposium focused on the appropriate design and sequencing of macro-economic and sectoral reforms to promote agricultural growth, agricultural market development, the link between property rights to land and agricultural development, the decentralization of the delivery of agricultural support services, and the role of safety nets in mitigating the adverse consequences of adjustment.

Deliberations during the symposium highlighted the evolving roles the state and the private sector should play, depending on the structure of agriculture and the political, social and institutional context of each country. The Symposium illustrated the wide variety of issues and the different approaches that have emerged in various countries in redefining the role of government. The papers presented highlight that changing the role of government from market domination towards the provision of a regulatory framework and public goods that provide maximum scope for private sector activity is a continuing process that requires continuous fine-tuning and evaluation, rather than a one-time event. Assisting countries in consolidating the gains from reforms, and adapting to the challenges arising from a rapidly changing international environment, continues to promise large gains in efficiency as well as equity and will be a continuing challenge to the operations of the Bank.

Acknowledgments

The Agricultural Symposium and this proceedings volume are products of a team effort and we would like to thank all who contributed their valuable ideas and time in bringing this endeavor to fruition. We especially wish to thank the Symposium advisory committee composed of Andres Abramovich, Charles Antholt, Surinder Deol, Mathurin Gbetibouo, Ian Goldin, William Nickel, and Dirk van der Sluijs; and Hans Binswanger, Klaus Deininger, and Mark Wilson for their valuable contribution to the conceptualization and planning of the Symposium. We are grateful for the assistance of Joyce Sabaya and the training division, particularly Surinder Deol and Elisabet Dennis, for the logistical support. We also thank Gail Miller and Grace Aguilar for their assistance in copy editing. Finally, we express our sincere thanks to all the authors and the countless number of Symposium participants who contributed their valuable ideas and experiences in exploring further the appropriate role of government in agriculture.

INTRODUCTION

Introduction

Dina Umali-Deininger and Charles Maguire¹

The World Bank Agricultural Symposium is an annual event, organized by the Agriculture and Natural Resources Department in coordination with the Training Division, whose long-standing aim is to provide a forum for Bank staff working in agriculture-related areas to meet, discuss, and exchange ideas on major issues germane to the sector. Following on this tradition, the 14th World Bank Agricultural Symposium held last January 5-6, 1994, explores an issue that remains a subject of continuing debate--the changing role of government in the agricultural sector of liberalizing economies.

Over the last decade and a half, structural adjustment prompted by fiscal crisis in many developing countries and the change in ideological orientation towards more market-based economies in Eastern Europe and the former Soviet Union (FSU) have necessitated a change in the role of government in the economy in general and in agriculture in particular. This transformation has primarily involved a redefinition of the role of the state to providing public goods and addressing other market failures and promoting and transferring to the private sector those activities which the private sector could perform more efficiently.

In the agricultural sector as well as the whole economy, the roles of the public and private sector, however, evolve as the agricultural sector and the economy change. Matching the appropriate combination of reform measures and pace of change with the necessities of the given moment and the distinct country attributes remains a delicate exercise. The Symposium, therefore, seeks to promote a greater understanding of this complex process, to draw lessons from country experiences, and focus attention on issues to be addressed in the future.

The Symposium was opened by Sven Sandstrom, Managing Director of the World Bank. In his remarks, Mr. Sandstrom stressed that the changed role of the state in promoting agricultural development raises a host of new challenges and opportunities for both member countries and the Bank. For the Bank, he points to five elements upon which the Bank's future development strategy in agriculture should be founded: improving productivity, ensuring agricultural sustainability, strengthening stakeholder ownership, fostering partnerships with other development groups, and poverty reduction.

The complexity of issues involved in structural adjustment were highlighted during the first Plenary Session. Hernan Büchi, drawing from his experience in Chile in his keynote speech, drew attention not only to the difficult and delicate process of designing adjustment programs, but also to the need for political support and proper timing of required actions, to take advantage of the often fleeting "windows" of opportunity. Vinod

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Thomas and Yvone Yang investigated country experiences in pursuing different approaches to structural adjustment (gradual or ‘big bang’), emphasizing that initial conditions, in particular institutional capacity and available human capital, are crucial factors determining the ‘optimal’ pace of adjustment. Alberto Valdes stressed the importance of the proper sequencing of reforms to achieve agricultural growth, particularly the need for consistent policies.

A broad examination of specific issues in redefining the role of government followed the above discussion. They focused on the link between property rights to land and agricultural development, the decentralization of the delivery of agricultural support services, agricultural market development, and the role of safety nets in mitigating the adverse consequences of adjustment.

Given a consistent policy and institutional framework, the provision of individual property rights to land could provide a powerful tool to create gainful employment, reduce poverty and improve the nutritional status of the poor, and increase output and efficiency (Binswanger and Deininger). The Symposium illustrated that there is no unique formula and that individual country characteristics will have to be taken account in designing the approach to guarantee security of property rights to land. In South Africa, it has been found that opening up of the land market alone will not lead to efficiency enhancing land transfer at the speed required, due to imperfections of inter-temporal markets (Christiansen and Cooper). At the same time, collective forms of agricultural production, in contrast to service cooperatives, have been found to be inefficient, and thus various legal measures have been made to effect the transfer of collectives to individuals in Eastern Europe and the FSU (Brooks and Lerman, Csaki and Lerman). In Mexico, decentralization which empowered local communities to decide on the most appropriate form of land ownership is expected to allow a degree of flexibility which could be more efficient and equitable than uniform land titling (de Anda). In Africa, the ability of communal tenure systems to provide security of land ownership has been underestimated (Bruce, ?).

Decentralization of the delivery of support services to the private sector could free up government resources, increase the efficiency and quality, and promote the sustainability of the delivery of the services provided. In supplying agricultural credit, decentralization could provide a means of reducing the transaction costs (Adams). Water users associations, supported by an appropriate regulatory framework to account for externalities and ensure environmental conservation, could relieve government from the needs of day-to-day management (Solanes). However, the reduction or withdrawal of government financing of essential public goods such as particular types of agricultural research could have deleterious effects, as illustrated by the experience in China (Fan and Pardey).

Market liberalization and the provision of an appropriate legal and regulatory framework within which input and output markets can develop, is a lengthy, complicated process, but essential if agricultural investment and growth are to occur. The complexity

of the process is illustrated by the agricultural market development program in Mexico, which included the privatization of property rights, the phasing out of government subsidies, and the elimination of government control in key sectors, such as the sugar industry (Tellez). In the case of the FSU, on the other hand, the continued subsidization and the maintenance of regulations which propped up state enterprises, combined with the weak infrastructure, prevented the development of integrated markets and the transmission of price incentives to agricultural producers (Gardner). The liberalization of markets of products (e.g. pesticides) whose use involve externalities (health hazards and environmental pollution), however, must be accompanied by the formulation and enforcement of an appropriate regulatory framework, to protect both consumers and producers (Pingali).

In pursuing structural adjustment and economic liberalization, there will be those who will be left out or hurt in the process. The associated reduction or elimination of traditional insurance mechanisms (e.g. employment guarantees, income subsidies) makes it all the more difficult for the vulnerable groups to cope. In agriculture, it is often the rural poor who are adversely affected most. While government policies should still be directed at enhancing agricultural productivity and efficiency, the provision of safety nets to these vulnerable segments of the population is critical, to enable them to weather through this difficult period and provide them the means to take advantage of new opportunities in the long run.

The role of the World Bank in meeting the emerging needs in the agricultural sector in this rapidly changing global environment was the focus of discussion the final plenary session. Odin Knudsen and Kathy Lindert, summarized the Bank experience in structural adjustment lending in agriculture over the last decade and concludes that new instruments need to be developed to address the distinct needs of client-countries. This was further illustrated by Mohinder Mudahar in his presentation of the Russian experience. In conclusion, Messrs. Ismail Serageldin, Vice President for Environmentally Sustainable Development and Michel Petit, Director of the Agricultural Research Department, emphasized that development is a multi-faceted process, which bring forth new challenges for the World Bank and its client countries. There is no magic bullet or simple solution, and for the Bank, building the flexibility to meet these evolving needs of the stakeholders will be one of the major challenges in the future.

In conclusion, the roles of the state and the private sector will vary, depending on the structure of agriculture and the political, social and institutional context of each country. The Symposium has illustrated the wide variety of issues and the different approaches that have emerged in various countries in redefining the role of government. The papers presented highlight that changing the role of government from market domination towards the provision of a regulatory framework and public goods that provide maximum scope for private sector activity is a continuing process that requires continuous fine-tuning and evaluation, rather than a one-time event. Assisting countries in consolidating the gains from reforms, and adapting to the challenges arising from a rapidly

changing international environment, continues to promise large gains in efficiency as well as equity and will be a continuing challenge to the operations of the Bank.

Opening Session

Opening Remarks

Sven Sandstrom*

Introduction: New Opportunities

In his opening remarks to this Symposium last year, Mr. Preston noted that he was not an agricultural expert. Well, the tradition continues! Nevertheless, even as a "non-expert," it seems to me that this is quite a unique moment for the sector. New opportunities are opening up, and new lessons are being learned.

This is first and foremost because of the improving economic environment for agriculture in many developing countries—with the trend toward a more competitive, "market-friendly" approach. Mr. Buchi, as a former Minister of Finance, will provide first-hand insights on the synergies between macroeconomic reform and agriculture in Chile. Also in some of the world's poorest countries—in Sub-Saharan Africa, for example—those which are adjusting strongly have seen their agricultural growth rates improve significantly in recent years.

The momentum toward trade liberalization will also enhance agriculture's prospects. The Uruguay Round, in particular, should help to turn around the anomalous situation whereby agriculture has been heavily *taxed* in the poorest countries, but heavily *subsidized* in the richer nations.

These changes imply a different role for the State in agricultural development—the major topic of this Symposium. There is now a consensus that Governments should intervene *less* where they can (e.g. in production), and *more* where they must (e.g. in environmental protection).

Old and New Lessons

These changes raise a host of challenges for our member country governments—and for the Bank. This year we mark our 50th anniversary, which affords us the opportunity to look back and reflect on the Bank's achievements—as well as to look forward and to accelerate the implementation of lessons learned over the years.

The first loan for agriculture was made in 1948. It was to Chile for an Agricultural Machinery Project. (It seems Chile has always been willing to innovate and take risks—even to try out new institutions like the World Bank!). This was, in fact, the Bank's first loan for development. In the 45 years since then, global food production has more than doubled—with more than 90 percent of this

* Managing Director of the World Bank.

due to yield increases. While the Bank is often rightly criticized for being over-optimistic in our projections, aggregate agricultural output is one area where even we have tended to *underestimate* growth. Taking the developing world as a whole, food supply has risen more rapidly than we anticipated—and while declining agricultural prices have hurt project rates of return, they are themselves the result of great gains in agricultural productivity.

Appropriately, much of this Symposium will focus on problems and we will examine where we have failed. Nevertheless, we must not forget that spectacular progress has been made, and we can be proud that the Bank has played a small but significant role in this. One indicator of progress, although certainly not the only one, is the more than 100 billion dollars (at today's prices) that the Bank has committed to agriculture over the past three decades—a substantial investment, by any standard.

In the process, we've learned a number of lessons—some, we've learned quickly. Others, we are only learning now. The early lessons included:

- the stultifying effects of heavy-handed government interventions in marketing;
- the vital importance of sound macro and incentive policies;
- the dangers of generalized subsidies for inputs and outputs;
- and the crucial role of research and extension.

The recent "mini-World Development Reports" on the East Asia miracle and on adjustment in Sub-Saharan Africa clearly illustrate these points. We can now document, for example, that countries which invested most consistently in extension, research, and rural infrastructure—and which maintained a stable, undistorted incentive framework—enjoyed large increases in agricultural incomes and output. They also achieved substantial reductions in poverty—from 30 percent to 10 percent over a 20-year period in the case of East Asia.

Some of these lessons are not popular, but they are nonetheless true, and we should not be timid in defending them. At the same time, we ourselves have to admit that other lessons have been learned only more recently:

- the high costs of inadequate supervision of projects and low quality-at-entry;
- the gains to be had from building real ownership in projects;
- the benefits of participation;
- the crucial role of women in everything from extension to education;
- and the economic and social costs of failing to take environmental concerns into account.

For most Bank staff, the "early" lessons (those relating to the need for a market-friendly approach) are now obvious—although that is not always the case with the Bank's critics. For most of the critics, the "new" lessons (those relating to human, environmental, and institutional concerns) are obvious—but that is not always the case with the Bank staff!

A major challenge for the coming years is to bridge these gaps and to incorporate BOTH sets of lessons into our operations. We need agricultural economists who recognize that "listening to the people" is not a luxury of the sociologists—but is essential to good project economics. We need agronomists who take long-term environmental concerns into account. And we need environmentalists who can articulate the gains from undistorted markets.

Agriculture and the Future Role of the Bank

Where does all this leave agriculture in terms of the Bank's future development strategy? When we mark the 60th or 70th anniversary, how will we measure our contribution to the worldwide agricultural sector? Let me suggest that there are FIVE elements that we need to monitor closely:

- First is good old-fashioned **PRODUCTIVITY**. Food production worldwide needs to double in the next 40 years. Such a phenomenal rate of growth has only happened once before in history—and that was in the past 40 years! It would be a big mistake (as shown by the 1992 WDR) to assume that it will be easy to keep up the rates of the Green Revolution era. It would also be a big mistake to treat the current emphasis on participation, gender, and the environment as the primary objectives of agricultural projects. Yes, these are important **ends** in themselves, but they will have failed if they are not also the **means** to promote growth in agricultural productivity. And here, of course, extension and research including the vital role of the CGIAR will remain of fundamental importance.
- Second is the issue of **SUSTAINABILITY**. While we would certainly not agree with some critics who argue that the Green Revolution simply borrowed production from future generations as it impoverished soils and destroyed ecological balances, we do need to acknowledge frankly that not nearly enough attention has been given to longer-term sustainability issues. A new generation of projects is now rapidly entering our portfolio projects that give strong weight to undoing ecological problems of the past and introducing more sustainable production patterns for the future. In the past year, the Board has approved investments like the Forwah Irrigation Drainage Project in Pakistan (attacking waterlogging and salinization), the Natural Resource Management Project in Ghana, the Integrated Pest Management Project in Indonesia, and the Matruh Resource Management Project in Egypt. We will be seeing a lot more projects like these.
- Third is the issue of **OWNERSHIP** which, in fact, is simply another facet of sustainability. The Wapenhans report on project implementation taught us lessons which many of us already knew that too many Bank-supported projects were inadequately "owned" by the relevant stakeholders. As any Management 101 course teaches, this is a recipe for long-term failure. Building ownership at all relevant levels is neither easy nor cheap but **not** doing it is even more difficult and costly in the long run.

- The fourth issue that I would emphasize is **PARTNERSHIP**. We have to recognize that, in our more "open" world, there are many more actors involved in development. The Bank is the object of intense scrutiny by NGOs, among others. This changing "external environment" means, in turn, that the Bank will have to be a more "extroverted" institution. Partnership is the name of the game. This is a change that we should all welcome since we certainly do not have all the answers nor all the resources. However, more partnership means more time spent with groups beyond governments and donors and more consultation beyond the confines of our headquarters office. It also means that the Bank will not always be in the lead on any given agricultural issue or program.
- My fifth issue is **POVERTY REDUCTION** which, of course, is really our **first and last** concern. All other elements are sub-components of that overarching objective. We need to do a better job of monitoring the poverty-reduction impact of our operations. The country poverty assessments are beginning to give us some firm baseline information. We know that increased agricultural and off-farm employment opportunities remain essential to poverty reduction in many of the poorest countries a point reemphasized in the "nexus" study on Sub-Saharan Africa, for example. But we have not done enough to deepen our understanding of these and other labor market issues. Next year's WDR on Employment should help to push our thinking forward on this vital issue.

Conclusion: The Need for Fresh Thinking

These broad dimensions of change will have a substantial impact on the kind of projects we support, on how we support them, on our training programs, and on the kind of staff we recruit to help implement them. Clearly, we will need a broader array of expertise to meet the broader array of challenges.

Implementation is receiving increased attention and there are early signs of improvement in project performance in the agriculture sector. But we must continue to search aggressively for ways in which to improve our product and be absolutely rigorous in reviewing and, where necessary, **restructuring** agricultural portfolios.

Finally, we need to continue to think hard, and in fresh ways, about designing projects that can reach and help our primary clients the poor. The recent **Agricultural Sector Review** offers a useful framework for making "best practice" common practice. Some of the ideas which emerged from the Hunger Conference in late 1993, particularly in terms of how best to reach the poorest of the poor, also need to be taken on board.

The Bank's agricultural operations in the past have played a vital role in helping to feed growing populations in many countries and in releasing resources for more general development. I am convinced that, by adapting our approach to the challenges and opportunities in our rapidly changing world, our agricultural operations will play an even more important role in the next 50 years.

Promoting the Macroeconomic Environment for Agricultural Development

Hernan Büchi*

When I was walking here this morning, through the buildings of the IMF and the World Bank, I couldn't stop thinking about how strong the feelings are around the world toward these two institutions. If you look at the press in many countries—I would say a little less now, but at least in Latin America in the 1980s—the IMF and the World Bank were considered institutions that were creating problems and poverty. That was the feeling governments were promoting to the public. I think they were in error—but in some cases, the feelings are still there—in that they believed their problems were *because* of the reforms, not because of their own wrong policies of the past that had made the reforms necessary.

I think we have to change the focus and look for ways to improve our situations by reforming ineffective and outmoded policies and practices. So, I was pleased when I was given the opportunity to come here to the World Bank to share with you some of my views. In Chile, we have gone through many different stages of relationships with the World Bank. At the beginning of our reform process, the World Bank was not involved. There were many reasons for this, the primary one being that credit lines were available from commercial banks. At that time we were receiving a lot of financing from the world very cheap—at least it was considered to be cheap then, at the end of the 1970s. In addition, the financing was not given to the government but to the private sector and everybody was very happy, even here at the World Bank and the IMF. They said, "That's the way to get out of problems."

Unfortunately, things changed dramatically in the 1980s. By that time, everybody in the private sector had stopped lending money or investing it in my country and others like it around the world. So, it became imperative for Chile to generate a new program to get out of its debt crisis. I was personally involved in meetings with Mr. Stern, a vice president of the World Bank at that time, and with Mr. Delarosier, then chairman or president of the IMF. What we generated for Chile became, I would say, the prototype for the Brady Plan or the Baker Initiative. We went through a structural adjustment loan before the idea of structural adjustment loans was concrete. I think maybe it had something to do with the fact that Chile was the first country to receive a development loan from the World Bank. Somehow we have been lucky enough—or unlucky enough, I don't know—to be a kind of guinea pig or pioneer first in going into a very state-regulated economy and then in moving out of that situation. Perhaps because we were pioneers at the beginning we also are pioneers now in implementing a major reform of our economic environment.

* Adviser at the Instituto Libertad y Desarrollo, Santiago, Chile.

I also want you to know that it's important to me to be here with you to discuss the specific issue of agriculture. As you probably know I have been involved in many areas of government, including agriculture. I was not an undersecretary of agriculture, or anything like that, but I was heavily involved in the reform of the agricultural sector and agricultural reform was key in Chile. Politically, the situation evolved in such a way that when most—at least 50 percent—of the good agricultural land was administered by the government, we reached the critical mass of discontent and it became clear that we had to generate a change and go into a new direction.

I want to say a few words now about the scope of the presentation I am going to make. First, when I was given the title: "Promoting the Macroeconomic Environment for Agricultural Development," I was somewhat taken aback. I thought maybe there were people here who wanted me to tell them that there is a specific macroeconomic environment that is good for promoting agricultural development and that it should be different from the general one. Maybe my reaction was because of the wording, or because of the way I translated the wording into my own language, into Spanish, or maybe because I was biased against that kind of discussion in my own country. In a certain sense, the agricultural lobby in Chile often asked for a special macroeconomic policy that would be specifically designed to promote agricultural development—a different economic policy than the general macroeconomic policy. I'm sure this was not the purpose of the title, but I just wanted to remark that when I received the assignment for the presentation, I thought, "Well, I will have to start by saying who I am and what I believe." So I will do that.

I am a person who believes in open markets. I work for that. I believe in private initiative. I really do. If anything, my belief in private initiative today is stronger than ever before. I visited many countries in the world when I was a minister in Chile and afterwards, and you see private initiative everywhere, even among children. Once, while visiting another country, maybe El Salvador, our car was noticed as we drove through a poverty area on the way into the city. On our return, through the same poverty area, a number of small boys were there to stop the car. I thought maybe they wanted to hurt me, but that was not the case. They saw a gringo going in and they said, "When he returns, then maybe we will do business with him. We will sell him something." And that's why they were waiting there. They were just trying to sell me something, to make a little money.

In China, I was involved in a very different area, in mining. The government of China was (and is) trying to change its policies for attracting foreign investment in mining. It happened that I was giving background on the job I was doing to one of the guys in the office when I learned he was a former farmer. And he said, "Well, you don't know what has happened in this country. We were slaves before." Those were his words. "We were slaves." But, he said, "Now we have a new opportunity. I'm working here because I'm helping my family to improve. Somehow—I don't understand how—but somehow they are becoming owners and I am helping them become owners of pieces of farm land."

So I am convinced that private initiative works and I am convinced there is a need for institutions to make private initiative work more efficiently. Furthermore, I think there is a major role for the government to play in providing those institutions. Typically, that role is not fulfilled because governments may be worried about the details or about stepping into what should be the private sector role. However, I think a sound macroeconomic environment is one of those institutional arrangements that are necessary for the partnership between the public and private sectors to work together effectively.

In Brazil, for example, there is a very high inflation rate—36 percent, I think, last month. It depends on how you measure it. If you had been there a year ago when they were running at a 24 percent rate of inflation a month and you asked, "How come you have such high inflation?" They would have said, "Look, it's only 24 percent. We're not reaching 40 percent." And now you go there and ask the same question and they say, "Well, it's only 40 percent..." You know, they cope with it. I can give you some ideas about how that happens and about the consequences of that, but I think Brazil would have a more stable environment and the efficiency of the private sector and of the general society would be greater if the government had institutions to establish policy guidelines for the private sector.

Another point I want to make is this—and maybe I should apologize. But I'm not a theoretician. I used to be a practitioner and I am more accustomed to making decisions than engaging in long discussions about them. I know the best of all the approaches is to discuss everything, to have alternatives, to plan when to act and then to act. But unfortunately, you don't always have time to do all those things at once. You have to be able to have enough discussions, enough alternatives, but at the same time be ready to take action. I was probably biased in my university training to study things, but in my training in government, I was biased to act. And somehow, I think that is useful advice for institutions. Sometimes when discussion of the issues drags on and on, you lose the political momentum. There are opportunities when you have political momentum and you have to take the opportunity in the moment it is there or you may lose it forever. Unfortunately, somebody has to judge when the discussion should end and the action begin. If you judge that the timing is not just right, okay. But if you have political momentum, you must act. It won't wait.

I'm just giving you the background of my own experience. My remarks are not rooted in fundamental economic theory—so I'm not going to give you all the details of why I think such a thing. I'm just relating to you the consequences of my own experience and my thoughts about the consequences of actions that were taken on the crest of political momentum and those that were not.

I served as Minister of Finance in Chile for four or five years. There, the Minister of Finance was the coordinator of the economic policy as a whole and even of the social policies from the point of view of expenditure. So my macroeconomic background is quite broad and that will probably influence my presentation very heavily. But I also am convinced that the breadth of economic reform is important to its success. For example, in my opinion, there is no way for a

reform effort to be successful if there is not good articulation between macroeconomic reforms and structural reforms. In agriculture, for example, I was involved in the process of generating a law for water rights, property rights in water, that was important for agriculture and also for mining. I don't think mining would have developed so easily in my country without that law. I was also involved in forestry and how to defend and create a subsidy, at least initially, to pay for part of the cost of forestry in new areas. And I was involved in other issues such as quality controls or how much the government should control exports.

I remember at the beginning of the process of exploring the extent to which the government should be involved in exports, we were exporting a little over 7 million boxes of fresh fruit to the United States and to Europe. And I was told, "You have to generate a board like the New Zealand board or the South African export board in order to control exports" or else you will never be able to reach more than 15 million boxes, or something like that. Maybe they said 20 million boxes. That's going to be your ceiling, I was warned. And people told me I'd better recognize that as a monopoly and generate an institution to administer that it. I was firmly convinced that there was no need for an export board. Today, we are exporting between 100 and 150 million boxes of the same kinds of fruits—a wide variety of different fruits. But the discussion is still there. I was not then, nor am I now convinced of the need for an export board. I think the pressure is being renewed for other reasons because of certain macroeconomic conditions that I will discuss later.

Given my background, I can speak with of authority on Chile. But I'm also well informed on what is going on in the rest of Latin America and elsewhere. After you have been involved in economic reform for so many years, you get to know the issues in other countries as well as your own. And I have a perception that whatever the situation is—however different the details—the principles are the same. I am convinced that this is true for countries in Latin America or for China or for whatever country. The details—the problems—may be completely different for every country, but the principles of how you meet the challenges and devise solutions to the problems are same the world over. For me, the challenging part of the situation is how to put the details together in light of the political and economic situation. It doesn't matter whether the issue is related to how to privatize a company or draft legislation for property rights or water rights.

Look at Argentina, for instance, where they were able to privatize an old company just a few months ago. They had to initiate a process whereby they solved a problem of paying pensions that were long overdue, and that action allowed a political consensus to be reached and paved the way for them to go ahead with the long term privatization process. Some weeks ago I went into Croatia and Romania. Actually, my grandparents came from Croatia and I went to visit their homeland. Whenever I go to such places, for whatever reasons, I always start looking for specific opportunities to put the details together—to solve the little problems—in order to make way for necessary reforms, given the country's political constraints and the actual constraints of the structure of their economy.

Having said that I want to also mention that I like to concentrate on specific issues. I'm not here to give you an overview of the macroeconomic environment. If I were to do that, you would know beforehand what I am going to say, because you know perfectly well that you need a stable environment, low inflation, a more or less balanced budget, open economies—I think that is probably well known by everybody. I'll try to give you what I think is the value added, the difference between general macroeconomic principles and the real questions you may face and how those can be related to agricultural development.

Anyway, I would like by giving some information about Chile, some of which you may know but I'll try to put some added value to it. The first point is that in Chile, the reforms were generated after a macroeconomic crisis. This is something that I wouldn't say is general, but unfortunately it is quite common: you have a crisis and because of the crisis you go ahead with the process of reform. And that's a problem, because if you are in a crisis already, it means that you have a lot of problems, and if you have a lot of problems, it will take a long time to solve them. So when you examine the process of reform, if you start from a macroeconomic problem, you will very likely find that behind the macroeconomic crisis there is a structural problem. So you really have a very difficult process in front of you. And, from the beginning, you have to face the fact that probably, as I said in my opening remarks, you will be blamed for the inconvenience and for the cost of the reforms. And those who initiated and perpetuated the structures and the costly policies of the past that led to the crisis and ultimately to the reforms, will go blameless.

I often wonder how one might influence countries that are not already in a big crisis, how one might persuade them or guide them into a reform process *before* they are engulfed in a crisis. Look at Latin America. Argentina went through a process of reforms *after* a major crisis. It seems that Brazil is still saying it does not have enough of a crisis to go ahead with the process of reform. If you go to Brazil and ask about reforms to curb inflation, they'll say, "Well, inflation is, okay. It's a problem, but after all, we're used to inflation." And that's true. You have to remember that Chile, Brazil, Argentina and Uruguay are, I would say, the only countries in the world where you've seen chronic inflation for not only one, two, three or five years—but for 40 years. You know that the inflation in Chile was chronic from 1930 up to 1973. Chile's average rate of inflation was 35 percent. And it's not that one year we had a 10,000 percent inflation rate so the *average* gave us 35 percent. Our inflation rate was always high, I would say, for 40 years. Then, we went through something close to hyperinflation because we reached an inflation rate of 84 percent a month. That's quite high. When you reach that kind of inflation and then you go down to 20 percent and stay there, let's say, for six months; and then you go down to 10 percent and stay at that for a year, then you really learn how difficult it is to get out of inflation when you are used to chronic inflation and then you run into hyperinflation. Probably what you see in Brazil is that the people are so used to inflation they think they have the institutional arrangements to handle it. And maybe they do. In a country like the United States, with the institutional arrangements they have here, an inflation rate of 30 percent a month would kill everything. But in Brazil, with the kind of institutions they have, it doesn't kill everything. So it's not really hyperinflation. You have to define hyperinflation in light of the institutional arrangements that are present.

But the point I was making is how to be able to initiate the process of reform without having to go into such a deep crisis that everybody has to accept the emergency reforms. I don't have an answer, I'm just making the point to you. I would like to be able to influence countries that are not engulfed in a crisis to go into a reform process with the same strength and commitment you see in countries that are in a deep crisis.

In Latin America, a good example might be Colombia. Maybe some of you are aware that Colombia is a country that has done better economically than most other Latin American countries. In the past 20 years they have never gone into a debt crisis and they have never experience hyperinflation. They have an opportunity, now that they have found additional oil, to go ahead with an orderly process of reform. Maybe because of what is going on in the rest of the continent, they can be persuaded to do so. There is an opportunity in Colombia to implement reforms without the kinds of costs that are typically associated with the process because they have strong social and economic environments. That's a point I want to leave here with you today.

The second point—not in Colombia, but elsewhere—is how to go ahead and create a critical mass in support of reform in countries that are in trouble but not yet in a deep crisis. In Chile, we were in a deep, profound crisis when we started the reform process. That is, in part, the reason why at this moment you can say it took a long time for Chile to start seeing real results. The crisis was very deep and difficult to climb out of. Moreover, Chile's crisis was self-made. Normally, you have an excuse to have a crisis. You have the oil shock, the debt shock, whatever.

We did ours by ourselves. I think that it's quite a unique experience in Latin America that there was no excuse for our crisis.

As I said, inflation was quite high; it reached a peak of close to 1,000 percent in 1973. For the previous 40 years we had an average inflation rate of 30 percent or more. Harnessing inflation is difficult and has a strong influence on the agriculture sector. The instruments we have to bring inflation down always have a cost. Typically, there are two broad alternatives: to use the exchange rate or to implement a very strict monetary policy. Either will have a potentially serious impact on agriculture. If you use the exchange rate, you will probably overvalue your currency, at least for awhile and that is will affect agriculture, being a tradeable sector. If you use monetary policy, you will influence what happens in the capital markets and in interest rates. Normally, during a reform process, the agriculture sector is undercapitalized, so a high interest rate is going to be very negative and perhaps it will undermine the solvency of the agriculture sector. In Chile, we used both methods: we had a period of overvaluation of the currency that affected agricultural trade and we had a period of very high interest rates that affected the agriculture sector by limiting the availability of financial resources.

It is important to note that the *structure* of Chile's economy was the underlying reason for the macroeconomic behavior. We had a very close and over-regulated economy, price restrictions and a high degree of state ownership. Some of the numbers will illustrate my point. For example, in 1965 only 13 percent of the mining sector was administered by the government; in 1973, the government controlled 85 percent. Government control of utilities soared from 25 percent in 1965 to 100 percent in 1973. In agriculture, as I mentioned, about 50 percent of what we

considered good agricultural land came into the hands of the state during the same period. The closest situation I have seen to that kind of picture is probably in the Eastern European countries.

As I mentioned, I recently visited Croatia and it was amazing for me to see how similar Croatia's situation is to what we had in Chile before the reforms. Both countries are very small in size, but the social and structural problems are similar as well. In the case of agriculture, many of Chile's problems—like those in Croatia—were related to land ownership. Prices, inputs, credits, rationing, restrictions, everything that had been in Chile was there in Croatia as well. In our country, prices were very low for products because of the closed economy. Agricultural export products were not favored; inputs were given at a low price to compensate for low prices of the products; loans were given in special amounts often because of political pressures; the way the products were traded in the society was regulated—the government had purchasing powers to buy the products and then to sell them at lower prices to consumers. So that's the kind of situation we had in our country, very similar, indeed, to the situation in Croatia. So the process of reform and the macroeconomic changes we made in Chile had to be consistent with that situation.

And the situation, in differing degrees, is similar for our neighboring countries as well. In Peru and Ecuador there is the more traditional society resulting from an ancient culture where agriculture was very important. Then you can look at Uruguay and Argentina, where the kind of ownership is just as it is in the United States, with a lot of private property. But the macroeconomic problems are quite similar in both situations. In the case of Chile, the general aims were first to restore macroeconomic balances in order to have the instruments to establish balanced monetary, fiscal and exchange rate policies that were not contradictory to structural reforms. For example, it's very easy to balance the budget in the short term if you increase tariffs.

You can do that as a way of obtaining more revenues for the government and it is obvious to everybody what you have done. But it's not so obvious that there are other ways of increasing the revenues and improving the budget that are just as negative as increasing tariffs, but often they are not perceived as such, because not everyone can see the whole picture. Let's say if you increase certain taxes—sometimes I have seen heavy taxes being levied on property as a way of balancing the budget. But if you do that at the same time you are requesting the agriculture sector to restructure and to reform, you are very likely taking the meager capital the farmers still have that might allow them to go through the process of reforms, but you are taking it away from them in order to finance the budget. So you are being inconsistent in the way you are promoting your macroeconomic equilibrium and at the same time forcing the sectors to restructure.

That is not only true for taxes, it's true also for the way you push ahead with the monetary policy. Normally, as I said, in order to stop inflation you might use, as it is called now, the monetary anchor. You have to be very, very strict with monetary policy or interest rates will go to the sky. I have seen real interest rates of 40 to 60 percent a year, sustained and maintained. Fortunately, that is not the case now, but you saw that two years ago in Argentina. In Chile, we saw that for a number of years, 25 and 30 percent real interest rates. And that was part of the monetary policy to stop inflation. Obviously, if you increase interest rates to that level to stop inflation and, at the same time, you want the private sector to restructure, you have a problem. If

the private sector is low on capital, it's going to be very difficult to borrow to finance the restructuring process and it might collapse before it can restructure.

Then, besides the macroeconomic balances you want to achieve in the reform process, you normally want to strengthen the private sector. We tried to do that in Chile—to open the economy. Our aim was to generate flexible markets, including labor markets and capital markets and to promote private ownership. This, I would say, is a very important point: the objective should be not only to privatize, but to *create* a private sector. It's a different concept. It doesn't mean that the private sector is not potentially there, but if you want to privatize it must *really* be there. I remember in the Czech Republic, that issue was very clear. If you were to privatize, who would buy the products? Nobody had any money. So, achieving macroeconomic balance is a process. The more you are state-intervened, and the more the government owns, the more you have to be conscious of the need to *create* a viable private sector. In Chile, we completely changed our social policies to be consistent with the macroeconomic environment and tried to focus the social policies on the poor.

As you can see, we have two well-differentiated stages of economic history in our country: between 1974 and 1982 and between 1984 and the present. And we mainly failed in 1982. If we had failed completely, I think it would have been much more difficult for all the reform measures that are going on in the world now, because it would have been a very clear failure, as was the case in Argentina or Uruguay, when those countries tried to initiate a process of reform, although they didn't envision a reform as complete as ours. Nevertheless, I think the lessons we learned in Chile are useful. During that near failure, agriculture was very negatively affected. The agricultural sector was a kind of test case which started to perceive the effects of the near failure at the end of 1980 or in 1981. I think the main lessons we learned from the perspective of macroeconomic policies, are the following: first, overvaluation of currency is always very negative for tradeables and I think as a macroeconomic policy-maker one has to be very careful not to allow overvaluation of your own currency. Second, when you start enjoying success, somehow the world opens to you, and when that happens, there is a kind of stock adjustment from the perspective of how much the people are willing to invest or lend to the country. But it's important to remember that it is not necessarily a permanent flow, it's stock adjustment. If you feel very happy because of what is going on and you accept the plaudits and allow your currency to overvalue, you will always generate a major problem in the tradable sector. When you look backwards, you'll see this very clearly. When you're in the limelight of success, however, you don't see that very clearly. Whenever you look at what is going on now in Latin America, let's say in the case of Argentina, or Mexico, having huge amounts of capital coming into the countries, you say, "Well, everybody is very happy. The money is going to the private sector, everything is fine. There is a surplus in the public sector, consumption is increasing ..." and so, politically, you have a reason to push ahead in that kind of situation. But you never know whether the situation will be permanent. I would be very careful if I were in the situation that Argentina and Mexico are in today. Maybe I am biased because we suffered in 1982. But I think if I were in their position I would be much more confident if I could see, in this moment, while resources are coming in from all over the world, investments going up a little bit more than the increases in foreign resources.

In addition, you have to be very careful with wage policies especially when you have had an inflationary environment in the past. It is very difficult politically not to be rigid in your wage policies. I was in Paraguay two weeks ago and—just to give you the framework—they are having inflation now at about 20 percent per year. They had very low inflation before, but now they are just like other Latin American countries. Like Venezuela, after being at zero inflation for many years and now, for the last 10 years, they have been experiencing inflation rates of 30, 40, 50 percent a year, something like that. So they are learning what chronic inflation is. And in Paraguay they were saying, "Look, we're going to be very prudent with our wage policy. We're only going to increase wages by about 10 percent more than the inflation." That's very prudent. But people get confused when you are in an inflationary environment and for the first time you're having 20 percent inflation for some years and you say, well, we have to give 30 percent wage increases because that's the way to recover from past situations and cope with inflation. Wage policies are important. In the agriculture sector in Chile, many people said to me that wages don't really matter. The farmers said, "Look, we don't care, because the payroll is not important for agriculture." They said that even in the more sophisticated agriculture sector. That's not correct, because behind the other purchases you make when you work in agriculture, wages are involved. You may argue that you only pay this much in wages, but you forget that you're also paying your oil bill, or you're paying for your services and those people who are providing those goods and services are passing their wage costs along to you, the consumer. So, be careful.

The other point I want to stress that was important for us in 1982, was the private sector indebtedness. I think one of our errors was to try to privatize without creating a private sector. The private sector was without capital but we imposed very high taxes. We didn't transfer property but, at the same time, we increased the level of taxes. Before that our taxation was full of loopholes so we generated a more neutral tax policy, but at the same time, increased the effective taxation. So, from my perspective, what we were doing was trying to give the private sector a leadership role while, at the same time, hobbling it with a lot of problems, and eroding its capital base. Concurrently, resources in the financial markets were very expensive and interest rates were very high. It is no wonder that our private sector foundered.

So, our first mistake was overvaluation coupled with rigid wage policies and the second was in failing to create a private sector that was solvent and had a large capital base. When I became minister, fully responsible for the policies, I changed the emphasis to redress the balance between fiscal, inflationary and exchange rates in order to stop inflation and create a reasonable environment for the tradeable sectors. I was very heavily biased toward promoting a strong private sector with transfers of property where they were available and new tax policies to improve the flow of resources to private enterprise. You have to reduce expenditures in the public sector to improve savings in the economy and then channel some of the savings toward the private sector. Those were the concepts that were used when I was personally involved.

When you look backwards, some people may disagree that these are the reasons for the relative success of Chile's reforms, but you can see there has been a very good economic performance and agricultural performance as a consequence of the reform measures. In the last

10 years, Chile has enjoyed a growth rate of between 6 and 7 percent a year. Exports have been growing at a volume of 11 percent a year and savings also have increased dramatically. I like to use a figure that reflects "Gross Domestic Savings," the part of the Gross Domestic Product that is not consumed. The reason I prefer that instead of national savings is that international interest rates affect the way you measure national savings, especially if you are heavily in debt. So, using the other definition, Chile's savings increased more than 10 points between 1985 and 1989. The savings were channeled, as I said, toward increasing the solvency of the private sector. Investment went up proportionately in the same period as well.

So here is a picture of increased agriculture production, especially in exports, in forestry and in other sectors. But I am a little uneasy that we may again be having problems similar to those we had in 1981 and 1982, although in a different degree. If you look closely you will see that the agriculture sector is saying, "We are not competitive anymore, even in areas where we were very competitive." If I were in charge of macroeconomic policy in Chile now, I think I would be a little more aggressive in increasing my current account deficit, increasing the availability of resources, but not increasing investment at the same time. Perhaps I would maintain the present investment and save a little more. The other side of the coin is the kind of policy where you appreciate your currency and affect the competitiveness of the tradeable sectors. Maybe the kind of flows we are seeing now will be permanent, but if they happen not to be, then again we will have a situation that will require major corrections. I think the symptoms are there although they are much less worrisome than they were in 1981. Perhaps there is a reason for taking a risk on the potential permanence of the situation in my country. And the risk is balanced with the political benefit you obtain if you increase the welfare through the overvaluation of your currency. But, from my perspective, the risk is substantial and I believe it can be demonstrated by using the same definition I used as Gross Domestic Savings. While that saving went up 10 points between 1985 and 1989, it has been reduced to only 4 points in the last two or three years. I think that's a matter to be worried about. And if you look at other indicators, the relationship between wages and exchange rates, for instance, you will see a major difference between what has happened with an exchange rate that has appreciated significantly, while, at the same time, there have been sizeable wage increases as well.

Having reviewed very briefly our own experience in Chile, I want to make a few final points. First, do you need a special macroeconomic environment that treats agriculture as a special case? My answer is no. I think agriculture will respond positively to sound macroeconomic policies just as it will be negatively affected by wrong macroeconomic policies. That also is the case with other tradeable sectors.

The second point I want to stress is that the reform process is an integral one. It's not just a process of redressing the macroeconomic balances but one of structural change as well. My approach can be likened to putting a jigsaw puzzle together. You need to have all the pieces on the table so the people can perceive what you are doing. I was in a hurry to put together macroeconomic and structural reforms at the same time. But it's not a matter of what has to be done first and what has to be done second. What's more important than that is to understand the interrelation between the reforms. It's more important for practitioners to know that if they open

the economy first and at the same time they have a weak private sector, they will run into trouble. And I try to use that premise whenever I look at a situation in a different country. I try to see the political constraints and the real constraints to know where the weak points will be and what I have to beware of if I proceed with certain kinds of reforms. That was my approach and I think there is no other way out.

Third, is that inflation control is a problem that will affect agriculture and all the tradeable sectors. I recommend getting rid of price controls as fast as you can. I know macroeconomic leaders often don't want to do that because they fear they will create too much inflation immediately and they want to stay within certain quotas. They say, I'll get rid of this price control later when I already have a lower inflation rate. I think that is nonsense. The sooner you can get rid of price controls, the better for the economy and for agriculture. Normally, the prices are controlled in order to affect the index of agricultural products because food is probably 40 percent of the consumer price index. It could be 40, 50, or 60 percent, depending on the country and, of course, it is heavily influenced by the price of agricultural products.

I already mentioned that fiscal balances and taxes that affect tradeable sectors and savings and investment have to be taken into account when you redress macroeconomic balance. I think you should always have in mind that your objective is not to increase export taxes, not to tax savings or investments. It's not only a matter of having the balance, it's a matter of how you have the balance. These were the major principles I employed when I was administering macroeconomic policy.

I've given you my views on such topics as exchange rate policies and the danger of overvaluation, wage policies, monetary policies and the creation of capital markets. I think those are very important. Price volatility and special protection for agriculture also are important issues. I was involved in creating what was called in Chile bands of prices for agriculture. I was minister of planning when that was done and my liberal friends said I was committing some kind of sin; that being involved in something like that was a way of closing the economy. Bands in my country are special targets that are applied when the fluctuation of prices of certain products get out of certain predefined margins. Of course, you have to be very careful if you do something like that. In my case, I was involved—not in decreasing volatility, but in price support—and that presents a special problem: how to avoid price support to some products when you are supporting others. So, I was lucky enough to do it only to very few products and then to stop.

About expenditures, especially in agriculture, from my perspective, you don't need much, at least in the beginning. Huge departments and huge institutions that use government resources to promote agriculture are not really necessary. Of course, there could be cases where there are special needs, such as a serious lack of infrastructure. But my own feeling is that when you start huge development projects without putting into use what you already have by implementing the right macroeconomic policies and structural reforms, you are on the wrong road and going in the wrong direction.

My final comment is about guidance in the reform process. It relates to a question I have to face whenever I'm called upon for advice. It's not just a matter of what to advise, but who can be advised. As I have explained, I feel that much of what has to be done in the reform process is more of an art than a science. So you need an artist involved. If you don't have the artist, you probably can advise very little. I can tell you from my experience that if you happen to be involved in cases where you don't have someone to sketch out the whole picture and to see that it is made up of many complex details, you should be conscious of the probability of failure. You can offer broad, general ideas, but in the end, if there's no artist to see how the details relate to one another and to the whole, it is unlikely that the project will succeed. When I'm confronted with this kind of situation, as an individual, I can just say, "Well, this guy doesn't know how to do it, so goodbye." As an institution, you can't do that, of course, and that's a problem for you.

To put it another way, it's just like being called upon to teach somebody to fly an airplane. If he doesn't know how to fly an airplane at all, you'd better not try to teach him from the back cabin. You're going to crash with him. You need to be close to him at the controls. That's a problem, I know, for an institution like yours, a major problem, but one that is perhaps worthy of deliberation.

Structural Adjustment: Gradualism or Big Bang Approach?

Vinod Thomas and Yan Wang*

*The hastier you are, the later you will reach your goal.
...Lunyu (The Analects of Confucius)*

Abstract

Rapid and comprehensive reforms are desirable because they bring larger benefits sooner. But considerations of winners and losers, sequencing, learning by doing and reversing paths under uncertainty argue for a gradual approach. In clarifying these opposing considerations, this paper makes the following points:

- To begin with, it pays to avoid forcing a choice between a big bang versus gradualism by taking timely actions. East Asia succeeded with incremental reforms made possible, above all, by the maintenance of macroeconomic stability and political stability.
- It helps to differentiate between the speed in decision-making, in policy action and in implementation. Investors benefit from quick and clear signals, even as some of the actual institutional changes might take time to be fully in place.
- Speed also needs to be viewed in perspective. By historic standards, the past decade has seen fairly rapid changes, even in the supposedly gradualist Chinese reform -- for example, in the substantial reduction of agricultural disincentives. Some of the changes in Eastern Europe (Czechoslovakia, Poland) were, of course, the most radical.
- Scanning the developing country experience, is liberalization going too fast? The concern ought not to be that actual price reforms are too fast, but rather that institutional changes are too slow. In socialist transition, it is important to facilitate alternative institutions as old ones are being torn down.
- Turning to the reform agenda, it is as crucial for governments to help build market institutions and to act in areas where no one is acting, such as environmental protection and social safety nets, as it is for governments to step out of the direct production of ordinary goods and services.

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Introduction

The economic case for speed in reform is strong: swift actions bring efficiency gains more quickly. But ancient wisdom from around the world comes down on the side of gradualism. For sociopolitical as well as economic reasons, most changes in the history of economic development have been made gradually. In the more recent experience of China, gradual changes are producing spectacular results. Meanwhile, the so-called "big bang" reforms in some of the countries in East European (EE) and the former Soviet Union (FSU) countries have yet to bear fruit.

On which side, then, should public policy come down: for gradual reform or "shock therapy?" Several clarifications are in order. First, speed in perspective: compared to the lengthy reform processes in industrial countries, the pace of change in China, especially in agriculture, has been anything but gradual. Second, the content: speed depends on initial conditions -- how much macroeconomic instability there is, for example. Third, decisions versus implementation: in many cases, even if reform implementation is gradual, decisions about reform can be swift and clear cut. Fourth, the reform itself: speed depends on the type of reforms in question -- price reform or institutional reform, for instance.

Other dimensions of reform are relevant too. One is the timing of the changes; whether to initiate them before, during, or after a crisis, for example. Another is the scope of the policies -- should they be comprehensive or partial? And if they need to be partial, what sequencing of steps is best? All these dimensions are closely intertwined. This paper focuses primarily on the issue of speed, and it generally associates rapid reform with early timing and comprehensiveness. But where gradualism is found desirable, considerations on priorities and sequencing are mentioned.

No structural reform in history has been as momentous as the *socialist transition* that has swept the world in recent years. Throughout the past decade and a half countries throughout the developing world have been undertaking structural adjustments. Where macroeconomic imbalances or the structural problems of state enterprises are severe, there is little alternative to bold and swift action. But the success of market-reforms depends on how quickly countries can develop essential institutions and market-specific human capital.

- The role of government in facilitating this transformation is to step out of the production and distribution of ordinary goods and services *and* to help create alternative market structures before old ones are torn down.

Substantial market liberalization has occurred during the past decade in the developing world (including EE and FSU). International and domestic trade is far more open today than at any time in recent memory. The completion of the Uruguay Round of the GATT provides a basis for further trade reforms in many sectors, including agriculture. Macroeconomic and exchange rate reforms in developing countries have improved macroeconomic stability and reduced the bias against agriculture in most countries. But price reforms need to go further in accounting for the

environmental consequences. And there is a need now for follow-through, to complement the reforms with incentives and with investments and institution building.

- The next stage of reforms can be ambitious in removing the remaining price distortions and in correcting for the misuse of resources and for externalities. The three "I's" need emphasis: Incentives, Investments and Institutions.

Opposing Considerations

Structural adjustment was more gradual in Indonesia, Korea, Mauritius, Morocco, and Turkey than in Bolivia, Chile, Ghana, Mexico, and Poland. The World Bank (1991) concluded:

Gradualism may sometimes be justified when reform faces particularly large economic uncertainties. And, by nature, some reforms take longer than others..." However, "swift actions bring the benefits of reform more quickly. Speed also makes sense if the political opportunity for reform is unlikely to last. Gradualism may not be feasible for economies in acute crisis or for governments with limited credibility" (p. 117).

Webb and Shariff (1990)¹ take the view that some reforms should be implemented quickly and that others need more time. Overall, "structural adjustment has usually taken longer than originally anticipated and indeed has become an integral part of the development strategy for many countries (p. 81)."² How quickly the economy has responded to a policy reform package has also varied considerably³ (World Bank 1992b).

There are cogent arguments on both sides of the debate on whether reform should be rapid or gradual, although some of the arguments below apply to *differing* country situations (i.e. not head to head comparisons).

Big Bang in Transition

Rapid reform is more sustainable politically because it can "head off the formation of interest groups..." (Fischer and Gelb 1991). "A slower pace may lead to prolonged uncertainty and a longer period of poor performance, during which opposition forces can be formed to block the reform process. A rapid approach, in which markets are liberalized even before adequate preparation, avoids the danger of delay, but raises the potential for chaos" (Fischer and Gelb, 1991, p. 104).

Rapid, decisive reform is more credible (Lipton and Sachs 1990). Effective monetary policy reform requires fairly rapid implementation of policies that are consistent, transparent and nondiscretionary.⁴ A big bang approach preceded by the announcement of a comprehensive reform plan, shows the determination and commitment of government to reform. For

privatization reform, a big bang approach provides a critical scale for the privatized firms to be efficient (Roland and Verdier 1991).

Rapid reform avoids the distortions, intertemporal speculation, and hoarding of goods often induced by gradual or partial price reform and corruption (van Wijnbergen 1992)⁵. Experiences with two-tier price mechanisms or dual exchange rates are cases in point.

A big bang approach to privatization cuts subsidies to the state sector sufficiently to force state-sector workers to reallocate to the private sector. Sachs and Woo (1993), using a three-sector labor allocation model with heavy subsidies to state workers show that only a big cut in subsidies that forces state-sector workers to shift to the private sector will invigorate the economy. In a country without surplus labor, small cuts in subsidies -- partial reforms -- do not lead to labor reallocation, so the non-state sector does not grow.

Gradualism in Transition

Perhaps the most persuasive argument for gradualism is its avoidance of excess -- both too steep a reduction in living standards (Singh 1991; Wang 1993) and too great a cost to the government budget (Dewatripont and Roland 1992; Nielsen 1993).⁶ Rapid reform is not economically necessary unless macroeconomic imbalances are severe (Gelb, Jefferson and Singh 1993). In that way, gradual reform is also more sustainable politically. Similarly, a gradual or sequential approach further improves the *political sustainability* of the reforms by splitting up the position (Wei 1993⁷, Wei and Lian 1993⁸). In China, for example, farmers have benefited from the first stage of the reforms, which have helped the government maintain social consensus for future reforms (Fang, 1992).

A gradual approach that works "at the margin" removes constraints on market behavior incrementally (Gelb, Jefferson, and Singh 1993) and permits experimentation. Even partial reform can boost productivity in agriculture and industry (Lin and other 1993; Jefferson, Rawski, and Zheng 1992). By allowing trial and error and mid-course adjustment, gradual reform is particularly appropriate when the effects are uncertain, as in intergovernmental fiscal relations, large-scale privatization, land reform, and other reforms of property rights (World Bank 1991).

Poor resource conditions also argue for a gradualist approach to privatization of large state-owned enterprises (Wang 1993; Wei 1993, Wei and Lian 1993).⁹ But while rapid privatization may not be necessary for successful reforms, measures to diversify ownership and encourage the entry of new private firms are critical (Gelb, Jefferson, and Singh 1992).

Broad Lessons

Thus circumstances frequently argue for one approach over the other. Experience with structural adjustment yields several lessons.¹⁰ Immediate action is often needed up front to overcome serious macroeconomic imbalances, a process that may take several years to complete. High rates of inflation and large government deficits must be addressed at the beginning of

adjustment. Privatizing large, state-owned enterprises and opening up capital markets require institution-building, regulatory reform, and the development of human capital, changes that can only be implemented gradually.

It is unrealistic to expect policy measures to have a quick impact on employment and growth. In countries with serious macroeconomic imbalances, the supply response to policy reforms is likely to be slow. The removal of price distortions and impediments to factor mobility should proceed at the same pace as trade reforms.

Some Key Insights:

- **Program Ownership.** Strong government commitment and broad, general agreement about the direction of reform in the country are necessary for the sustainability of the program.
- **Macroeconomic Stability.** The attention to macroeconomic balance determines the success of much else in the program.
- **External Financing.** Too much external financing can allow governments to postpone or avoid domestic action, while too little or delayed financing can jeopardize the success of the program.
- **Supportive Investments.** Price reforms are vital but supportive public investments and a strong drive to revive private investment are essential too.
- **Role of the State.** Even as the "don'ts" of government intervention are being pursued, it is important to establish the "dos", or the positive role of the government -- in market building, poverty reduction, and environmental protection. Far too little is being done in these respects.

Among the cases where outcomes have been poor, a recurrent factor is a mismatch between financing needs and ownership of reforms. In the case of agriculture Structural Adjustments Loans (SALs), one report notes, "what appears to have driven the timing of many of these loans from the borrower's point of view is not so much the concern for policy adjustment as the concern for imports." But where ownership of reform coincided with the loans, as in China, solid results followed.

- The crucial link to success in structural reforms seem to be commitment and ownership of reform rather than gradualism (as in China) in preference to rapid change (as in much of EE and FSU).

Key Distinctions on Speed

Historical Perspective

The U.S. average nominal tariff varied from 30 to 59 percent during the years 1821 to 1945¹¹ (Figure 1). After 40 years and seven rounds of GATT negotiations, the average tariffs of industrial countries was lowered from the 40 percent level to about 5 percent (Tokyo Round).¹² Tariffs escalated again following the Tokyo Round (1974-79) with some processed commodities reaching 30 percent (an effective rate of protection of more than 100 percent) (Yeats 1987, p. 119).

After almost 50 years, trade liberalization of agriculture in industrial countries is still unfinished. The protection rate in agriculture is even higher than in manufacturing. The U.S. International Trade Commission estimated the tariff equivalents of the European Community's nontariff barriers at 471 percent for nonfat dry milk, 275 percent for cheddar cheese, 212 percent for butter, 188 percent for sugar, and 96 percent for wheat in 1986 (USITC 1990). The U.S. government also has been heavily subsidizing and protecting agriculture. The price of sugar, for example, has been kept at double, triple, or quadruple world prices. In Japan, average producer subsidy equivalents in agriculture were 72 percent -- nearly twice the average for all OECD countries -- and rice subsidies have kept the price at six times the world price (Knudsen and Nash 1990, p. 44).

Some reforming developing countries and formerly socialist countries have liberalized much of their trade in 5 to 15 years. Compared to the lengthy process in industrial countries, the pace has been fast in *some* developing countries. Such "catching-up" in market development is an advantage that late-comers can seize upon only through a rapid opening up of their economies. China has accomplished in 15 years the institution-building and economic development that took several decades in industrial countries. The economic integration of the world has provided the external conditions for reforming countries to develop market institutions faster than did industrial countries before them. But efficient reformers learn faster than others. How quickly a country learns and catches up in developing market institutions depends not only on its initial endowments and conditions, but also on its way of learning.

Initial Conditions Matter

Among a country's initial conditions, two aspects are especially relevant: the extent of macroeconomic instability and the degree of structural distortions (see Table 1).

Countries with relatively stable political and macroeconomic conditions usually feel no particular urgency for reform, so they can afford to conduct reforms gradually, in an evolutionary fashion, rather than risk political and economic chaos. China and most East Asian countries belong to this group. China had far more severe structural distortion than other East Asian

economies, with the domination of state ownership, distorted prices, a closed economy, and an unwarranted emphasis on heavy industry.

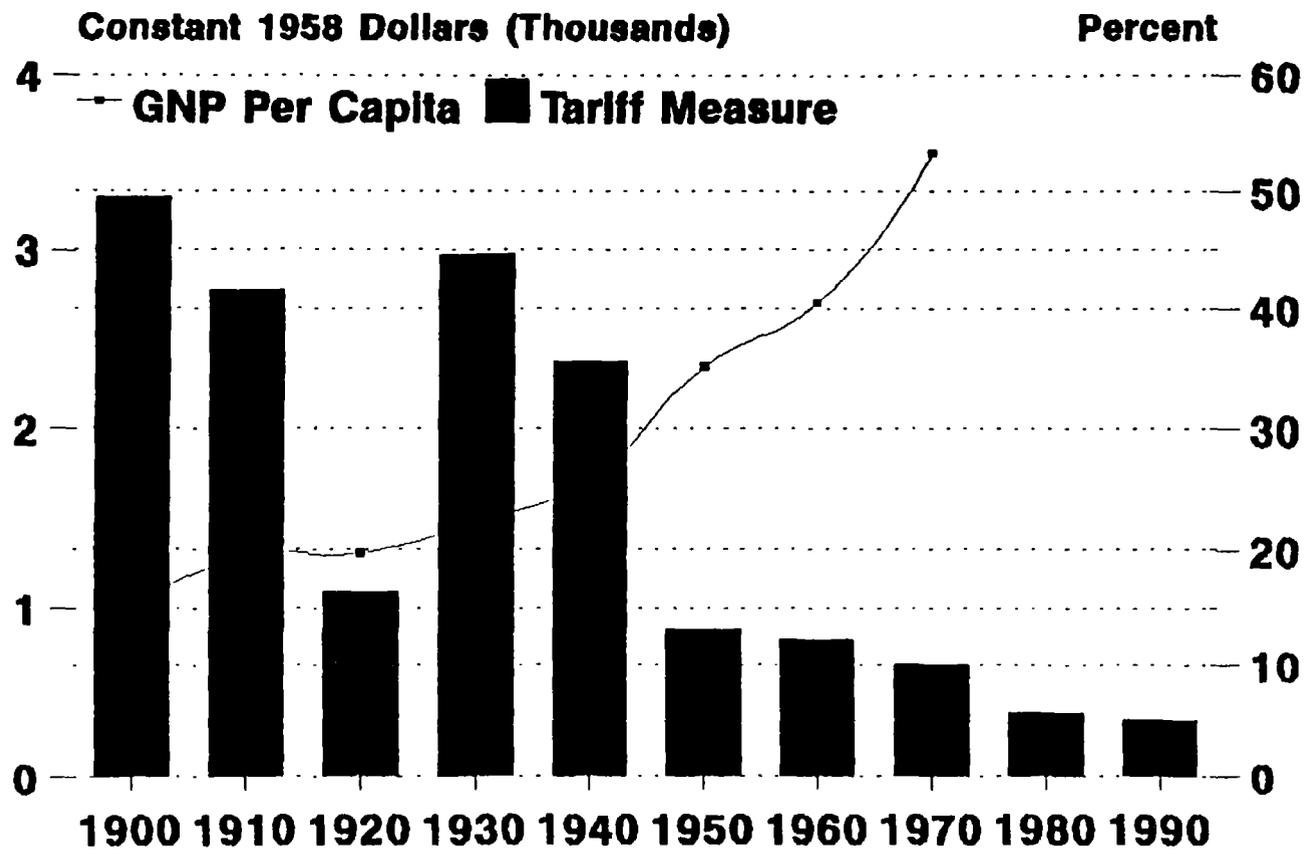
Countries experiencing massive macroeconomic imbalances cannot afford to reform slowly -- they need a strong dose of the medicine. And the political opportunity to reform may not last. For these countries, a big bang in some respects may be more appropriate. Countries in this group include many Latin American countries at certain time periods and most countries in EE and the FSU. These socialist economies in transition had more structural distortions and a much higher degree of industrial concentration than did China.

A related issue concerns a country's structure of production and its labor markets. A developing country like China, with a large agricultural sector and surplus labor, can afford to delay privatization of large state enterprises while allowing a small non-state sector to outgrow the state sector, improving productivity in both sectors. This strategy may not be applicable in EE or FSU. These countries need to slash subsidies to the state-sector to force workers to reallocate to the private sector (Sachs and Woo 1993).

Separating the Decision To Reform from Its Implementation

Where theory and experience demonstrate the benefits, the decision to reform can be announced quickly and clearly at the outset, even if implementation takes years. In other areas where the results are uncertain, or politically difficult to accept, even the decisions about reform need to be made cautiously. This uncertainty often characterizes socialist economies in transition since much more is known about the initial conditions and goals than about how to get there (Table 2).

**Figure 1
United States**



Tariff Measure: Ratio of duties to total dutiable imports

Table 1. Initial Conditions: An Illustration of Different Countries at Different Times

Structural Problems	Macroeconomic Instability	
	Mild	Severe
	<ul style="list-style-type: none"> • mild inflation • small fiscal deficits • small CA deficits 	<ul style="list-style-type: none"> • high inflation • large fiscal deficits • large CA deficits
Mild:		
<ul style="list-style-type: none"> • some price distortions • some exchange rate distortions • some financial distortions 	Korea (early 80s) Malaysia (early 80s) Thailand (early 80s) Indonesia (early 80s)	?
Severe:		
<ul style="list-style-type: none"> • public ownership dominates • massive distortions • heavy, monopolistic industrial structure • a relatively closed economy 	China (1980s) India (early 80s) Algeria (1980s)	Brazil (1980s) Mexico (early 80s) Ghana (1970s) EE, FSU (1980s) Viet Nam (1980s)

Note: This table is for illustration only; it is far from comprehensive.

Table 2. Speed in Reform Decision versus Implementation

		Reform decisions	
		Fast	Slow
Fast	In areas with proven results:		
	<ul style="list-style-type: none"> • exchange rate reform • some trade reforms (QRs first) • some expenditure cuts • monetary control • price liberalization 		
Slow	In areas with uncertain results:		
	<ul style="list-style-type: none"> • rationalization of certain expenditures • land reform • liberalization of prices of certain necessities 		
<hr/>			
Reform Implementation			
Fast	Proven results but implementation takes time		
	<ul style="list-style-type: none"> • an independent central bank • commercial banking • securities markets • capital account • a social safety net • legal infrastructure 		
Slow	Uncertain results and difficult to implement:		
	<ul style="list-style-type: none"> • intergovernmental relations: tax & expenditure assignment • privatization of large SOEs 		

Types of Reforms

Stabilization

Cumulative experience points to the advantage of a big bang approach for correcting severe macroeconomic imbalances (Bolivia, Israel and Mexico). In other cases -- Poland, Yugoslavia in 1989-90, Czechoslovakia, Bulgaria, and Romania in 1991 -- the results of a big bang approach are not yet conclusive (Table 3).

Government deficits can be reduced relatively rapidly, as many developing countries have demonstrated. "Before price inflation can feasibly or safely be phased out, and before the capital market is opened for free borrowing and lending, the first and more obvious need is to balance the central government's finances. Fiscal control should precede financial liberalization" (McKinnon 1991, p. 4). Ghana cut the deficit as a percentage of GDP by half between 1986-90 and made good progress in restructuring spending and boosting capital expenditures on infrastructure (Pradhan and Swaroop 1993). The deficit could be reduced further by cutting transfers to state-enterprises and reducing subsidies on water, electricity and transport (Chhibber and Leechor 1993).

Tax reform needs much more attention in most countries. Institutional reform in public finances is an unfinished task in most countries. Large countries, in particular, face difficult questions about the appropriate degree of decentralization of revenue and expenditures.

Exchange Rate Reform

Both rapid and gradual reform of the exchange rate regime seem to work. The United Kingdom did it rapidly, while other European countries chose to do it more gradually: all achieved their targets. Mexico liberalized capital flows gradually beginning in the mid-1980s. When comprehensive reforms introduced in December 1987 led to appreciation of the real exchange rate and rising interest rates, the government reacted quickly with a revised program for 1988. The exchange rate was depreciated gradually, (at an announced rate of one peso per US dollar a day from January 1989 to May 1990). Meanwhile, fiscal reforms were intensified and the primary surplus increased to 8 percent of GDP during 1989-90, helping to reduce real interest rates (Mathieson and Rojas-Suarez 1992).

Trade Liberalization

Decisions on trade reforms can be made quickly and clearly at the outset to give the right signals to producers, but implementation has usually been phased in slowly. Chile and Mexico implemented trade reforms more rapidly than Korea and Thailand, but all had good results.

Mexico reduced the coverage of quantitative restrictions from 100 percent of imports in 1982, to 23 percent of tradeables and production by April 1988, and tariffs were reduced from an

average of 23.5 percent in mid-1985 to 11 percent in 1988. Mexico now has one of the least protective commercial policies in the developing world.

Chile reformed its trade policies rapidly. From 1940-1970 Chile pursued an import-substitution policy, with increasing intervention and protectionism during 1970-73. Then, between September 1973 and June 1979, Chile rapidly liberalized trade. Effective protection fell from about 175 percent to about 15 percent. Chile now has about the lowest and most uniform rates of protection in the world. As a result, the share of trade in GDP and total factor productivity have increased.

Examples of successful trade liberalization that followed a preannounced gradualist path include the European Common Market, whose members agreed to a gradual removal of tariffs, and countries such as Israel, whose earlier trade liberalization followed a gradual path.

There has been much debate on the desired pace of trade liberalization. Increasingly, the issue is much less about the desirability of infant industry protection, and more about the impact of sudden trade liberalization on revenue and employment and the financial impact of too rapid a liberalization of capital flows. But even if tariff reductions are introduced slowly, there are strong arguments in favor of eliminating import licensing and quotas at the same time. It is important to send the right price signals for long-term investment, even when temporary measures are applied to mitigate the immediate output and employment costs.

Financial Liberalization

There is a strong case for sequencing the liberalization of the financial sector, minimizing restrictions on interest rates and allowing them to rise to positive levels. This would be accompanied or followed by the development of commercial banking and non-bank institutions. The development of a securities market takes longer because it requires institution-building. "Those countries with substantially positive real interest rates and high real financial growth, such as Japan, Taiwan, South Korea, and Singapore are regarded as leading success stories" (McKinnon 1991, p. 12).

China's financial sector reform started in 1984, with the separation of central banking from commercial banking. The creation of non-bank financial institutions was encouraged, and new capital markets were established to trade initially in government bonds (1988/89) and then in shares (1990/91). These financial reforms were introduced rapidly in the mid-1980s but there has been little change since then. The commercial banking system remains state-owned and reform in this area is a major piece of unfinished business.

Speed and Content of Agricultural Reform

An important change in thinking during the 1980s was the growing recognition that macroeconomic distortions (an overvalued exchange rate, urban and industrial subsidies, large fiscal deficits) cause severe anti-agricultural bias.¹³ Krueger, Schiff, and Valdes (1991) found

disprotection of agriculture from these sources to be 25 to 29 percent in sixteen developing countries. The total negative impact on agriculture of these macroeconomic policies is often greater than the direct disincentives to the sector (export taxes, procurement prices, and the like) which can seldom be compensated for by direct incentives to the sector (e.g. fertilizer subsidies, credit subsidies). The policy implication of these findings for agriculture is the need to fix the macroeconomic distortions both to stabilize the economy and to help the sector perform better.

Most structural adjustment programs featured macroeconomic adjustments and reductions in industrial protection, in addition to producer price reform in agriculture, divestiture of parastatals, reduction of input subsidies and investment and institutional reform. There is evidence of progress in correcting the currency overvaluation and reducing the fiscal deficits in developing countries (World Bank, 1988, 1990, 1992b). But institutional reforms have lagged: institutionalizing pricing rules (Mexico), separating credit and input supply functions (Colombia), and reforming agricultural agencies (Tanzania, Morocco, Ghana) are usually later efforts and infrequent experiences.

Efforts to reduce discrimination against agriculture remain important. And there is a large unfinished agenda in addressing full-cost pricing, inclusive of environmental costs. These price reforms, while necessary, are not sufficient for sustainable development. The challenging agenda to raise agricultural productivity with complementary investments and institutional developments remains unfulfilled in the majority of developing countries.

Interaction Among the Reforms

Interactions and complementarities among reforms make a strong case for carrying out reforms in tandem across the sectors. For example, trade reforms provide higher payoffs if domestic markets are deregulated, and resources can be reallocated in response to the changed price signals. Investments in agriculture are more productive if they are guided by the signals given by a corrected exchange rate, rather than an overvalued exchange rate.

Is there, then, a case for slowing the entire process to allow for synergies among the reforms? "Trying to move too quickly can be counterproductive. That some policies can be changed faster than others does not mean that they necessarily should be" (Helleiner in Thomas et al, 1991, p. 536). Some analysts go further and argue that results have been poor because too much reform was attempted too fast -- in Sub-Saharan Africa, for example.

When simultaneous reform is not an option, the preferred sequencing of reforms will need to be kept in mind. For example, liberalizing the capital account ahead of the current account was found to be costly in the Southern Cone countries of Latin America. Similarly, reducing import tariffs without fiscal reform was costly in the Philippines and Morocco. In some countries the effect of reductions in direct agricultural subsidies (fertilizer, pesticides) to farmers was not offset quickly enough by the correction of macroeconomic distortions (Colombia).

- While there is some evidence of poor sequencing, there is little evidence of too much price reform or too much deregulation carried out too fast. What reduces the payoffs from price reforms is the failure to make reforms that are deep enough and to support complementary changes in investment policies and institutional development.

East Asian Experiences

Speed and Sequence

East Asia has experienced remarkable success in structural adjustment. Although there is substantial variation in the policy measures adopted, some commonalities in the pace and sequencing of reform stand out and are worthy of review.

Most East Asian countries maintained relative political and macroeconomic stability (World Bank 1993a and 1993b). Most also worked to build strong market institutions, some earlier (Korea from 1963 on) and some later (Thailand, China in the 1980s).

Aggressive exchange rate policies were common, with devaluations under a fixed-rate regime followed by strict maintenance of a depreciated and stable exchange rate thereafter. Korea had the lowest variability in real exchange rates among developing countries (Dollar 1992). Thailand's currency, tied to a basket of currencies, depreciated by 30 percent in real terms during the second trade reform in 1983-91. China's real exchange rate has depreciated substantially against other currencies since 1978. Malaysia maintained a stable real exchange rate during 1960-83, through a policy of macroeconomic stability and minimum trade intervention (Jenkins and Lai 1991).

There was much more variation in trade policies. Most countries (except Hong Kong and Malaysia) had a period of import protection and substitution, followed later by trade reforms. Singapore (1959-64), Taiwan (1953-58), Thailand (1960-79) and Indonesia (1973-80) had import-substitution policies. Korea (1960-79) though export oriented, had high levels of import protection. When they introduced trade reforms, East Asian economies promoted exports first and liberalized imports later. Korea had a long period of export promotion and import protection during the 1970s, followed by trade liberalization in the 1980s (see charts in Annex 2). Several devaluations, aggressive exchange rate management, and export policies ensured that import protection did not tip the terms of trade against exports. Similarly, Thailand conducted its second trade reform in the early 1980s, and lowered tariffs on manufactured imports after 1990.

There was also considerable variation in financial sector reform, but most countries maintained positive real interest rates. Some experienced a significant financial deepening and development of financial markets. Thailand managed to develop a well-functioning commercial banking industry early on in the 1960s and 1970s and then deregulated interest rates in the 1990s.

Agricultural Reform

Several East Asian economies introduced land reform early on: Korea in 1950, and Taiwan in 1949-52. Farmers in Indonesia have more equitable tenure arrangements (land-use rights) than in other East Asian countries, tying their rewards directly to their efforts and creating the preconditions for broad-based growth of agricultural production.

Most countries had a period of heavy taxation of agriculture (negative protection) designed to accelerate capital accumulation for industrialization (Thailand, Philippines, China 1960-78, Korea 1950-69). Some countries reduced direct and indirect agriculture taxation of agriculture through reforms of agricultural prices, trade, and the exchange rate; other countries turned protective (Korea). Malaysia intervened much less. Korea was a protector of agriculture during 1960-84, (with total taxation of -13.2 percent compared to an average of 30 percent for a sample of 18 countries). Malaysia was a mild taxer (17.6 percent), while Thailand (40 percent) and Philippines (27.4 percent) were heavy taxers (Krueger, Schiff and Valdes, 1991).

Thailand taxed agriculture heavily until the 1980s. In Thailand, a land surplus country, land-per-worker-under-cultivation was still increasing as late as 1977, allowing agricultural exports to expand substantially. Prices of agricultural products were kept low and stable during 1960-75 through taxation and regulation of the sector. In 1975 the government started to shift away from this policy, setting up higher "support" prices and reducing taxation. Export taxes were gradually reduced in the early 1980s. Barriers to maize trade were dismantled, and export duties on rubber were sharply reduced. Transfers out of agriculture to the rest of the economy have declined, the result of lower trade barriers and a large infusion of government funds (Siamwalla and Setboonsarng 1991 in Krueger, Schiff, and Valdes 1991).

China began its agricultural reforms by implementing the household contract responsibility system (HCRS) in the rural areas, accompanied by a 25 percent real increase in relative agricultural prices. Under the HCRS, land was returned to individuals on a long-term (15-25 year) lease basis, and farmers turned over a percentage of output to the state. These price and "ownership" incentives induced a rapid output response (annual growth average 6 percent in 1979-89) and generated large cash savings, creating a surplus for investment. The agricultural reforms also released a pool of labor for new sources of employment, thus promoting the rapid development of township and village enterprises (Harrold 1992).

Table 3. Strategies in Reforms: An Illustration of Country Cases

Types of reforms	Rapid		Gradual	
	Countries	Results	Countries	Results
1. Macro stabilization	Bolivia, Mexico, Israel Poland (89-90) Yugoslavia (89-90) Czechoslovakia, Bulgaria and Romania (1991)	Successful Positive and big social cost Inconclusive	Brazil Hungary	Failed Mixed
2. Exchange system				
• Devaluation	Many countries	Positive with costs	China and other East Asians, Israel and Mexico (1980s)	Successful
• Open capital account	U.K. Argentina, Chile, Uruguay (1970s)	Successful Failed		Successful Successful
3. Trade liberalization				
• Remove QRs	Chile (1977-79), Mexico (1985-88)	Successful Successful	EEC (1950-60) Israel (1960s)	Successful Successful
• Reduce tariffs	Vietnam, EE, FSU	Successful Positive	Korea (1980s) China (1980s)	Successful with costs Successful with costs
4. Agricultural reform				
• Land reform	Korea, Taiwan (1950s) China (pseudo land reforms 1978-83) Chile (1973) Vietnam (1988-89)	Successful Successful large short term costs large long-term gains Successful	Philippines Colombia China (1978--)	Unsuccessful Mixed Positive & unfinished
5. Price reforms				
• Free most prices	Vietnam EE, FSU	Successful Positive with big social costs	China (1979--)	Positive with smaller social costs
6. Financial reforms				
• Interest rates & credit	Indonesia (70s-80s) Philippines EE, FSU	Mixed Unfinished	Japan, Taiwan Korea, Singapore	Successful
• De-monopolized banking			China (1984--)	Positive & unfinished
• capital markets				
7. Ownership reforms				
• Small private enterprise	China (TVEs) VietNam, EE, FSU	Successful	China (1984--)	Mixed, some positive results
• Privatization of large SOEs	EE, FSU	inconclusive		
8. Institution-building				
• Legal infrast.	Many countries	Successful	Many countries	Positive and continuous
• Social safety net	VietNam, EE, FSU	Positive & unfinished		
• Fiscal decentralization	China (started early and still continuing)	Positive & unfinished	China (1983--)	Positive & unfinished

Note: For illustration only.

Korea became highly protective of agriculture in the 1970s with protection persisting well into the 1980s. After a period of light government interventions in the 1950s and 1960s, limited to a few important products such as rice, barley, and fertilizer, the government steadily increased the purchase price of rice and barley while keeping urban consumer prices low (through two-tier pricing). As a result, the average effective rate of protection for rice rose from -26 percent in 1962-69 to 39 percent in 1970-79. Trade liberalization began in the early 1980s which reduced tariff and nontariff protection of manufacturing imports, but protection for agriculture continued to rise steadily. In 1980-86 the effective rate of protection rose to 81 percent for beef (Moon and Kang 1991 in Krueger, Schiff and Valdes 1991). Other estimates of nominal protection of agriculture put it at about 100 percent in the early 1980s, similar to that of the most protectionist industrial countries. Anderson and Warr (1987) conclude that agricultural protection favored unskilled labor and landowners at the expense of skilled labor and encouraged a sector in which Korea did not have a comparative advantage. In sum, Korea's pricing policy for agricultural products proved to be costly (Song and Ryu 1992 in Corbo 1992).

What We Know and What We Don't

To come to some resolution about the efficiency of gradualism versus the big bang, two issues need to be differentiated: how fast reforms should be carried out and how much reform is desirable.

Speed

East Asia's experience is often interpreted as evidence for gradualism in reform. But considering the relative freedom from distortions to begin with in most East Asian countries, their experience is an endorsement not so much of gradualism as of timely action to avoid the need for a shock therapy.

China's transition is also viewed by some as evidence in favor of gradualism. But China's agricultural reform was fairly rapid. And its overall reform is not yet complete, with the harder changes yet to come. All the evidence is far from in, so it is still much too early to tell whether the big bang approach will eventually succeed in EE and FSU, after the initial downturn, and whether China will need to break out swiftly from being its hybrid solution.

When all is said and done, the economic arguments for rapid announcement of reforms in all areas, and rapid implementation in several areas, remain strong. There will be short-term costs but the long-term gains justify decisive and comprehensive actions.

Sociopolitical realities, however, usually dictate an actual speed quite a bit slower than the optimal speed. After all, social and political stability has proven to be as vital an ingredient for success as economic stability (World Bank 1993). Provided that macroeconomic instability is *not*

a critical handicap requiring immediate action, a country can afford to pace the transition to accommodate greater sociopolitical acceptability and consensus.

Content

The East Asian experience is frequently viewed as an endorsement of a high level of government intervention in the market. Infant industry protection seemed to serve East Asia well.

But the evidence from elsewhere points to disastrous results from such protection. And East Asia, itself, has been moving away from such protection. In the 1990s, direct foreign investment and openness to trade promise gains much greater than trade protection could hope to provide. Thus, full trade liberalization and free markets seem more desirable than ever.

The East Asian experience does suggest, however, that government has a major, positive role. Laissez-faire is *not* optimal. The government's role in making markets work, dealing with externalities, and facilitating public investments is crucial. This suggests that reforms fail not because market liberalization proceeds too quickly but because supportive, institutional reforms proceed too slowly.

Rapid market reform depends on having market-oriented institutions (such as a central bank) and market-specific human capital (such as people trained to run a central bank) in place. Their inadequacy in EE and FSU, has hindered the effectiveness of liberalization. Countries in EE and FSU need to build a market-ready foundation of institutions and skilled people to enable the rapid reforms to enjoy early success. China's approach works at the margin, building market institutions incrementally, as the role of old planning institutions is cut back.

Structural adjustment also requires effective, responsive government to guide the reform process -- to make quick decisions, to give clear signals, and to implement the reforms. Both goals and process require government attention. "Thus, a hands-off policy during the transition from a centrally planned to a market economy would be most inappropriate. ... If the necessity for intervention is not acknowledged and guidelines regulating its application and defining its purpose are not established, there will be intervention in practice anyway; but without an overall view of its scope, direction, and implications, intervention will be haphazard and could involve costs that would breach budget constraints and threaten macroeconomic stability" (Bruno 1992, p. 775).

The key is knowing how to intervene efficiently. The East Asian governments intervened in a pragmatic, flexible, and transparent way that kept distortions in check. The effects of policies were monitored, and failed policies were reversed quickly.

Uncertainties

While much is now known about what works and what doesn't, several questions remain unanswered:

- *Why have some countries been able to avoid major macroeconomic imbalances and, therefore, to enjoy steady and incremental reform? The East Asian economies have shown a remarkable ability to achieve and maintain macroeconomic stability, under varying political structures, ranging from authoritarianism to pluralism.*
- *What are the crucial gaps in price and market reforms? Full cost pricing, inclusive of the environmental costs, is a distant goal in most countries. Equally lagging are adequate legal and institutional arrangements to give people a stake in sustainable development.*
- *How much decentralization of taxation and service provision is desirable during the process of liberalization? Large countries, especially, are finding out about the trade offs between centralization and inefficiency, between decentralization and fiscal control.*
- *What can ensure social consensus and political sustainability during the reform process? China's experience shows that real monetary benefits, such as those obtained by many at the beginning of the reforms, can forge social consensus. Reform may not be politically sustainable if no real monetary benefits are perceived or received by at least some groups of people within a year or two.*
- *To what extent are institutional reforms endogenous? Institutional reforms have followed in response to price reforms in some countries (again, in East Asia), while in many other settings price reforms have proven to be insufficient to trigger such changes.*

Endnotes

1. Corbo, Fischer and Webb (1992), Harrigan and Mosley (1991), Mosley, Harrigan and Toyé (1991), Ghai (1991), Cambell (1992), Loxley (1989), Stoneman (1989), World Bank (1992b, 1990, 1988), and World Bank and IMF (1990).
2. "The stabilization phase of the adjustment may take a few years. ... The early operations usually focus on a sustainable reduction of the fiscal deficit and a competitive real exchange rate. The next round of reforms aims at reducing the other distortions -- domestic prices, interest rates, and the trade regime. The later stages of adjustment focus on building institutions, restoring investment and restructuring the financial system (p.81)."
3. Only in a few countries -- Indonesia, the Republic of Korea, and Thailand, for example -- did the adjustment process involve a swift transition to a new growth path, with only a short recession. These countries generally had smaller initial macroeconomic problems and structural distortions and had well-developed private sectors. Export, saving and with a lag, private investment have responded strongly to adjustment measures. For most other middle-income countries, adjustment takes many years, and there is a period of declining output and labor demand before new sources of growth take them onto a sustainable growth path. Among low-income countries, it is an even longer haul (p.3).
4. See, for example, Dornbusch (1989), Bresser (1987), Persson and van Wijnbergen (1989). Blanchard (1985) has a model with two equilibria in which expectations play a key role in the success and failure of the disinflationary policy. Disinflation policies may fail simply because they are expected to fail. Failures are less likely for mild disinflations which provides some support for gradualism policies. See, Pereira and Nakano (1987), Poole (1970), Gutierrez, Jose and Vaubel (1981) on developing country also experience.
5. van Wijnbergen (1992) shows that the interaction between shortages and political vulnerability of reformist governments to early perceptions of failure make a strong case against gradualism in decontrol of prices. Gradual decontrol of prices was made difficult by two factors: first, price controls often focus on commodities that are storable and can be used in intertemporal speculation. Second, opposition to dismantling or controls is based on claims of low supply response--shortage. Thus, the smaller the initial price increase, the lower the supply elasticity and the greater the probability that the reforms will be abandoned.
6. Dewatripont and Roland (1992) build a model of restructuring where a reform-minded government faces a workforce with different opportunities outside their current jobs. Reforms imply massive layoffs and labor reallocation. Gradualism is advantageous when the political acceptance of full and immediate reforms results in excessively costly compensations. Gradualism consists of a plan inducing a group of workers to leave in the first period and the other group to leave in the second. Allocative efficiency is only reached in the second period. Gradualism is less costly for the budget because it allows for better rent extraction from some groups of workers.

7. Wei (1993) builds a three-sector labor allocation model under uncertainty, where people are not sure whether they are gainers or losers from the reforms. A gradual approach may be politically more sustainable than a big bang strategy, because it splits the resistance force and allows uninterrupted political support for the reform. On the other hand, a reform may be blocked by a majority if it is implemented in a big bang. But, if both approaches are politically feasible at the outset, a big bang approach is better both because it brings the benefits faster, and because it is politically preferred to partial or gradual reforms.

8. Wei and Lian (1993) study the link between the growth of non-state firms and the speed of closing down state-owned firms in transitional economies. With a two period entry-exit model, the authors hypothesize that at the beginning of the transition, a gradual closure of state firms even if they are inefficient may help the growth of non-state firms. Once the private sector is well established, the closure of state firms can speed up. In other words, one can retain a large enough number of state firms and also relax the entry restrictions, so that all potential entrepreneurs find it worthwhile to incur a fixed cost to start a business and unemployment can be kept at a minimum. Whereas, closing down all inefficient firms at once throws the economy to the mercy of multiple equilibria, where few entrepreneurs find it worthwhile to start a business.

9. Murrell and Wang (1993) make the point that the more scarce the human and institutional resources, the less likely early massive privatization would be socially optimal.

10. See Adelman and Taylor (1990, 1991), Aziz (1990), Corbo and Suh (1992), Edwards (1989), Glewwe and Hall (1992), Goldin and Winters (1992), Morrisson (1992), Thomas (1985), Thomas et al (1991) and Skalnes (1993). See Ljunggren (1993) for recent reform experience. See Rodrick 1993 for a review on trade reforms.

11. Source: U.S. Department of Commerce, *Historical Statistics of the United States: Colonial Time to 1970*, Series U 207-212, p.888. We use the ratio of duties to total dutiable imports here.

12. The eight rounds of GATT negotiations include, Geneva 1947, Annecy 1949, Torquay 1951, Geneva 1956, Dillon 1960-61, Kennedy 1964-67, Tokyo 1974-79, and Uruguay 1993. According to Baldwin, "average tariffs in the major industrial countries declined from about 40 percent in the mid-1940s to less than 5 percent after the Tokyo Round (1974-79)" (Baldwin 1987 in Finger and Olechowski 1987).

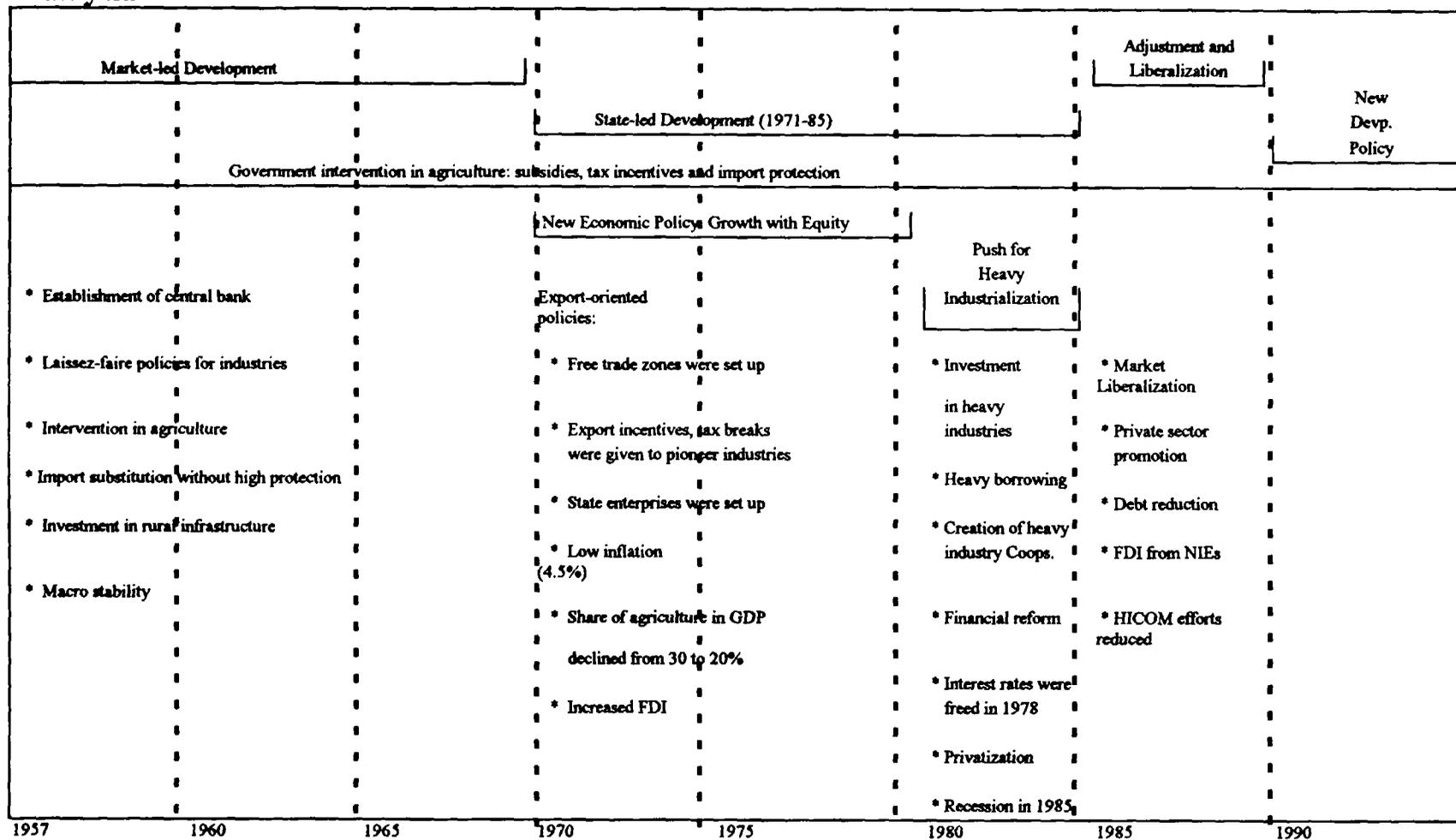
13. These effects raise domestic relative price of non-tradeables vis-a-vis tradeables, and agriculture is hurt because it is relatively dominated by tradeables.

Korea

	Presence of United States; US Aid;				Access to Capital and Markets			
		Starting in 1963: institution building, reform of civil service and government had a leading role						
Land reform	Prices of agricultural products were low (1950-69)		Higher supporting price for rice Two-tier pricing		Agricultural protection persists			
		Continued decline in the share of agriculture in GDP						
		Export promotion and import protection			Stabilization and Liberalization			
		Low and stable real effective exchange rate; REER variability was lowest among 95 developing countries						
			HCI drive during 1972-79		Trade Reform			
	<ul style="list-style-type: none"> * Won was devalued by 100% in 1964 * Labor-intensive export orientation * Export-friendly tax and trade regime * Directed credit * Technology acquisition * Setting and monitoring export targets 		<ul style="list-style-type: none"> * In 1974 Won was devalued by 20% * HCI: tax incentives & import protection * Non-HCI discriminated * Higher inflation * directed credit for HCI * Heavy borrowing 		<ul style="list-style-type: none"> * In 1981 Won was devalued by 20% * Successful adjustment to 2nd Oil Shock * Tight monetary and fiscal policy * HCI effort reduced * 1981 Trade reform: NTBs reduced * Banks privatized; High interest rates * Increased FDI in 1984 			
		In late 1960s SOEs were setup in infant industries (30% of investment)						
1949	1955	1960	1965	1970	1975	1980	1985	1990

Source: Kim and Leipziger, 1993; Song and Ryu 1992; Moon and Kang 1991.

Malaysia



Source: East Asia Miracle (p 151); Salleh and Meyanathan 1993.

Singapore

1959	1960	1965	1970	1975	1980	1985	1990
Efforts in institution-building have been consistent; Government has a leading role; SOEs and GLSs are important							
<ul style="list-style-type: none"> • Labor-intensive Import Substitution (1959-65) 	<ul style="list-style-type: none"> • Labor-intensive Export-oriented Industrialization (1966-73) 	<ul style="list-style-type: none"> • First Attempt to Upgrade (1973-78) 	<ul style="list-style-type: none"> • Economic Restructuring (1979-84) 	<ul style="list-style-type: none"> • Retrenchment and Further Diversification (1985-91) 			
Sound macro management; BOP in surplus; Growing foreign exchange reserves; Absence of debt							
<ul style="list-style-type: none"> • Tax incentives for investment • 90% remission of tax profits • Export promotion • Preferential loans by a set of industries • Starting in 1959, 5-year tax holiday for labor-intensive industries • Planning in education • Program in public housing • 5-year tax exemption for new industries 							
<ul style="list-style-type: none"> • Tax incentives for investment • 90% remission of tax profits • Export promotion • Preferential loans by a set of industries • Tax exemption on interest on foreign loans and technical assistance fees • Investment in education & housing paid-off • Domestic investment rose to 33% of GDP • Savings increased 							
<ul style="list-style-type: none"> • Programs to upgrade technology level of industries • Fiscal incentive to R & D activity • Open-door policy to foreign professionals • Foreign companies allowed 100% ownership • "High" wage policy 							
<ul style="list-style-type: none"> • Promotion of higher value added technology based industries • Promotion of investment in service industries • Light industry upgrading program • Promotion of investment in high-technology • Encouragement of small- and medium size industries 							

Source: East Asian Miracle (p 153); Soon and Tan 1993.

Taiwan (China)

	US Foreign Aid		Industrial consolidation and new export growth (1973-80)	High-technology Industrialization (1981-)				
Land Reform (1949-52)		Export Promotion (1958-72)	Public ownership & trade protection	R & D Subsidies; Brand development Subsidy				
	Import Substitution (1953-57)							
	High rate of interest on saving deposits	* 19-point program of economic and financial reforms	10 major public sector projects	* Government targeted strategic industries				
	High tariffs and NTBs	* Low interest loans for exports starting in 1957		* Investment in 14 additional public projects				
	Multiple exchange rates	* Unified exchange rates	* Establishment of Industrial Technology Research Institute	* Liberalization of capital account				
* Land to tiller act in 1952		* Investment encouraged	* Establishment of science-based industrial parks	* Establishment of standard labor laws				
* Introduction of new Taiwan dollar		* Export targets were set		* Foreign exchange liberalization				
* Nationalization of Japanese assets		* Establishment of export processing zones		* Deregulation of interest rates on bank loans and deposits				
		* Establishment of National Science Council		* Exchange rate appreciation in 1985-87				
1949	1955	1960	1965	1970	1975	1980	1985	1990

Source: East Asia Miracle (p 154).

Thailand

		Private sector development & outward orientation	Well developed commercial banking		Deregulation of interest rates			
Heavy state intervention	First trade reform	Low and stable price level; taxation of agriculture; FDI promotion		Reduction of agricultural trade barriers	Liberalization of manufactured imports			
		BOI Import substitution		Second trade reform				
* Restricted trade	* Unified exchange rate	* Currency tied to the US Dollar	* High tariffs on consumer goods (30-55%) and on capital-intensive manufactures	* Currency devaluation * In 1984, currency tied to a basket * Currency depreciation by 30% (1983-91)	* Tariffs were cut on: Automobiles Computers Chemicals Textiles Iron etc.			
* Monopolized rice export	* Abolishment of state-owned rice companies	* Protected industries Textiles Automobiles Pharmaceuticals		* Export taxes were cut * Some tariffs were reduced * Effective protection of manufactures was high (52%) * Corrected some bias toward heavy industries * Tax privileges and credit				
* Multiple exchange rates								
* Export taxes		* Discrimination against agriculture -- rice * Bias toward heavy industries						
1950	1955	1960	1965	1970	1975	1980	1985	1990

Source: Christensen, Dollar et al, 1993; Siamwalla and Setboonsarng 1991.

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Critical Issues in Sequencing of Reforms: Lessons of Experience from Early Reformers

Alberto Valdes*

Introduction

In analysis of lessons learned from experience in the reform process in several countries, certain key aspects emerge about which there is, I believe, a fair degree of consensus. I would suggest the following:

- A most significant lesson to be learned from experience in many countries is that major agricultural reforms have generally occurred as part of general economic reforms (Johnson 1989).
- An economy-wide perspective is essential for understanding the interaction between reform and agricultural growth. Sectoral growth requires reallocation of resources across sectors, the response of which will be influenced by relative returns (Schiff and Valdes 1992).
- One should expect a weak response of agriculture in the short-run. Experience shows that in the long-run the aggregate output response of agriculture can be sizable, but requires years to materialize (Mundlak et al 1992). This highlights the importance of having persistent policies. Moreover, reforms not perceived as sustainable will not induce a sizable increase in private investment.
- Because most LDCs are small economies, their growth potential depends greatly on its relationship with the world economy; thus, growth of the tradable sector will be central to the restoration of economic growth. In most LDCs, agriculture is a highly tradable sector.
- Macroeconomic adjustment is a precondition for strong long-run growth and equity (World Bank 1993).

These lessons help to set the stage for this paper on economic reforms and agriculture. But beyond these general principles, are there more specific lessons? Is there a virtuous path of reforms, or are what we call "lessons" learned from the experience of early reformers no more than a fortuitous and experimental process? The analysis in this paper draws primarily on the experience of two pioneers of structural reforms, namely New Zealand and Chile. But the discussion on lessons and their implications draws also on the emerging issues related to agricultural reforms in other countries in Latin America.

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The key questions addressed are: (i) what kind of reforms? (ii) what were the consequences for agriculture? and (iii) what lessons can be drawn? The motivation of the analysis is how to assist policy advisors in countries already committed to economy-wide reforms – stabilization, adjustment, trade liberalization and companion reforms of institutions -- how may they best proceed? With what reforms and in what mix, sequence, strength and speed? For agriculture, specifically, this paper takes a close look at which reforms, or aspects of their implementation, can accelerate or slow down private investment and aggregate supply response.

The last section presents some observations on the task ahead. As far as agriculture is concerned, the initial phase of the reforms in Latin America are not yet producing many tangible benefits. The task ahead, consolidating the reforms, is long and extraordinarily complex.

Chile and New Zealand, Two Early Reformers

Economic reforms in Chile and New Zealand were arguably among the most comprehensive adopted by any country during the 1970s and 1980s. Several years have passed since the initiation of reforms, so lessons of experience are emerging. The fact that both are relatively small, open economies dependent on exports of primary goods, creates many parallels with LDCs. They especially share a history of state intervention in economic policy. Nowhere is the parallel more marked than with policies of import-substituting industrialization. More recently, most countries in Latin America have embarked on economy-wide reforms; some of them are more radical in some aspects (such as privatization), but they are also being implemented faster and hopefully their maturity age may be reached in a shorter time than Chile's and New Zealand's.

In both Chile and New Zealand, like many later reformist countries, the initial phase of reform centered on stabilization and correction of macroeconomic imbalances, structural adjustment to eliminate distortions in incentives, and liberalization and deregulation to enhance the role of market forces and improve microeconomic efficiency. Also in both economies, the level of the real exchange rate was seen as an important strategic element. Given its central importance in determining the structure of incentives facing the tradeable sector -- agriculture being highly tradable in both countries - - the exchange rate became the focal point for discussions on trade and price reforms and consequences. In analyzing sector performance, it is known that competitiveness of agriculture is strongly influenced by the relative price of tradables to non-tradables (Schiff and Valdes 1992). This price is referred to as the real exchange rate. This dichotomy, however, ignores linkages between them. In order for agriculture to compete externally, non-tradable support (distribution, transport, finance, communication) must be competitive. Thus, the questions: "How broad the reform?" and "What is the optimal sequencing of reforms?" are fundamental to the analysis.

Prior Conditions

In both countries prior to reforms, overall economic and agricultural growth was slow. Both governments followed an inward-looking strategy favoring the industrial sector, with high rates of protection and direct intervention in agricultural products and input markets. Each economy was highly regulated: with controls on interest rates, wages, and the exchange rate; a trade regime dominated by quantitative controls and trading monopolies on the most important agricultural products; and a relatively large public sector that exercised highly selective and discretionary powers. These were clearly not the conditions under which the private sector could be the main engine of growth. Against this background, reforms in economic policy were seen as potentially favorable to agriculture in both countries.

On the other hand, there were important differences in the initial conditions pertaining to Chile and New Zealand, aside from a higher level of development in New Zealand. Chile was suffering from a substantial macroeconomic imbalance in 1972-1973, reflected in the acute breakdown of public finances (fiscal deficit equal to 25 percent of GDP), which had led to accelerating inflation and widespread price controls and rationing. Furthermore, agrarian reform between 1965-1973, including land expropriations with partial compensation, had created substantial uncertainty for private investors.

Moreover, in contrast to New Zealand, Chile had experimented for three decades with a development strategy that transferred significant income from agriculture to the rest of the economy, without tangible gains in terms of higher growth in the non-farm sector. Income transfer from agriculture ranged between 12 percent and 60 percent of agricultural GDP per annum during 1960-1973, net of input subsidies and public investment, largely the result of exchange rate misalignment and industrial protection (Hurtado, Valdes and Muchnik 1990). Chile's agricultural performance was poor for decades, starting in the 1930s. During the 1960s and 1970s, the average annual growth rate of agriculture's value added was less than 1 percent, representing a declining share of total GDP (fluctuating between 6.3 percent and 10.0 percent) and of overall employment (which declined from 30 percent in the 1960s to 16.5 percent in 1973). Chilean agriculture initiated reforms in the context of disrupted production and tenurial relations, enormous inefficiencies in the state-controlled operation of input and output markets, a private sector woefully undercapitalized, and with government finances in shambles. Few countries face worse economic conditions at the start of economic reforms.

In New Zealand, while trade policies protected manufacturing, imposing high invisible costs on agriculture, government compensated agriculture through direct input subsidies, tax and interest concessions and other transfers, amounting to about 34 percent of the value of output before reforms in 1984. In 1983, the economy was regulated at almost war-time levels: wages and prices had been frozen, interest and exchange rates were controlled, and assistance to agriculture was close to 10 percent of total public expenditure. In 1984, following national elections, three major reforms were introduced: stabilization measures to correct severe imbalances; structural adjustment to eliminate distortions in incentives across sectors; and liberalization and deregulation to enhance market forces and improve economic efficiency. The reforms were the most sweeping in New Zealand's economy since the 1930s.

What Kind of Reforms?

Several reforms in both countries are worth highlighting: reduction of the public sector's size, the opening to international trade (aimed at non-discriminatory treatment across sectors), reform of the financial sector, freeing interest rates and removing rate concessions and favorable credit allocation to agriculture; reduction of regulations on economic activity; reform of public enterprises with a concerted effort to improve efficiency and restricting them to the provision of "public goods;" and recognition that macroeconomic and trade policies constitute a critical framework for reform, as part of a development strategy that restores market-oriented resource allocation and the private sector as the principal player¹.

Chile: A Two-Phase Reform

In Chile, reform occurred over two phases, namely 1974-83 and 1984-90. The earlier phase was characterized by substantive institutional reforms to establish a new framework of incentives and achieve a phase of macroeconomic balance. General economic reforms were put into effect quickly, and fine-tuning of sector-specific reforms was deferred. The urgent need to correct imbalances in fundamental economic parameters (price stabilization, fiscal deficit and external accounts) and the desire to achieve credibility of the reform process were the key considerations. A bold trade liberalization program was implemented early -- eliminating all foreign trade prohibitions, removing all quantitative restrictions, and reducing tariffs from a range of 0-750 percent in 1974 to a uniform tariff of 10 percent in 1979. Most price controls and all multiple exchange rates were also eliminated early, and a progressive elimination of ceilings on interest rates and credit allocations was implemented.

First-Phase Reforms

During the first phase -- 1974 to 1983 -- reforms in agriculture involved the land market, a drastic scale-down in public sector services, and privatization of input and product markets, as well as trade and price reform.

Rural Land Market

Land was probably the most important and hottest issue during the first 3-4 years. When expropriations under land reform stopped in 1973, about 65 percent of irrigated land and 50 percent of total agricultural land was held by the public sector. The previous regime favored large-scale farms under cooperatives and state-farm management, practically to the exclusion of private ownership in agriculture. Soon after 1974, the government agency (CORA) began distributing land to establish family farms (8 irrigated ha or its equivalent) with individual ownership. It took three years to "normalize" land rights, and to assign titles to 109,000 small farmers and 67,600 descendants of the Mapuches Indian population. About 28 percent of the expropriated land was returned to previous owners. Property not allocated was auctioned. Up to 70 percent of the land beneficiaries' outstanding debt to CORA was canceled. Furthermore, in 1978 a new law formally repealed the legal authority for land expropriations by the government, removed the ceiling on land holdings (80 irrigated ha or

equivalent), and repealed the ban on corporations owning agricultural land. The rural land market was further stimulated by the liberalization of land rentals and land subdivision. Furthermore, the separation of water rights from the land itself and the legal possibility of transferring water titles independent of land transactions gave an additional boost to the land markets. Land valuations for property taxes had been readjusted at the end of 1973 to reflect the commercial value of the land. By the end of 1978, all publicly owned farm land had been distributed, and CORA legally closed.

Diminishing Public Sector in Agriculture

In 1970, 27 independent government agencies constituted the public agriculture sector, while about 37 state agencies dealt with agriculture. With radical transformation of the public sector starting in 1974, some 100,000 personnel were phased out over four years. All public monopolies for domestic and foreign trade of agricultural inputs and final products were eliminated; some by closing down the agency (such as ECA for grains) and others by privatization (such as IANSA for sugar). By 1979, more than 60 agribusinesses controlled by the public sector had been privatized. Government remained involved in some development and/or regulatory agencies, such as agricultural research, extension for small farmers, the State Bank, and others. A few small coordinating institutions were created (on milk and meat, both in 1983). While some pressure groups favored maintaining governments' capacity to intervene and fix prices (such as basic foodgrains through DIRINCO and ECA), by 1978 ECA had left the market. While ECA was not closed immediately, elimination of its monopoly on foreign trade of foodstuffs during 1974, a conscious policy of personnel attrition and elimination of price controls diminished the agency's role over five years.

Credit

While contributing about 10 percent of GDP, before 1974 agriculture absorbed approximately 30 percent of the credit from financial institutions. Agriculture was a special case, with several institutions providing credit. The State Bank lent at below market interest rates and served as a supplier of fertilizers and other inputs. Exempted from paying import duties and able to rediscount with the Central Bank at zero cost, the State Bank could sell farm inputs at prices below alternative commercial sources and at below market interest rates.

During 1974, by law, this commercial operation on inputs was closed, the rediscount facility and sectoral lines of credit were eliminated, and market interest rates instituted, with no ceilings. By eliminating sector credit lines, government was reducing the influence of agriculture pressure groups who favored soft lending conditions whenever they faced unfavorable conditions. However, initially the State Bank maintained some lines of credit for farming activities, all at market interest rates, and with more stringent collateral and project evaluation requirements as the term lengthened, ranging from 90 days to 5-10 years. Credit is indexed to the Unidad de Fomento (UF), which is adjusted daily according to changes in the cost of living index.

Why is the State Bank maintained? Two main arguments are that it serves small/medium-size farmers in areas not covered by commercial banks and can respond to emergencies and/or promote

pilot developments that eventually may be adopted by commercial banks -- an example being the State Bank's acceptance of farm products in storage (deposited in warrants) as collateral, a practice initially unacceptable to commercial banks. Small farmers (less than 12 irrigated ha equivalent and investment less than US\$ 75,000) have a special subsidized credit program through INDAP. All of INDAP's credit is indexed (UF plus 5-7 percent); it is quite flexible on collateral and is primarily tied to technical assistance provided by private agencies. Since 1990, these programs have expanded considerably.

Agricultural Extension

The questions regarding extension were: 1) whether to strip away whatever activities could be undertaken by private agents, so as to concentrate government monies on the "public goods" aspect of them, and 2) to what extent delivery could be privatized, while public financing was maintained? Extension services were drastically scaled down and redefined. After 1974, INDAP's activities were targeted toward small farmers who received assistance from private agents, supervised by INDAP. The government covered up to 70 percent of the cost during the first five years and 25 percent thereafter, with the expectation that farmers would eventually pay the full amount.

Technology transfer groups were set up to address medium-large farmers who were expected to cover the full cost of services. Programs for medium-large farmers were coordinated by the agricultural research institute (INIA) until 1980, when a national farmers' association (SNA) took over. Technology transfer groups for commercial farmers are now fully privatized.

An Episode Which Nearly Derailed The Reform During The Early 1980s.

The sequence and magnitude of some reforms were incorrect, however, and the lags involved in reforming each economy proved longer than expected. The simultaneity of the rapid reduction in public expenditures, high real interest rates (50 percent during 1976-78), the elimination of credit and input subsidies, and decline in the real exchange rate during 1978-82 hit agriculture hard. Getting inflation under control took longer than anticipated and concerns about stabilization submerged attention to major institutional changes. Several delays -- among them, eliminating price controls, implementing reforms in the land and water right markets, and labor market reforms (wage indexation and port reforms) -- harmed agriculture.

The necessary conditions to stimulate private on-farm investment were still not in place. These problems, and particularly the clear-cut realization among farmers that they could not compete with imports at the prevailing exchange rate, created considerable tension and political resistance against trade liberalization in the late 1970s. What was not visible, however, was that the culprit was largely appreciation of the real exchange rate. In 1974-1976, reduced trade barriers had stimulated a real depreciation; but subsequently it appreciated (1979-1982), owing mainly to an inflow of capital and adjustments in the labor market.

Second Phase Reforms: Post 1983

Following a deep recession, in 1984 slightly more interventionist-oriented policies returned. Declining world prices, higher real interest rates, and substantial appreciation of the Real Exchange Rate (RER) during 1980-82, compounded by cheap imports due to concessional credits (from the USA) drastically reduced domestic (real) farm prices. The results were a tremendous sectoral squeeze and significant decline in cereal production. The old issue of whether agriculture is a special case, and if so, whether it should receive special treatment, began to re-emerge during the economic squeeze of 1979-83 (and re-emerged later in 1992). Farm lobbies sought selective protection. In 1983, under enormous pressure, the government announced a minimum import price for wheat to be sustained by variable levies. Soon after, a price band scheme for sugar, wheat and edible oils was instituted, as well as a scheme of minimum import valuation for milk and derivatives, the latter on the ground of dumping by the European Community. But the squeeze was not restricted to agriculture. Other tradables were also facing economic difficulty. In March 1983, the uniform tariff was raised to 20 percent, and in September 1984, to 35 percent. The higher tariff did not last more than six months. The uniform tariff was gradually reduced to 30 percent, then 20 percent (in 1985), to 15 percent in 1988, and to 11 percent in 1991. In 1984 the government aggressively adjusted with periodic nominal devaluations and supportive fiscal and monetary policies to achieve real devaluation. As the result of earlier basic reforms, the tradable sector's efficiency had improved considerably and agriculture was ready for a vigorous recovery, which continued until approximately 1990.

New Zealand's Agricultural Reforms

New Zealand's experience of farming without subsidies since the latter part of the 1980's reveals the strong influence that macroeconomic conditions have on agriculture's performance after economic reform. In New Zealand, the sequencing of stabilization and liberalization contributed to a real appreciation of the currency, incompatible with stimulating output growth in tradable goods (including most of agriculture). Furthermore, agriculture faced rapid removal of its nominal subsidies, but industrial protection remained high, and substantial fiscal deficits emerged, adversely affecting the performance of traded goods. It is estimated that New Zealand's agriculture faced an 11 percent implicit tax due to the delay in the reduction of industrial protection (Janssen, Scobie and Gibson 1992).

Although the big story comes at the economy-wide level, there were two sector-specific reforms of outstanding significance for agriculture. As described by Scobie:

"In a short space of time the subsidies to the traditional pastoral component of agriculture were removed. This reversed the net protection which the sector had enjoyed for a brief period. The subsidies had more than compensated for the costs of protection to the manufacturing sector which had been imposed on the agricultural sector. This was the most sudden and rapid sector-specific policy change affecting agriculture. In addition, and as part of the adjustment, there were some significant write-offs of accumulated debt through the marketing boards. Borrowing by the meat and dairy boards from the government was simply written off, a

windfall gain to the agricultural sector from the process of liberalization" (personal communication, 1992).

The combined removal of most government assistance, high interest rates, and the devaluation of rural assets worsened farmers' ability to service debt (as in Chile in 1981-82). Although government facilitated a program of debt restructuring for farmers with viable businesses, heavy debt still overburdened much of New Zealand's rural sector, at least until early 1992. The Rural Bank of New Zealand has been privatized, and the now-private financial sector will have to deal with farmers unable to service their debt. Public sector reform has continued to affect agriculture in the area of inspection, extension and science services. Inspection and extension now operate on a full cost recovery bases. Science is in the process of being completely reformed.

The internal competitiveness of agriculture (tradables vis-a-vis home goods) continued to deteriorate throughout the liberalization process. Unemployment levels were still high in New Zealand at the end of 1991, a political liability that could undermine support for continued reforms. Pressures may mount to further slow the rate of tariff removal in an attempt to stem job losses in manufacturing, thus weakening the recovery of agriculture. Unfortunately, a positive outcome has not yet emerged for New Zealand's agriculture.

What Consequences for the Economy and Agriculture?

Does agriculture gain from liberalization? Has liberalization improved agriculture's incentives? What were the consequences in terms of aggregate agricultural output, trade and rural employment? The outcomes to date are different. Why? A note of caution is in order before addressing that question. The evaluation of any particular policy reform is faced with the problem of the counterfactual. What would have happened had the liberalization not taken place? For Chile in 1974 and New Zealand in 1984, doing nothing was not an option. Both countries faced serious imbalances in the economy.

Has Trade Liberalization Increased Agricultural Prices?

Paradoxically, real agricultural prices have not increased since trade policies were liberalized in either Chile or New Zealand. In fact soon after the trade liberalization program began in these two countries, and later (around 1990) in Argentina, Colombia, Mexico, and other countries in the World Bank's Latin America and Caribbean Division (LAC), the domestic *real* prices of most of the grains have declined. The main cause of their decline was the RER appreciation at a time of exceptionally low world prices (Quiroz and Valdes 1993). Trade liberalization was expected to raise the price of agricultural tradables relative to home goods, and of exportables relative to importables. Increasing RER and reducing the anti-export bias by lowering protection were to be the underlying dynamic. In Chile, the agricultural terms of trade at the farm-gate fell during the early years of reform (similar to what has been observed in Colombia and Argentina since 1990). However, relative prices for agricultural exportables were higher after reform. For importables, before 1984, low tariffs and lower

world prices offset most gains from a higher RER. Since 1984 (until 1990) a higher RER and price bands for wheat and sugar raised their relative prices.

Chile

Although through an uneven path, the overall long-term outcome for Chilean agriculture has been quite positive, as one infers from the significant increases in agricultural output, exports, and land productivity. Agriculture went through four phases. During the first four years, substantial productivity increases occurred from the elimination of gross inefficiencies (and not from new investment, which takes years to mature). This early recovery was followed by three years when the RER fell sharply (1970-82), creating a strong squeeze on the sector profits, and then 1983-90, the best years ever for agriculture since the 1930s. Previously a stagnant sector, Chilean agriculture has become dynamic, with average growth in agricultural value-added above 4 percent per annum from 1974 through 1990, rapid growth of non-traditional exports, and substantial increases in land productivity and rural employment. Institutional reform has led to innovations in technology generation and extension, credit, export and import marketing, water rights management, and price stabilization schemes. In the labor market, conditions of high urban unemployment during the recessions (in the mid 1970s and then again in the early 1980s), and more employment opportunities in agriculture, slowed down rural-to-urban migration. This was an important element keeping agricultural labor costs down and thus enhancing the sector's competitiveness (see Coeymans and Mundlak, 1993 on migration).

The situation has changed dramatically in the last few years. With urban unemployment at around 4.7 percent, since 1990 real wages have increased by 15 percent on average, and the minimum wage has risen by more than 30 percent. The RER has fallen by about 25 percent since 1987-89. After 15 years of reform, since 1990, Chilean agriculture is now experiencing a substantial deceleration of growth attributed to a decline in competitiveness. Furthermore, it is still faced with a substantial disequilibrium in its small farm sector. How to address the needs of perhaps one half of all small farmers, who are geographically scattered, usually located in disadvantaged areas, and who have been marginal to the sector's newly found dynamism is an unresolved challenge.

New Zealand

In New Zealand, agricultural performance was poor immediately after the reforms. Three years after the initiation of reform, farm income had declined and land values had fallen. As the sector lost high levels of support, agricultural competitiveness declined; mainly as a result of high interest rates and currency appreciation between 1985 and 1988. Agriculture suffered a decline in its domestic terms of trade from 1984 onwards, while farm incomes fell sharply by 1986, then recovered to a level slightly over the pre-reform period. Land values fell in line with farm income and higher interest rates, resulting in substantial farm indebtedness relative to equity, and farm bankruptcies rose sharply. Within agriculture, the sheep and beef sub-sectors experienced the greatest reduction in revenues.

In addition to unfavorable exogenous factors such as the decline in world prices for wool and dairy products in the late 1980s, and some years of bad weather, agricultural competitiveness declined.

Jansen, Scobie and Gibson (1992) attribute this decline to incomplete reforms and improper sequencing across sectors. Until recently, the cost to agriculture of protection elsewhere in the economy remained an issue, and farmers are stressing the need for more rapid reduction in protection for import-competing manufactured goods.

There is, however, the issue of what lags should be anticipated in terms of the sector's growth response to adjustments. According to Sandrey and Reynolds (1990), the lengthy lags in adjustments of land ownership and in the capital structure of farm business were largely unanticipated. With heavy debt burdens, lower farm income and land values, incentives to adjust were reduced. The size of rural debt and the burden of non-performing loans (as land values decline) borne by farmers has become an important reform issue. More recently, land prices recovered by a moderate amount, improving farm equity. An increased volume of sales is permitting more private adjustments of debt and consolidation of holdings (Johnson, 1991).

Although the process of reform in New Zealand is far from complete, important structural reforms have taken place. Labor markets are more flexible, state trading activities have been largely privatized or converted to state agencies operating as commercial enterprises, the economic environment is freer of regulation and state intervention, inflation has been reduced dramatically, real interest rates have been lowered, and the real exchange rate is starting to depreciate. Recent assessments suggest that the reforms are bringing about a smaller and more competitive agricultural sector than has existed previously.

There is now evidence that the New Zealand economy has moved out of the recent recession in 1991. Since the economy bottomed out in mid-1991, there has been real growth largely emanating from the export sector. New Zealand now has low inflation, greater efficiency, and accountability in ports, telecommunication services, and higher labor productivity. The reorientation of the economy away from the inward looking growth strategy of the last 50 years has indeed occurred (Scobie and Jansen 1993). The agricultural sector is a major beneficiary. There is, however, much unfinished business. The fiscal outlook appears fragile, a factor that could restrict growth, private investment and employment.

Lessons of Experience

Which reforms were most critical during the transition to the overall success of the reforms, in slowing down or accelerating private investment and the supply response of agriculture?

- *Strategic importance of the real exchange rate and interest rate.* Issues concerning the RER underlie much of the concern about sectoral competitiveness during and after the main reforms. The most fundamental issue arising from reform in both Chile and New Zealand is that agriculture, comprised largely of tradable goods, is highly sensitive to shifts in trade and macroeconomic policies.

The key elements are sound fiscal policy and exchange rate management. The level and stability of the real exchange rate in both countries were strategic. A real appreciation of the currency is not conducive to stimulating agricultural output, and can create considerable resistance to trade liberalization and strong pressure from farm lobbies for special treatment after reforms.

One should recognize, however, that the RER is not a variable a government can directly manage (unlike the nominal rate), although it can indirectly influence its direction of change. The RER is endogenous to the prevailing set of macroeconomic and trade policies, and is influenced by exogenous changes in terms of trade and world interest rates. What the government can control is the policy consistency of its reform program. Where appropriate, the reform program should start with a substantial real depreciation, which seems to be a requirement for successful trade reform (Papageorgiou, Choksi, and Michaely 1990). The ways in which government can achieve real depreciation is thus a critical issue. A nominal devaluation is almost a necessary condition at the early stage, but if the macroeconomic disequilibrium is not solved the real devaluation will erode rapidly and the trade reform will not have the expected positive impact. An unstable macroeconomic background can endanger the sustainability of the reform program.

The experience in several countries (Argentina, Chile, Brazil, Colombia, New Zealand) leads me to conclude that the highest risk for agriculture comes from the fact that getting inflation under control in most countries takes many years. Typically, the first stage to achieving faster economic growth requires macroeconomic stabilization. This first stage is most problematic for the recovery of agriculture because: (i) stabilization programs often lead to very high real interest rates, which adversely affect agriculture, a rather capital intensive sector; (ii) the exchange rate is often used as a tool of stabilization, and then RERs appreciate sharply, thus reducing the competitiveness of agriculture; (iii) in cutting spending to reduce the government deficit, governments often cut spending on infrastructure and other public goods required for agricultural growth. This delay is costly.

Nevertheless, a bold trade liberalization program early in the reform process provides a stimulus to raise the real exchange rate and, in itself, is important in giving credibility to the reforms during its first stage. In New Zealand, significant financial reform worked to establish such credibility.

- *Simultaneous reforms.* How broad the reform, of course, is a fundamental question. The answer varies by country, although common requirements are evident -- reduction of the public sector's size, exposing tradables to international competition, reforming the financial sector and labor market, deregulation, and streamlining public enterprises. A good illustration of the complementarity among reforms between foreign trade and internal deregulation is that of the labor reforms enacted in the ports of Chile, which substantially reduced loading costs of fruits for export. Acting quickly to deregulate services (transport, communications, insurance) and to privatize agricultural input sectors was beneficial for agriculture, particularly non-traditional exports. Privatization early in the reform process in Chile resulted in a relatively smooth and quick transition to a more competitive and dynamic input supply system. Closing down state agencies contributed to credibility and accelerated private investment.

- *Legal framework to secure property rights.* In many countries, such as in Eastern Europe, and Peru, El Salvador, Chile, and other countries in LAC, security of property rights early in the reform program is crucial before agricultural growth accelerates and become sustainable, beyond an initial recovery from depressed levels prior to reforms. Otherwise, even the best trade and macroeconomic policies would not have had much impact on private investment in agriculture. Initial conditions vary, of course, and not all countries have gone through an agrarian reform prior to the economic reforms. At least in Chile, had it not been for an explicit legal commitment to secure property rights and a legal framework for adjustments in farm size and tenurial arrangements, it is very unlikely that the overall reform program would have had much impact. Parallel to these actions, an innovative system for creating a market in water rights and reform in the financial sector facilitated changes in output and its composition and in the capital structure of farm business in Chile.

- *Trade and price reforms up front.* Early trade and price reforms are important, providing transparency to the structure of incentives, removing the anti-export bias, anticipating bottlenecks and revealing potential growth areas. The early elimination of most price controls and the removal of quantitative restrictions, accompanied by an explicit plan of tariff reduction and elimination of export taxes and controls, were essential ingredients in reforms in Latin America. Typically, the range of tariffs on agricultural products in most of LAC countries is now 0 to 20 percent; however, the current rates of nominal protection sometimes differ from the ad-valorem tariffs, due to price interventions (such as price bands) or market structure (when purchases are highly concentrated in few processors).

Effective trade and price reform goes beyond the border measures. Price reforms include the elimination of domestic interventions such as direct price controls, state monopoly procurement, bans on exports of particular goods, compulsory procurement, discrimination against private traders on the use of railway services and storage facilities, distorted seasonal pricing, and others. Such reforms are often more difficult to implement quickly because they involve both federal and state agencies, and require a piecemeal approach developing a new regulatory framework affecting various activities.

Had the case been China, the recommended sequencing on price reform might be different. As argued in Chen, Jefferson and Singh (1992), a gradual process which starts with the dual price system (price controls and free prices) adopted in China allowed the government to implement price reform and enterprise reform in tandem. However, the persistence of the two-tier price system resulted in stagnation in the production of grain, cotton and other price controlled products.

- *Price risk management and market development, two unsolved issues.* In the transitional stage, and primarily the result of tariffication and market deregulation, importables are faced with a sharp increase in the level of price risks. Countries are now more exposed to the instability in border prices and to the "quasi non-tradable" situation in products in which they are self-sufficient. Traditionally, the foreign price instability was handled through quantitative restrictions and domestic price supports. These interventions inhibited the development of domestic market instruments to deal with price risk. Faced with lower tariffs, farm lobbies called for renewed government intervention. At least in Latin America, governments have responded mainly in the form of price bands for many commodities (Colombia, Chile, Venezuela, Ecuador, El Salvador, Peru, Honduras, Guatemala).

However, the concern for price stability evolved rapidly into a concern about how to counteract the falling level of real (domestic) farm prices, the latter influenced by the fall in border prices (1991-92) and reinforced by the fall in RER. There is no question that the price band system has been abused. In Latin America, as in Poland (Anderson and Powell 1992), price stabilization programs quickly became price support schemes. The price band system has been implemented in a far less automatic and transparent fashion than the reading of its rules would suggest, allowing for considerable discretion in its implementation.

Frequent and unpredictable price fluctuations are disruptive and induce great pressure for protection. The question then is to identify the options available. High in the list are (i) how to promote the development of transparent, competitive and efficient spot and forward domestic markets; and (ii) modernizing the safeguards, antidumping system and the custom operations, which in most countries are inefficient and outdated. With respect to (i), cash and forwards are the priority. Many impediments exist today. For example, the warehouse legislation is usually old and obsolete, which restricts the use of negotiable warehouse receipts; there are no precise contractual receipts with a proper registry system; grades and standards require major revisions; a practical system for the resolution of disputes is not in place; basic price information and education to assist marketing firms and farmers is lacking, etc. The (domestic) risk premium is estimated in LAC at around 5 percentage points of the interest (lending) rate. An effective system of negotiable warehouse receipts could significantly reduce the risk premium, greatly facilitating private storage operations and reducing the price margin observed between import prices and domestic prices at harvest time. In most of LAC (Chile included) reforms in these two areas are moving far too slowly.

- *Price and non-price reforms are a false dichotomy.* Often the question is raised as to whether agricultural trade and price reforms are appropriate if the non-price related reforms (such as restrictions on land and labor markets) are not taking place and have been postponed. This is, I believe, a false dichotomy. True, the positive impact of trade and price reform on aggregate supply response will be less if the internal deregulation on land, labor, and marketing does not take place simultaneously. For example, bottlenecks in the delivery of inputs owing to transport and marketing inefficiencies will of course slow down the output response. Ideally, domestic reforms should be initiated early in the process. But if that is not the case, bold trade and price reform early in the process should eloquently expose those inefficiencies in domestic markets and induce more political support for accelerating the non-price related reforms. A far more real dichotomy, perhaps a case for delaying agricultural trade and price reforms, is in countries suffering unsustainable macroeconomic conditions accompanied by high and variable rates of inflation, and variability in the real interest rates and RER.

- *No need to increase public expenditure on agriculture.* Radical economic reform, as implemented in Chile and New Zealand, involved no increase in public sector expenditures in agriculture. In fact, they were drastically reduced in New Zealand. In Chile, public sector expenditures on agriculture declined in real terms and as a percentage of agricultural GDP. The private sector can respond rapidly in the provision of input and output marketing for agriculture.

- *Appropriate speed in enacting reforms.* In Chile and New Zealand, acting quickly to deregulate services (internal and external transport and communications) and rapid privatization of input delivery systems were beneficial to agriculture and did not create transitional disruptions in supplies.

- *Alertness regarding farm debt.* The potential financial stress imposed by reforms on agriculture is important to consider. With hindsight, Chile's experience with farm debt during the early 1980s, five to six years into reform, shared some elements with New Zealand. As a percentage of agricultural GDP, Chilean agricultural debt since reforms has been much higher, rising from 11.6 percent during 1965-73 to 79.8 percent between 1983-90. Like New Zealand, not all the debt overhang can be attributed to the reforms, given the considerable accumulation of debt during an earlier time of subsidized interest rates. With substantial appreciation of land values in Chile, roughly since 1985, farm debt has ceased to be a major issue.

Chile has, however, maintained some lines of farm credit (at market rates), to serve small and medium-size farmers in areas not covered by commercial banks. Similarly, *extension and supervised credit* programs are exclusively directed to small farmers. Special lines of credit for commercial farmers are not necessary. In New Zealand, agricultural extension and research services were put on a user-fee basis, and the government provided research funds through a system of competitive funding involving public and private suppliers.

- *Privatized export trade is possible.* Chile's post-reform institutional set-up for agricultural exports was privatized, without quality control or government promotion. Sales are solely on consignment, however risky, with no averaging of export prices for individual farmers. The only mandatory controls cover sanitary and phytosanitary requirements. New Zealand, by contrast, has maintained marketing boards for major exports, although government is not the majority representative. In Chile, food imports are handled directly by private agencies, following the demise of the state agency ECA, as the result of reform. Removal of licenses and quotas on imports and deregulation to allow entry at the relevant (now lower) import tariff fundamentally reduced the risk of monopoly in domestic marketing of basic staples.

- *The special needs of small farmers.* Poverty alleviation in rural areas requires an overall trade strategy that generates more rural employment and investment in rural infrastructure and social programs to offset the disadvantages of rural areas -- lack of transportation, schooling, and public health facilities. Considerable differences have arisen between institutions serving commercial farms and the small-farm sector in Chile. The relative non-competitiveness of part of the small farm sector requires special emphasis via credit and extensive services.

- *No need to pick winners.* A main lesson from Chile's resurgent agriculture sector is that reforms can have unexpected but fortuitous consequences. The tremendous change in Chile's agricultural mix was not foretold. Following public investment in basic infrastructure (physical and human capital), and reforms in the policy and economic framework that freed up private initiative, the economy and sector responded broadly and with versatility, developing unforeseen niches for each.

Looking Ahead

In much of Latin America, agriculture is in the throes of a difficult adjustment. As shown above regarding the evolution of the reform process in Chile and New Zealand, there were episodes which nearly derailed the reforms. Several lessons were learned, which, it is submitted, can help consolidate the reform process. In terms of the sector's economic recovery, the big story comes at the economy-wide level. Like New Zealand, Chile and Mexico are now considered to have entered a "consolidated" phase, with broad political support. However, with many countries joining the status of "advanced" reforms, the main challenge is to maintain the momentum of the process (prudent macroeconomic management and deeper institutional reforms) and to make a special effort to reduce rural and urban poverty. As argued in a recent World Bank report on LAC (1993), a decisive program of poverty alleviation is not just a social issue, it is also a condition for political support for the reform process.

The experience of Chile and New Zealand shows that it takes time, many years, in fact, for the reforms to produce sustained and rapid agricultural growth. There were no success stories early in the process. This is also likely to be the case in the recent "advanced" cases like Colombia and Argentina. One observes a decline in competitiveness of important segments of their agriculture since approximately 1990, to a large extent associated with the decline in domestic *real* prices for most agricultural commodities, the result of falling world prices and a decline in RER. Moreover, the agricultural labor market has become highly integrated with the service and manufacturing sectors, creating a strong pressure on labor and other farm costs.

General economy-wide reforms and stabilization programs can be problematic for agriculture. As observed in Latin America, they can lead to several years of (i) high real interest rates, (ii) appreciation of the real exchange rate, and (iii) reduction in government spending on infrastructure and other public goods required for agricultural growth. These conditions can reduce the competitiveness of important segments of agriculture, reduce the sector's growth rate, and lead to some transitional unemployment in rural areas and a sense of crisis in agriculture. While the RER and interest rate phenomenon affects all tradable sectors, agriculture seems to be less able to compensate for the trend through productivity growth. The risk is that as these pressures build up, farm lobbies gain protection for importables and reversal of other reforms. The experience of Europe, Japan, South Korea, and other countries indicate that such protection both fails to provide long-term prosperity and viable agriculture, and imposes enormous adjustment costs on consumers and taxpayers.

Furthermore, during 1991-1993, while many countries were implementing their trade reforms towards tariffication, world prices for traditional crops have been well below expected trend levels. While they may recover to trend levels -- declining prices in real terms -- there is no reason to believe that they will go above that for any sustained period, barring a worldwide catastrophe, as the world's food production system is highly diversified and therefore highly buffered against uncertainty.

The profusion of bilateral/regional trade agreements aggravates this problem, generating further anxiety since preferential agreements are now reaching the stage of duty-free entry

(MERCOSUR, Andean Group, Central America Agreement, and other bilateral accords). Extending trade preferences to farm products under the integration agreement forces countries to face residual imports sometimes at exceptionally low border prices. Policy harmonization is just at its initial stage.

Adding to these problems in Latin America are those that are peculiar to the sector itself. First, there is the problem of duality. Alongside a very productive component of the farming community there is still a large number of smallholders who have not modernized, a proportion of whom may never have the capacity to adjust to the demands of a modern competitive agriculture. There are also certain agro-ecological regions which are having productivity problems and for which there exist fewer production alternatives. In many of these areas, the first problem overlaps with the second, namely, an unmodernized subsector inserted into an agro-ecological area with productivity problems.

Effectively assisting the adjustment process in agriculture will require making special efforts to reduce costs and enhance competitiveness through technology, roads, market development, labor market reforms, education and training, in addition to a favorable (albeit non-discriminatory) structure of incentives.

Assisting the small-farm sector will require the development of a framework to deal with a heterogeneous small-farm sector, a high fraction of which will have to leave agriculture or find nearby off-farm employment opportunities to supplement their income.

The final outcome could be a smaller but hopefully a more competitive agricultural sector than has existed previously. Maintaining the momentum of the overall reform process and consolidating the agricultural reforms in Latin America is a formidable task for the 1990s.

Endnotes

1. For a general overview of structural reforms in Latin America, see *Latin America and Caribbean: A Decade After the Debt Crisis*, Ch. 3, World Bank, 1993.

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INSTITUTIONAL ENVIRONMENT FOR AGRICULTURAL DEVELOPMENT

Land Issues

When Should Land Rights be Formalized?

Issues in the Phasing of Property System Reforms

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What Is At Issue?

In many developing countries and the redeveloping countries of the former Soviet Union and Eastern Europe, policy-makers must every day make decisions about which reforms in policy and law should come first. These countries are involved in a profound transition in land tenure, some enthusiastically, some reluctantly. The term used here, "property system reform," is broad and includes the land reform which turns over the management of lands to private hands, the reform of the law governing property rights in land (land tenure reform), and the creation of the land administration institutions appropriate to a private property system.

How important is that transition, relative to all the other sea-changes taking place in these economies? How does this change relate to the others, as a precondition, as a binding constraint, or as something that can be tidied up at a later date, once all the important element of the reforms are in place? The World Bank and other donors confront these issues as they provide technical advice to national policy-makers and make choices about where to place their limited funds. What is the payoff for an increment of security in land tenure as compared, for instance, to that for a ton of fertilizer or the 10 trucks for new farmer associations?

Admittedly we are very poor at measuring the impacts of institutional change, but surely it must be possible to gain some general sense of where property system reform fits into the priorities for reform? For example, how does land fit into the debate over "gradualism or the big bang approach" in reform (Thomas and Wang 1994)? Can we locate where property system reform should come in a progression of reforms? Is that reform itself capable of being done gradually, in stages?

This paper does not answer these questions conclusively, but at least it tries to provide a framework within which we can think about them constructively. It draws on studies carried out by the World Bank and the Land Tenure Center (LTC) in the late 1980s in sub-Saharan Africa, which sought to establish the relationship between security of land tenure and improvements and increases in agricultural productivity over customary tenure systems, and to establish whether

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provision of registered titles by the state was a cost-effective means of providing greater security of tenure.

While customary tenure systems are now history in many countries engaged in structural reform, customary systems are "informal" local attempts at self-regulation by communities where a national land law does not exist or is ineffective. Outside Africa, informal tenure exists as the result of incomplete or poorly implemented reforms. After reviewing the conclusions of the African studies, this paper puts forward a model which attempts to break the property system reform process into three stages, each with its characteristic reform and associated benefits and problems.

The Issue in Africa

The vast majority of Africa's farmers still hold their land under indigenous, customary land tenure systems, whatever the formal legal position might be under national law. In the early 1980s some voices in major bilateral and multilateral donor organizations called for large-scale tenure individualization and title registration programs to provide the tenure security necessary for investment in agriculture.

The large literature on African land tenure did not provide convincing empirical proof of the benefits of land registration programs (Dickerman et al. 1989; Bruce 1986; Barrows and Roth 1990). But the logic of the economic model involved was compelling, and it had recently been tested with impressive results in Thailand (Feder et al. 1988). On the other hand, there was a recognition that a formal title did not necessarily mean an increase in tenure security (Roth et al. 1989), and a very considerable body of microstudies, especially from Kenya, raised questions about the impact of title registration programs in African circumstances (e.g., Haugerude 1983; Okoth-Ogendo 1986).

The research reported here grew out of a sense that the time had come to attempt a careful quantitative study of these issues, based on survey research and econometric analysis. The World Bank studies asked whether or not customary land tenure systems provided insecure tenure, hampered agricultural development, and required replacement. The LTC studies asked whether formal, registered tenure provided by the national state has in fact delivered greater security of tenure than customary arrangements and stimulated agricultural development. Agricultural development was defined in terms of investments in the land and increased productivity per hectare.

Searching for "Security of Tenure"

When the research teams sought to operationalize the concept of "security of tenure" so they could test for it, they discovered that the confident discussion of the concept in the literature

cloaked important differences as to how it was conceived. Three elements were present, in different combinations from case to case. The first element is the formal duration of rights. Did the landholder have a right to the land for long enough to have an incentive to invest? The second element required the protection of rights. However long the formal entitlement, it would not provide incentives in a situation in which rights were arbitrarily overridden by other individuals or the state. The third element was robustness of rights: the freedom to use and dispose of land, free from interference of community or family.

All three are obviously relevant, and we would not want to suggest that any one formula for security of tenure is appropriate for all purposes. The various studies reported in this paper took somewhat different approaches.

The World Bank studies sought to test for different degrees of security of tenure under customary systems and to establish the impact of those differences on improvements and productivity. These studies involved fairly large samples and cut across different customary tenure systems within countries. They escaped the particularities of the diverse customary tenure systems by treating tenure as a bundle of specific rights, and testing for the presence of particular rights. The Bank research team concluded that robustness of land rights, and more specifically the freedom to dispose of the land without interference by community or family, was by itself a sufficient test for security of tenure. Freedom to sell implied durable, safe rights to be transferred.

Using a gradation of "temporary transfer rights," "preferential transfer rights," and "complete transfer rights," they correlated investment and productivity with the extent of those rights, as perceived by the holders themselves.

The LTC research sought out opportunities to study the use of land under customary tenure and formal, registered tenure in close juxtaposition. These microstudies attempted to measure security of tenure under the local tenure options and to isolate the impact of any differences in security of tenure on investment and production. The studies used several different indicators for security of tenure, both facts (e.g., frequency of disputes, currency of registration) and holders' perceptions (e.g., likelihood of still having the land after a certain number of years). The indicators represented all three of the elements mentioned earlier: formal duration of rights, protection of rights, and robustness of rights. Each study emphasized indicators relevant to the local situations and they are not precisely the same in any two cases.

In addition, both Bank and LTC researchers examined differences in security within the system of registered ownership in Kenya, asking whether those with up-to-date registrations behaved differently than those who had failed to register changes of ownership and left the new holder vulnerable to other claims. In Uganda, a LTC study explored whether those who had taken the initiative to get their land registered or to maintain its registration current took greater advantage of their registered title than those who had received title as part of a compulsory, systematic registration program, without any initiative on their part.

Security Under Customary Land Tenure

Do customary tenure systems provide weak security of tenure in some cases? The Bank studies confirm that there is considerable variability in the extent of transfer rights, and sought to identify the factors responsible for the variability. They found a correlation between the progression toward "full transfer rights" and population pressure.

The effect of population pressure on tenure is best tested by comparing regions in Ghana. While each Ghanaian region is fairly commercialized (Anloga: shallots, Wassa: cocoa, Ejura: large food crop farms), only Anloga experiences high population pressure. Among permanently held land, the percentage of "complete transfer" parcels is 82.5 percent in Ejura, 76.7 percent in Anloga, and 70.3 percent in Wassa. However, if the necessity of approval is also taken into account, the results change considerably. The percentage of permanently held parcels which may be sold without approval is much higher in Anloga (62.7 percent) than in either Wassa (14.7 percent) or Ejura (9.0 percent). If the ability to transfer land without approval is indeed the paramount measure of the individualization of land rights, then the Ghanaian data strongly support the notion that increased population pressure brings forth a higher degree of privatization of land rights.

Our best basis for testing the effect of commercialization on the privatization of land rights is Rwanda. In Rwanda, each of the three regions is characterized by high population density, but Ruhengeri is the most commercialized while Butare is the least. In Ruhengeri, 97.5 percent of permanently held parcels are those over which current operators have "complete transfer" rights as opposed to 77.6 percent in Gitarama and 71.8 percent in Butare. If approval to sell is considered, the Butare region exhibits by far the lowest percentage of freely saleable parcels. These patterns provide support for the argument that increased commercialization hastens the individualization of land rights.

The studies tend to confirm hypotheses that customary tenure rights evolve toward stronger, more alienable individual rights as population pressure on land increases, technologies change, and agriculture becomes more commercialized (Boserup 1981; Feder and Noronha 1987). The LTC Senegal study provides corroboration, finding that a right to sell was more commonly asserted in the locality where there is heavier population pressure on land.

If customary tenure systems do not simply "break down" under such pressures, but instead often evolve in a responsive fashion, then there is a need to re-examine the extent to which more intrusive programs, which seek to replace those systems, are necessary. Whether such programs are necessary hinges upon whether low security of tenure is seriously retarding agricultural development. To answer this question, the Bank studies tested the relationship between security, represented by transfer rights and credit use, land improvements and productivity. The studies controlled for parcel characteristics and observable household characteristics, and corrected for unobservable household characteristics by using either dummy variables or an error component model.

The relationship between land rights and productivity is hypothesized to proceed as follows. Increased individualization of rights improve farmers' abilities to reap returns from investments on land. This leads to a greater demand for land improvements as well as for complementary inputs. Increased individualization of rights may also improve the credit worthiness of the farmer and enhance his chances of receiving formal credit. Both of these demand- and supply-side mechanisms interact to increase investments in land and input use, which in turn lead to greater land productivity.

The use of formal credit in the study regions is limited, reflecting the poor development of formal rural banking institutions. Less than 13 percent of the farms received formal credit during 1987-1988 in nine of the ten study regions. The Anloga region of Ghana was the only exception--37.4 percent of households received formal credit there. Furthermore, in Ghana and Rwanda, all formal credit loans were short term, none being extended for more than one year. It is therefore not surprising to find a weak relationship between land rights and the use of formal credit. For instance, the analysis did not disclose any significant relationships between the use of formal credit and the proportion of land held with current operators having "complete transfer rights."

Given the low incidence of formal borrowing, the absolute number of cases in which land is used to secure loans is also very low. Kenya differs considerably from Ghana or Rwanda in that formal titles to land are held by many farmers and could be obtained by countless others. However, the analysis did not establish a significant relationship between the possession of title and use of formal credit. The use of land titles also did not imply an increase in the period of loan maturity or loan size. In light of these findings, there appears to be little relationship between land rights or land title and the use of formal credit in the countries of our study at this stage of their agricultural development. The low incidence of formal credit in Kenya also suggests that transformation of land tenure alone will not lead to the development of active rural credit markets. It may be necessary for all rural factor markets to be developed in order for a land market to operate.

In terms of its effect on investment in land improvements, land rights have mixed results. The ability to bequeath land is the most important distinguishing right in each Rwandan prefecture. Parcels which cannot be bequeathed ("limited transfer" parcels) are much less likely to be improved by farmers in any manner or with long-term investments. For example, 78.7 percent of parcels which may be bequeathed were improved as opposed to 26.7 percent for those which could not be bequeathed. Among permanently held parcels, there is no difference in the incidence of land improvements between those over which current operators have "preferential transfer" and "complete transfer" rights, nor does the requirement of prior approval before entering into a transaction matter. In Anloga (only permanently held parcels were surveyed for investments), 61.8 percent of "complete transfer" parcels were improved (by drainage, mulching, or excavation) as opposed to only 5.4 percent of "limited transfer" parcels. Moreover, the parcels which could be transferred freely were more likely to have been improved than those requiring prior approval. In Ejura and in Wassa, the incidence of investment was not related to land rights. Similar lack of relationship was also found for each of the Kenyan study areas. From these varied findings, it is

not possible to make any general assertions regarding the effect of land rights on land improvements.

To test the relationship between land rights and land productivity, reduced-form yield equations were estimated using parcel-level data for selected crops. There was no significant relationship between land rights and yield in any of the study regions. This result is surprising for Rwanda given that some positive relationships between land rights and productivity-enhancing land improvements were found. The discrepancy cannot simply be dismissed as the result of noisy yield data, because the results for many other variables included in the regressions were satisfactory, both in terms of statistical significance and expected signs. Moreover, the yield data for Rwanda are the most reliable, having been physically measured by resident enumerators.

A more plausible explanation arises from the fact that land over which operators have "short-term use rights" in Rwanda is mostly rented or borrowed by younger families who also operate small farms. With lower land/labor ratios than average, they may well use family labor more intensively than farmers with more secure access to land, compensating to some extent for the lower levels of yield-improving investments on their land. Unfortunately, the data on family labor use needed to test this hypothesis was not available.

If the degree of alienability of land under customary tenure adequately captures the extent of tenure security, the results of the Bank studies suggest that increasing such security is not, by itself, a very important incentive for land improvements and heightened productivity. We believe that two factors account for this counter-intuitive finding. First, in some areas land is still an abundant good, and however secure it may be, it is easier to clear and use other land than to invest in the existing holding. Second, an analytical model which focuses on land alone assumes that other markets—labor markets, capital markets, markets for produce—are functioning reasonably well. In a full-blown market economy, this may be a reasonable assumption, but not in most of Africa. The benefits expected from a land market rely upon its interaction with other factor markets. In most of the Bank study areas, for example, the formal credit market hardly functioned for the smallholders studied.

Might it not still make sense for the state to anticipate events and short-cut the evolutionary process, surveying and registering individual holdings? Why not do it all at once, systematically, and capture the economies of scale involved in surveying and determining title to all land in an area at the same time? Wouldn't it be better to provide robust, secure tenure now, rather than later?

It is possible to answer these questions positively only if the positive economic benefits of those programs can be established. After all, they are costly. LTC comparative studies indicate that survey and registration costs in smallholder agriculture, even in a systematic process utilizing the most economic methods, run at least \$50 and usually \$100 or more per parcel. Multiplying this by the number of parcels in any country produces alarming figures, such as the \$13 million which the U.S. Agency for International Development spent to survey and register all the land on the small Caribbean island nation of St. Lucia in the early 1980s. Are survey and registration of

titles in fact effective in increasing investments and productivity? Can they produce the same benefits as the evolutionary process, but more quickly? The LTC studies addressed this question.

Land Survey and Registration: Replacing Customary Tenure

The LTC studies explored whether the national state, when it attempts by titling to substitute its own guarantee to land rights for those under custom, actually provides greater security and prompts greater investment and improvements in the land. They sought out titling programs and evaluated their effectiveness. In Somalia, a study in an irrigation scheme compared the situation of farmers with registered long-term leaseholds from the state with that of their neighbors holding land under legally unrecognized local practices. In Senegal, the study explored the impact of the country's reorganization of land administration, which places farmers' security of tenure in the hands of local committees and stresses regular use as the basis of rights to land. It also examines the situation of a dozen scattered parcels registered in private ownership just prior to independence. A Uganda study examined the effects of the conversion of smallholders from customary tenure to freehold under a pilot land registration scheme. A Kenya study compared the behavior of private owners who did and did not hold title documents for their land.

In these studies, security of tenure was equated with a danger of loss of access. In Somalia, there was a strong perception that titling increased security, and title in fact had a high economic premium. When title was related to a set of indicators of tenure security, a positive correlation appeared only in the cases where households had better quality land, larger parcels with good water access (i.e., the land most likely without registration to have been sought after by others). In Senegal, the National Domain Law abolished tenancy, and under the law a tenant could use the fact of his having farmed the land as the basis for a claim to own it. This introduces a new factor: the state and its titles as the source of insecurity. The new tenure provided by the state was so conditioned as to cause resentment and concern on the part of landholders. Similarly in Uganda, the freehold titles originally conferred in the land registration were not to be seen by a majority of the sample as providing security against eviction because recent government legislation had converted them to leaseholders from the state and exposed them to new dangers of loss of their land. Registration under a weak tenure from the state does not provide meaningful security and may in fact decrease security of tenure.

Several of the LTC studies used land disputes as an indicator of insecurity. In Senegal, the locale more deeply penetrated by the National Domain Law experienced a higher level of disputes, due to disputes in which tenants attempted to oust the rights of their former landlords. For the freeholds in Senegal dating from before independence, there also were high levels of disputes, based on challenges to the rights of those who were registered by their local communities. In Uganda, in contrast, avoidance of disputes was seen by respondents as the major benefit of registration. For registered parcels, disputes were much more unusual and they tended to be disputes over boundaries or grazing rather than over ownership.

As in the Bank studies, formal credit was sometimes not available at the LTC study sites. In Uganda, it was not, and although respondents were aware of the theoretical possibility of using registered land as security for a loan, those who did not hold registered land thought it more of an advantage than those who did. In Senegal, those with the pre-independence freeholds had in fact frequently used their land to secure loan, and defaulted, but foreclosure did not appear to have been successfully pursued. In Somalia, title made no difference in the poor credit access of smallholders, but large holders, who were all registered, did in fact use credit from formal lenders and most of those who borrowed used their land as collateral. In Kenya, credit access proved to be more related to scale and market access than to registered title.

Had land for which the state provided title been improved more than other land, as a consequence? Virtually none of the old freeholds in Senegal were in commercial agricultural production; those who received the titles had been notables and their economic interests seem to have lain elsewhere. In the locale studied to observe impacts of Senegal's National Domain Law, there was no relationship between land improvements such as tree-growing and the degrees of security in different villages. This is hardly surprising given the mixed impact of the new tenure system on security of tenure. Within the households, the research showed varying degrees of security of tenure as among different plot managers, but there was little or no variability in investment or management practices between or within households to be explained by tenure differences or any other factor, for that matter. In Somalia, titling appeared to make no difference in levels of smallholder investment. The larger holders, who were all registered, had much higher fixed place investments associated with large-scale citrus production, but this is likely to have been more a function of scale, better access to water, and a better access to credit unconnected to title.

In the Uganda case, however, where coffee growing remained viable even during the difficult years because of access to markets in Rwanda, there is a positive and significant correlation between registration and fencing, manuring and mulching, and a positive but insignificant correlation with tree crops, terracing, and non-agricultural buildings.

What were the impacts of tenure on productivity? The Somalia research did not collect production data. The Senegal research did so, but found no evidence of tenure impacts. In Uganda, data inadequacies prevented confident analysis, though the association of terracing, manuring and mulching with title suggests that productivity impacts may have existed. In Kenya, those farms whose owners had been issued title documents used less inputs (much lower labor inputs, but also slightly less of other inputs), had much higher levels of mechanization, somewhat lower per-hectare value of production, and achieved considerably higher net returns per hectare. But titled farms are consistently larger than small farms, and when the impact of size and market access are separated out it becomes clear that it is these factors, rather than title, which are responsible for the correlation. The World Bank's Kenya study tested the effect of land title on productivity by including it alongside the land right variables and by itself in separate regressions. The lack of any significant relationship between title and yields may be explained by the limited use of credit in the Kenyan study regions.

Several key facts emerge. First, in generally depressed conditions of agriculture, as in Senegal, there is no reason to hope that titling will have an impact. As concluded in the World Bank studies, the land market relies for its impact upon interaction with other markets. Where land is scarce and/or unusually productive, produces cash crops (and especially tree crops) and has good access to markets, as in the Somalia and Uganda cases, registration may have a positive impact on land improvements and thus on productivity. Second, giving weak titles constrained by conditions and prohibitions will not have the anticipated incentive effects. Third, when farmers value titles in such circumstances or even focus improvements on registered land, as was found in Somalia, it was because the titles were felt to provide greater protection than custom against arbitrariness on the part of the state itself. Much of the titling demand for smallholders in Africa can be viewed as "pre-emptive," an attempt to prevent the state from giving the title to the land to someone else, rather than the expression of a felt need for new operating rules of tenure. Fourth, even in a vital and heavily market-oriented agriculture such as that of Kenya, factors such as farm size and market access may overwhelm titling impacts, especially where land is not used to secure credit and only demand-side, security-induced effects of title are available.

A final conclusion, supported by both the LTC and World Bank studies, is that national legislation of tenure reform has a limited capacity to change behavior. The theme has been stressed in the literature on the Kenyan tenure reform (Coldham 1979). The Bank's Kenya study found that in the Madza and Kianjoga regions, while the titling and registration program had individualized tenure, indigenous values concerning land persisted and the majority of titleholders believed they could not sell the land without family permission. Such behavior is not perverse. It reflects a judgment on the part of smallholders that the social security function of land still predominates in these circumstances and that compliance with community mores and access to community mechanisms for coping with hard times are still of great importance.

The limitation of the law's ability to change behavior applies equally to state attempts to limit individualization, when the economic prerequisites for individualization do exist. In Rwanda, the Bank researchers found that despite laws forbidding land sales without government authorization, farmers claimed the right of sale over most of the sampled parcels. The LTC Senegal study found the prohibition of tenancy ineffective, and in Uganda, LTC found land transactions broadly and evenly distributed across registered holdings, where sales were prohibited without government consent, and unregistered land, where custom had evolved to accept sales. In Somalia, a similar prohibition on sales was disregarded, and transactions occurred with respect to both registered and unregistered land.

Implications For Policy

These African studies were focused on critical propositions about the relationship between security of tenure and development. They are cautionary in a number of respects. "Security of tenure" is a multi-faceted concept, not easily operationalized, and development professionals must use it with far more care than they have done in the past. Title does not necessarily equal security of tenure and the extent to which it does depends upon the quality of the title conveyed and the broader context of respect for law. Unsuccessful attempts to substitute state titles for customary entitlements may reduce security by creating normative confusion, and the powerful may take advantage of that confusion. Moreover, security of title, whether defined in terms of low risk of loss of access or in terms of robustness of rights and alienability, does not by itself result in greater investment or productivity. Its impact may be insignificant if farmers are overwhelmed by other risks such as frequent drought, or if the economic environment is otherwise stagnant.

But to reach an informed decision about the implications of the findings for policies, it is necessary to step back and place the studies within our broader experience with titling. One important part of that experience, which colors the attitude of many toward titling, is its relationship to land distribution policies which seek to mobilize urban capital by offering free land. The Bank and LTC studies dealt largely with the titling of existing users. But agricultural development policy may instead rely on infusions of expertise and capital by urban elites.

Titling by the state is important to such prospective investors precisely because their claims to land lack legitimacy under indigenous systems (Myers 1992). Cadastral survey and titling are commonly a means by which elites and dominant ethnic groups strip pastoralists and other non-intensive or seasonal users of resources which they nonetheless need (Besteman 1990; Bruce 1989). The investment only rarely materializes, but local resentment results, as in northern Ghana (Goody 1986) and Guinea Bissau (Bruce et al. 1992), and serious social conflict has often followed, as in Mauritania (Park et al. 1991). Environmental degradation through non-sustainable use may be encouraged by free land policies, as in eastern Sudan (Simpson 1987; Republic of Sudan 1986).

The state has used titling programs to redistribute land and has done this job unfairly so often that it has brought many to question whether it can be trusted in this role. The corruption of the land allocation process seems inevitable when a valuable good is allocated free and rationed administratively.

There is a second consideration which must bulk large in any discussion of the appropriate role for titling and registration in the future. There is the extensive evidence that following systematic registration exercises, there are widespread failures to register transfers and successions. The accuracy of registry records achieved at considerable cost is lost, as the position on the ground (and in the minds of local people) gradually diverges from that on the register (Dickerman et al. 1989). Some likely reasons for this can be suggested based on the findings of our studies. Most smallholders even after registration do not do the things with their land which

registration seeks to empower them to do, such as selling or mortgaging their land without consulting family and neighbors. The exercise of those powers would contravene important cultural norms, norms which were reflected in the indigenous tenure system. Those norms will eventually change due to growing population pressure and commercialization of agriculture, but it is clear that we cannot legislate them out of existence, even where the legislation is followed up with a costly and extensive field procedure such as systematic cadastral survey and registration.

Turning back to our findings, and placing them within this broader landscape of experience, what do they imply for policy-makers? Broadly stated, they:

- 1) cast doubt on the wisdom and cost-effectiveness of large-scale, systematic programs of compulsory titling for smallholders in rainfed agriculture;
- 2) redirect our attention to more incremental approaches to change in indigenous tenure systems; and
- 3) redirect our support of titling activities toward much more narrowly focused efforts concentrated on localities of particular need.

The elaboration of such incremental approaches, relying to a significant extent upon evolutionary patterns, is our task of tenure policy research for the next decade. We will be moving away from a "replacement paradigm," in which indigenous tenures are to be replaced by tenure provided by the state. We may refer to the more incremental alternative as an "adaptation paradigm." Can we define the basic legal and administrative requirements of a land policy which utilizes an adaptation paradigm? And can we identify circumstances in which systematic or sporadic titling and registration are still appropriate and cost-effective?

An adaptation paradigm requires a supportive legal and administrative environment for the evolutionary change in indigenous law. Such a supportive legal environment implies a clear recognition of the legal applicability and enforceability of indigenous land tenure rules. An indigenous system whose entire status is unclear under national law is unlikely to be able to respond to new challenges. We understand a certain amount about the process of evolution in indigenous legal systems, including the centrality of conflict resolution in that process (Moore 1986) and the importance to the process of compromise and reconciliation rather than strict rule enforcement in indigenous dispute settlement (Rose 1992). There is a need to review the experience of African countries as to how and on what terms recognition is most effective, and how dispute settlement mechanisms can best be framed to facilitate the process. As Sara Berry suggested after reviewing the body of research presented here, "[R]ather than rewrite the laws governing property rights—an effort which will serve mainly to introduce another set of arguments into on-going debates over access to land—governments should focus on strengthening institutions for the mediation of what, in changing and unstable economies, will continue to be conflicting interests of farmers and others with respect to rights in rural land" (Berry 1990). Adaptation as a general strategy does not, of course, preclude legislation to address specific problems, such as

gender issues, or power relationships, as where customary land administration enshrines the dominance of one ethnic group over another.

Cadastral survey and registration will remain an important part of any country's repertoire of instruments for effecting land policy. The evolutionary path we sketch out here, though neither simple or unidirectional, assumes that a market economy will eventually produce a land tenure system which, while not identical, will bear a strong family resemblance to the western concept of ownership. But cadastral survey and registration must be done cost effectively, at the most efficient point in time. They may be best used as a capstone on an evolutionary process of tenure change, rather than as an attempt to compel tenure change.

The studies suggest that programs of compulsory and systematic titling and registration should be confined to circumstances in which:

- land has become valuable and is the subject of intense competition and disputes (as in urban and peri-urban areas), and the customary tenure system is failing to cope with the conflicts; or
- land is being distributed by the state in connection with a project involving resettlement, and there is no customary tenure system.

Where registration is compulsory, costs should be borne by the government. Proposals for broad, systematic registration of lands under rainfed agriculture by smallholders will have difficulty demonstrating favorable cost-benefit ratios. Governments and donors should examine especially critically programs for allocation of "unused" state land by titling programs, which often deprive nearby communities of their commons areas and undermine their economic viability, or initiate environmental degradation.

In situations where customary systems provide reasonable tenure security for most holders, but some innovators want registered title (e.g., to gain access to credit), sporadic, voluntary registration on a user-pays basis may be recommended. This does not refer to programs which make "unutilized" land available free—which historically are profoundly problematic because of their association with land-grabbing from local households—but programs to secure existing producers. In all cases, special care is required to guard against inadequate adjudication procedures, resulting in extinction of other households' land rights. This is a special problem in sporadic adjudication because all local claims are not adjudicated at the same time. Clear legal recognition of customary rights coupled with a highly participatory adjudication process will provide the best safeguard.

Donors should be receptive to strengthening registry facilities and capabilities, and upgrading land survey capabilities. Rehabilitation of deteriorated registry systems, such as in Uganda, should generally take priority over expansion of the systems to new areas. A sound strategy in this area generally will first seek to build the capability of dealing with high value land

in urban and peri-urban areas, then gradually expand the system. Planners should bear in mind that installation and management of a registry system should lead to revenues which will cover the costs involved in the operation of the system, through registry fees and land taxes. Those costs are most easily covered by taxes on high-value urban land and fees in areas where there are active markets in high-value land. The normal and financially sound progression for the expansion of registry systems is outward from high-value land areas.

Looking Beyond the African Cases

The great property system reforms of this decade are those in the former Soviet Union and Eastern Europe. Most attempts to think through the reform process there note the need for property system reform, and argue that it is either one important reform among others, or go further and assert that it is almost a precondition for an effective reform process. The Bank has devoted considerable thought to the role of urban land policy (Farvaque and McAuslan 1992), and discussions of housing problems have focused on property rights reform as a key need (Sa-Adu and Malpezzi 1991), and even as the "critical first step" (Renaud 1991). In the agricultural sector as well, proposals for the reform of property systems figure prominently in analyses of reform needs (FAO 1992, World Bank 1992, Thiesenhusen 1993, Prosterman 1993).

Generally, sooner is better, with the World Bank urging immediate subdivision of the land of large agricultural enterprises among residents and movement as swiftly as possible toward an open land market, without any transitional moratorium on sales (World Bank 1992:27, 31). Valdes reviews the experience with incremental reforms in Latin American and relates it to the reforms in the offing in Eastern Europe. He argues that "...security of property rights early in the reform program is crucial... Otherwise, even the best trade and macroeconomic policies would not have had much impact on private investment in agriculture" (Valdes 1994). Advocates of the "big bang" approach to reform are of course relieved of the necessity to speculate on the appropriate phasing of reforms.

Others are less certain. The agricultural transition process is to be the focus of a special World Bank study and participants in an informal design workshop at the Bank in September 1993 asked repeatedly whether sound policies in the transitional phase were necessarily the same as sound end-game policies (Burcroff 1993).

Can one effectively reform all elements in the economy at once, or will this result in a chaotic situation in which it is difficult to realize the benefits of any reform? For example, we know that the reform of land holdings and land tenure depend for their success upon farmers' ability to get inputs and to market their crops. If a parallel reform disrupts the mechanisms for getting inputs to farmers and marketing their crops at the same time the reform is taking place, any incentive effect of the reform will be canceled out. Small farms will only be viable if competitive input and output markets exist. Either non-market delivery mechanisms need to be

kept in place for a time, or there must be immediate privatization of agricultural intermediaries such as mills, storage and food processing (Okoliczanyi 1994).

There are also difficult issues concerning land markets. In the early stages of a property system reform, land markets will be very imperfect, if markets (as opposed to scattered transactions) can be said to exist at all. Markets are supposed to allocate land to the most efficient users, but distorted land markets do not do so. Sources of such distortions include: 1) unequal access to credit, 2) institutional barriers such as high survey and titling costs, 3) subsidies to scale, and 4) unequal access to land market information. Is it a good thing for land markets to be suddenly freed up, given these distortions? It has been suggested that sticky land markets may save smallholders from extinction where, for artificial reasons, they are not competitive (Carter et al 1993). Rural financial markets may be particularly difficult to develop effectively. They may not extend to smallholders until the banking system is privatized and decentralized, as state owned banks tend to deal only with big enterprises, and lack both the staff and the experience to lend effectively to the growing number of small farmers.

Figure 1 is a model which economists use to relate security of tenure to investments and increases in agricultural production (Roth et al. 1994).

Is it possible to stretch that model out over time, specifying each level as a number of steps? It would need to be broken down into several more or less discrete stages of reform, relating a set of incremental changes in land policy, land law and land administration to particular efficiency impacts. What is really being asked is whether property rights reform is necessarily a "big bang" reform, with its impact depending on all components being in place, or whether it can be phased in to good effect.

Even if phasing seems possible, it does not necessarily mean that the reform should be phased. But the costs associated with the reform are considerable, especially the costs of creation of a formal land titling and registration system, and so it is worthwhile thinking about whether they can be spread over a longer period of time, freeing up funds for other urgent needs. It may also help us think about what else (institutions, policy reforms, markets) needs to be in place before particular elements of property rights reform can have their intended effect. That would in turn allow us to consider possibilities for the sequencing of property rights reform relative to other reforms in the transition out of socialism.

Figure 1.
Conceptual Model Linking Title and Tenure Security
with Agricultural Performance

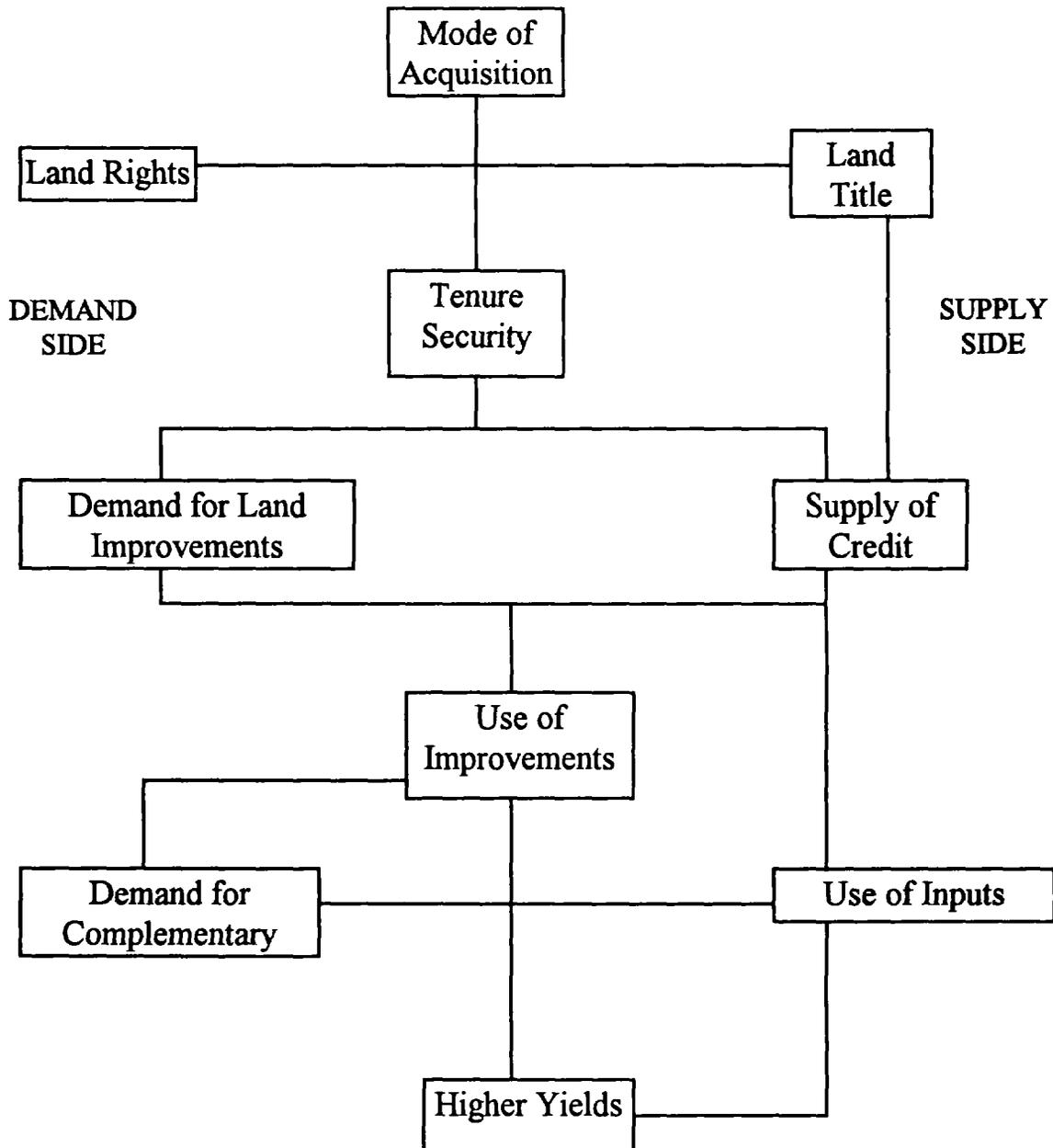


Figure 2. Phased Property System Reform Model

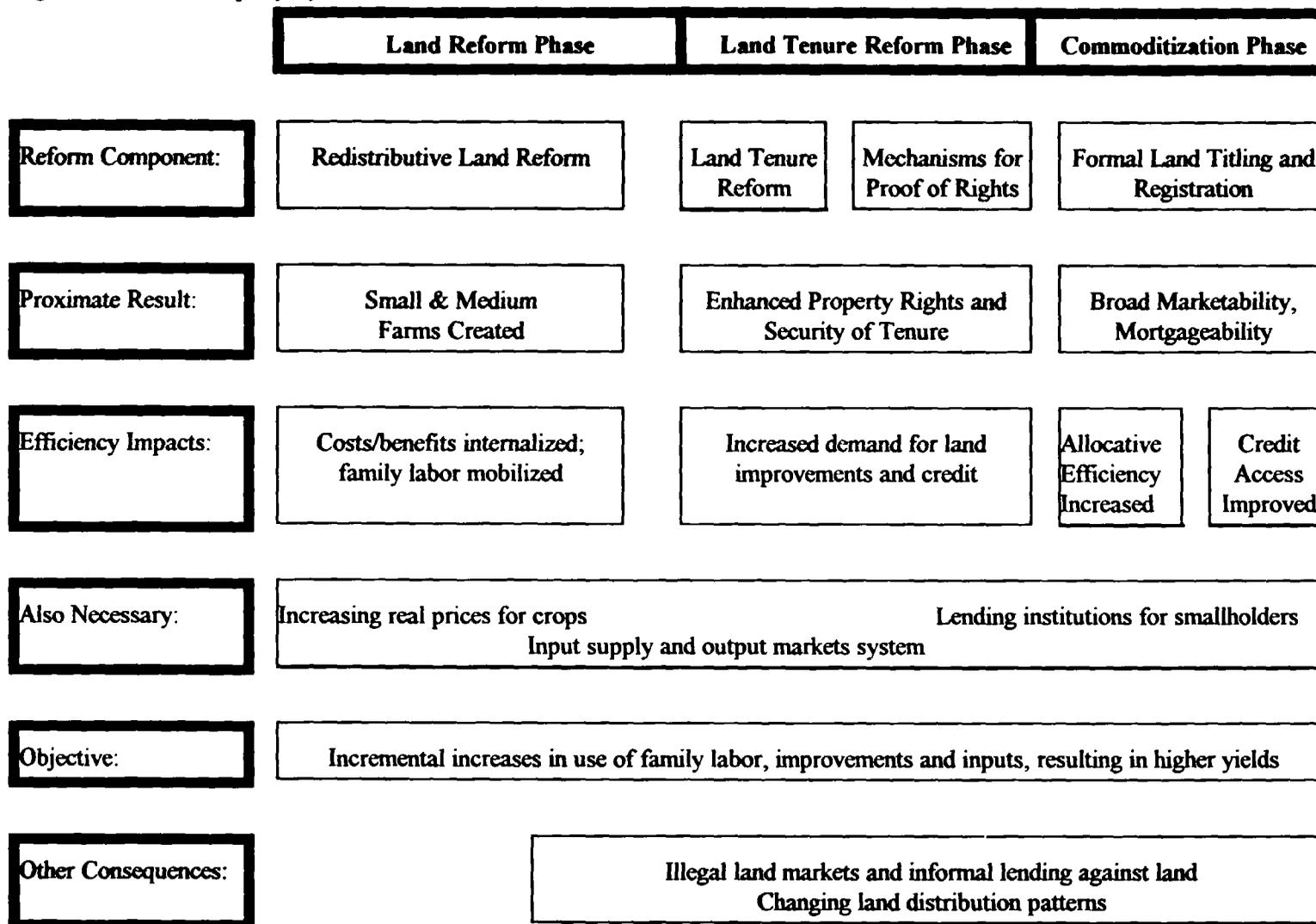


Figure 2 attempts to lay out such a phased version of property rights reform. It is neither a suggestion that the reform process in fact works this way nor a recommendation that the reform process should in all or even most cases work that way. But it may help us think about some possibilities.

What the figure suggests is that it is possible to think of a reform of the property rights system in three phases, called for convenience here the Land Reform Phase, the Land Tenure Reform Phase, and the Commoditization Phase. Associated with each are certain immediate results which have characteristic efficiency impacts, and which in turn provide incremental increases in agricultural productivity.

The Land Reform Phase

This is a critical first step in those economies in which the state directly managed or collectivized production. It is the phase in which the large units are broken up into medium and smaller farms, with management taken over by household units. In the Chinese experience, this would be the transition to the household responsibility system in 1978-1988. In Albania the transition, at least in the collectives, has been more rapid; in Russia and some other countries it may go more slowly. Such change internalizes many costs and benefits of agriculture to the household management unit and encourages a mobilization of family labor. The relative efficiency of smaller holdings is based largely on the relatively high efficiency of family labor (Feder 1985).

The Chinese case provides considerable evidence that the land reform phase can by itself produce major increases in agricultural productivity. It also suggests some of the other, non-land system elements that need to be in place in order for the land tenure reform to have the intended effects. In China, a non-market system of input supply and crop marketing for key grain crops was effectively reoriented toward the household through the production contract mechanism, with growing real grain prices for key grain crops and even more rapidly increasing prices for other, completely decontrolled crops. While these non-market mechanisms are problematic in the longer run, they appear to have been important in reaping relatively promptly the benefits of the breakup on the collectives.

The Land Tenure Reform Phase

This phase involves the reform of property, land, and regulations. It is the second phase for the countries discussed above, but for others it may be the first phase. There are socialist economies, especially in the third world, where there have been only very limited experiments with collective farming. Most land has remained in the hands of peasant families operating under great legal insecurity of tenure or on land allocated by government. Ethiopia, Tanzania and Mozambique would be examples. For these countries, the reform of land tenure to provide more robust property rights and mechanisms for proof of rights would constitute the first phase of reform.

Again, there is evidence that this reform of land tenure, without further formalization of the system, can produce an increment of increased productivity. That evidence comes from the World Bank research on the evolution of customary land tenure rights in Africa reported here. In those studies, it was the expansion of duration of rights, and in particular their inheritability, which were crucial steps in improved tenure security and allowed greater improvements and investments in the land.

That same experience reminds us, however, that tenure reform creates opportunities for farmers to do new things with their land, but does not compel them to take advantage of them. The preconditions for uptake of those opportunities by farmers were suggested by the Bank researchers be effective systems of input supply and marketing and good prices, roughly the same factors identified as important elements in the land reform stage. In countries which cannot continue state-managed mechanisms, small farmers must rely on a private sector which may take some time to develop.

The African studies also remind us of the obverse: if tenure reform is incomplete or delayed, farmers will simply assume new rights, engaging, for instance, in surreptitious land transactions.

The Commoditization Phase

This phase involves formal land titling and registration. While rudimentary, local records of rights may have been adequate for local land contracts, a large impersonal land market requires greater precision and certainty. This reform phase requires demarcation and survey of the land and the adjudication and registration of title. Rights in land become a commodity, and because there is a market for them, they can be used to secure loans. If law reform made mortgaging legally possible, now it becomes economically feasible.

It is from this phase that one expects increased allocative efficiency, and improved farmer access to credit. The two are closely associated, since credit may be required to allow a farmer to enter the land market. To the extent that there are institutional barriers to entry into the land market, or policies still in place which skew the impact of the land market, the allocative efficiency objectives will not be obtained. Indeed, the land market can behave perversely, allocating land to inefficient users, such as speculators.

Again, there are clearly measures outside the property system reform which will be needed to allow the commoditization reform to achieve even part of its potential. Some have been mentioned already, as important to earlier phases in the property system reform. In this phase, however, the functioning of financial markets becomes critical for the first time. Banking institutions must be prepared to lend to agriculture, and their programs must be structured so as to make it easy for them to lend to smallholders. In fact, such lending is hard to mobilize, even with government subsidies, and it may well be that for smallholders mortgage credit schemes may be less useful than group lending approaches.

When all is said and done, is it a good idea to phase property system reform? This is not an exclusively economic question, and political factors will play an important role in the decision. Land reform is a complete upsetting of the previous political and economic dispensation, and it can never be treated as primarily a technical problem. The reform of property rights is a major step toward empowerment of the private sector, and is again profoundly political.

If the African cases reviewed here suggest some possibilities for phasing, there are also African cases which illustrate dramatic transition. The reform of property right systems is carried out to build political constituencies as well as to enhance incentives. Windows of opportunity open and close with alarming rapidity. The most extensive individualization reforms in Africa, those in Uganda, Sudan and Kenya, all had political rather than technocratic foundations, though technocratic arguments played some role in the discourse about them. In the case of Uganda the creation of the Mailo system of registered titles was the centerpiece of an accommodation between the British Crown and the Buganda royalty at the turn of the century. In Sudan, the land registration along the banks of the Nile in the early part of this century was a critical part of a resettlement (or pacification) program which sought to stabilize Sudanese society after the crushing of the Mahdist rebellion. In Kenya, the tenure reform initiated in the years just before independence was the cornerstone of the Swynnerton Plan's proposal to create a class of "yeomen farmers," conservative and devoted to a private property regime (Dickerman 1989).

Today, then, it is not surprising to see the rapid progress toward land reallocation and titling in some countries undergoing profound political transitions, such as Albania. There is a genuine and widespread peasant demand for titles in Albania, and LTC and the Albanian Ministry of Agriculture and Natural Resources are trying to meet it. The government is moving ahead rapidly, seizing the political opportunity and the opportunity for donor support of a large program.

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Land Reform in South Africa: Process And Product

R. E. Christiansen and D. Cooper*

Introduction

The rapid and dramatic political changes in South Africa have provided the international community with both opportunities and obligations for supporting, first, a transition from white minority rule to a multiracial democracy and, second, a strategy that will yield long-term, sustainable, employment intensive growth as a vehicle for redressing the costs of apartheid. Taking advantage of these opportunities and fulfilling the obligations is not a simple matter. First, the South African economy, and in particular the rural economy, is characterized by a wide range of policy distortions aimed at achieving the economic and political objectives of apartheid. Second, many groups on both the political left and right have serious reservations about relying on external advice in the formulation of future policy options. These reservations stem, in part, from a view that South Africa's circumstances are unique, and in part from a view that South Africans are best equipped to understand and develop policies for those circumstances. There is also a deep-seated fear that South Africa will tread the path toward economic mismanagement and stagnation that has been followed by many of its neighbors. The latter outcome is often attributed, in part, to the policy advice provided by the international community.

Hence, as the apartheid era draws to a close, establishing a working relationship with and a conceptual understanding of rural development and agricultural issues in South Africa has been a fairly intricate undertaking. To the extent that these efforts have been successful, it is because the Bank's work program in rural issues and agriculture has relied on a transparent *process* with a well-defined *product* that provided South Africans with a clear analysis and a variety of rural and agricultural policy and investment options. As such it has been possible to engage a wide variety of groups in South Africa in a substantive dialogue about the policy and investment options that will likely face a new government. As a result of this engagement there has emerged significant (although certainly not complete) convergence about the outline of a development strategy to be pursued in the rural sector. This includes the need to address rural poverty, which is deeply entrenched in South Africa, along with issues of social justice, such as land restoration, and economic development within an integrated policy framework (e.g., including legal and constitutional issues and local administration). The methodology applied in South Africa may have more general applicability to similar situations in which the policy environment is distorted and where a major policy review will lead to a meaningful debate about available options. Central

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to this approach is the need to see lending as a part, albeit an important part, of a broader program of services available to the Bank's clients.

At the heart of the substantive dialogue has been a diagnosis of the problems plaguing the agricultural sector and agreement on the need for and the nature of a land reform program. The current state of the agricultural sector stems largely from the partial liberalization of a highly distorted policy environment faced by a highly indebted and capital intensive large-farm sector, compounded by a prolonged cyclical drought. The resultant financial pressures on existing farmers, combined with the need for land redistribution, provide a window of opportunity for a new government to offer significantly revised development strategy.

This report is intended to provide an overview of the process from both a World Bank and a South African perspective that was used by the World Bank to develop a dialogue with South Africa and to describe briefly the core element land reform of the strategy that is emerging from this process.

Defining the Bank's Product: Fostering Engagement and Dialogue

The question that was most commonly asked of early Bank agricultural missions to South Africa was "What is the Bank's agenda in South Africa?" Underlying this question was a suspicion on the part of many South Africans that the focus of the Bank's program in any country was the need to lend and to dictate policy as a precondition to that lending. In light of this concern, and as discussions with a variety of groups in South Africa progressed, it became clear that the typical product blend of Bank-managed sector work followed by lending was not an approach that was viable. Instead, the starting point for Bank involvement whatever that might constitute in South Africa, was the need to establish a dialogue with a wide range of groups. The process that was used to develop this dialogue was based on: (i) extensive consultations with a wide range of groups in South Africa about the various products (e.g., reviews of Bank agricultural experience and sector analyses) that the Bank was able to provide South Africa; and (ii) a commitment that all activities would be collaborative.

From a South African perspective, the period of transition represents an opportunity for developing new approaches to development policy. Although those who have opposed the apartheid government have some experience of working in rural areas, there has been very little involvement with government. In this context developing policy for a new government becomes a formidable challenge. How does one engage with government, while at the same time opposing its existing policies? In the rural sector, it seemed impossible to develop sufficient agreement on an approach to allow policy development to progress without the involvement of external actors. In this scenario, the World Bank was able to play a role as facilitator, bringing together players from the different political groupings and from government, to enter into a policy dialogue. At the same time, a South Africa cut off from international experience by sanctions had much to gain from engaging with the World Bank sooner rather than later.

The first Bank agricultural mission to South Africa was for the purpose of collecting information for an agricultural sector memorandum and employed a significant number of South African advisors. The next major Bank activity (in collaboration with UNDP and in consultation with groups in South Africa) was a workshop for a wide range of South African participants in which international experience in several areas relating to agriculture (e.g., marketing reform and land issues) was discussed. Authors of papers presented at the workshop were careful not to make recommendations or prescriptions for South Africa. The salient point that emerged from the workshop, both in the presentations and the discussion, was the need for restructuring of the rural economy beginning with a land redistribution program.¹ Following the workshop discussions with various groups in South Africa indicated that there was an interest in exploring land reform options that could be considered by a new government. The Bank's participation in this effort would be as one of several groups exploring alternatives that would be presented at a subsequent workshop on land reform options.

The principle that dominated the preparation of a set of land reform options was that "the preparation process is as important as the product". In the politics of opposing apartheid, and from the existing South African development experience, there are a host of approaches being tried. These are based around the need for local involvement and participation in the design of activities and in decision making at the policy and implementation level. It was of central importance to the South Africans involved in the preparation of the rural restructuring program that this experience should be the starting point of the options that are developed, rather than starting from a point which makes no reference to existing activities. In addition to seeking to develop viable options for land redistribution, the other objective of this effort was to transfer ownership of the product to South Africa as quickly as possible. To this end, the Bank recruited several teams of South African experts to prepare background reports on various aspects of land redistribution.² The terms of reference for the teams were initially drafted by the Bank and subsequently revised by the South African teams in consultation with the Bank. In order to insure that experience from other countries was reflected in the final reports, each of the teams had access to international experts. Finally, an Advisory Group was formed to guide the process of report preparation and facilitate the transfer of ownership. In total about 120 South Africans were involved in the preparation of the background reports. The final report that was produced, and on which a portion of the present paper is based, was produced by a Bank mission working in collaboration with the South African teams.

The most important lessons concerning process that emerge from the Bank's experience in the agricultural sector in South Africa center on the following: (i) the need to define clearly the range of Bank products that are available to the client; (ii) the willingness of Bank managers to regard the process of engaging South Africans in a dialogue on policy options as part of the Bank's product; (iii) the willingness to listen to the needs of the client and to require active client participation in completing the work program; (iv) the transparency in the formulation of a work program; and (v) the focus on developing working relationships in which the Bank supports and effectively works for the client.

Overview of South African Agriculture

Agriculture in South Africa is often thought of as a highly sophisticated and successful sector. Among the evidence cited in support of this view is the fact that South Africa is self-sufficient with respect to most of its major agricultural commodity requirements. At the same time, the sector's small and declining share of GDP (4.7 percent in 1990 compared to 12 percent in 1960) is interpreted as indicating a pattern of secular decline of agricultural production that is consistent with a normal pattern of economic growth and development. Consequently, it is often assumed that agriculture's future contribution to GDP in terms of employment and income will continue to diminish. It is in this context that agriculture's role in a growth strategy for a new South Africa is typically regarded as diminishing and overshadowed by expected growth in the industrial and services sectors.

A different view of South Africa's agricultural sector has emerged from the Bank's recent sector work on South African agriculture. This indicates that agriculture's low share of GDP does *not* reflect a normal development pattern, but instead is a consequence of widespread policy distortions introduced by decades of government intervention combined with the dominant historical role of the mining sector in the economy. These interventions were guided in large measure by the general political and economic philosophy of white domination apartheid. Some of these distortions are not peculiar to agriculture, but characterize the entire economy, e.g., high capital-intensity of production in the presence of widespread unemployment. Nonetheless, it is true that agriculture has been and remains subject to policy distortions that have been especially far reaching. As a consequence of the incentive structure created by policy distortions, agriculture's structure, characteristics, and most notably, its performance are in sharp contrast with what would be expected given its resource endowment.

An accurate assessment of the performance of agriculture is essential to the formulation of new strategies for agriculture and the broader rural economy. The central questions that need to be answered are: (i) what were the objectives of South Africa's past agricultural strategy; and (ii) how efficiently has the sector performed in achieving these objectives? Understanding the answers to these questions will allow future policy makers to identify the set of policy options that are available. This section provides a brief overview of the evidence presented in the Bank's sector work on an analysis of South Africa's agriculture sector.

The Macroeconomic Context

In 1989, South Africa's GDP was US\$80.4 billion, with 50 percent of GDP derived from services, 44 percent from industry, 24 percent from manufacturing and 6 percent from agriculture.

For the same year, the total value of South African agricultural production was approximately US\$7.2 billion or about half again as large as that of the entire SADCC region.³ Employment in agriculture in 1990 was approximately equivalent to 761,000 full-time workers and accounts for about 10 percent of total wage employment. In addition, about 17 million blacks 40 percent of

the black population of South Africa reside in rural areas, with more than 13 million of this number concentrated in the homelands.

The most telling consequence of the general policy framework has been the failure to generate economic growth, e.g., the growth of net GDP has averaged 1.03 percent per year during the 1986-91 period. The single most important factor in explaining the decline in growth is the lack of total productivity growth of the South African economy. The absence of significant growth in productivity, in turn, stems from the capital-intensive, inward-looking growth path chosen for the economy. A comparison of South Africa's total factor productivity growth with that of a number of comparable developing countries shows that South Africa consistently under performs. Over the period 1950-73, South Africa's total factor productivity shows near-zero growth, i.e., 0.2 percent per year. Over the period 1973-1984, total factor productivity becomes negative, i.e., -0.5 percent per year. Over the period 1981-1988, total factor productivity declined by 1.1 percent per year.

The themes that characterize agriculture's present limited role in the broader economy can be summarized by the following factors: (i) the dominance of the mining sector; (ii) the skewed distribution of access to natural resources in favor of a white minority; (iii) the adoption of highly capital-intensive agricultural technology; (iv) the reduction of employment accompanying the adoption of this technology; and (v) the objective of achieving self-sufficiency in major agricultural commodities. However, the low productivity growth that characterized the macroeconomy was not evident in the agriculture sector as a whole. Between 1947 and 1991, the total factor productivity of South African agriculture increased by 1.26 percent per year a rate that is relatively modest by international standards. This overall pattern, however, masks the substantial differences in productivity growth between the main agricultural sub-sectors. The export-oriented and inherently labor-intensive horticultural sub-sector grew at 2.42 percent annually over the 1947-1991 period, whereas the livestock and fieldcrop sub-sectors both recorded productivity growth of only 0.77 percent per year over the same period. The combination of total factor productivity growth and increased capital intensity caused an extreme reduction of agricultural employment, which was inefficient from the perspective of the economy as a whole given the abundant supply of labor.

Structure of the Agricultural Sector

South African agricultural production dwarfs that of the rest of Southern Africa. Despite a relatively limited natural resource base and highly variable climate, its agricultural sector has reached high production levels in a wide range of agricultural commodities compared to other countries in the region. In this regard, the sector's performance is consistent with one of its objectives self-sufficiency. This impressive performance is based on a resource endowment that while not generous is highly varied allowing for considerable variation in commodity production. The ownership of this resource endowment, however, is extremely skewed the legacy of racially-based policies.

Agriculture occupies an important position in the South African economy in terms of production levels and as a supplier of inputs to the agro-processing sector. Agriculture's share of GDP, however, has declined from around 20 percent in the 1920s to 4.7 percent in 1991 and its growth in the past 40 years has been uneven, averaging 2.5 percent in real terms since 1950, with rapid growth in the 1970s bracketed by slower growth in the 1960s and 1980s.

Some 95 percent of the value of agricultural production in South Africa originates in the large-scale, commercial sub-sector. Over the past 30 years, the composition of agriculture by gross value has moved in favor of horticultural products and, to a lesser extent, livestock. Horticultural commodities have generally been more buoyant than the field crops, with a rise in the total contribution to sectoral value of production from 14.4 percent in 1980/81 to 20.9 percent in 1990/91. Strong growth in the horticultural sector has been shown in particular by commodities destined for export, notably fruits, but wine and vegetables have also risen sharply. The share of field crops peaked at 48.5 percent in 1980/81 and fell to 34.2 percent in the following decade.

Land distribution in South Africa is among the most highly skewed in the world. Four centuries of conquest, occupation, annexation, land acquisitions and transfers, land purchases, and consolidation have resulted in a land distribution which is comparable in its inequality to those of many Latin American countries that often experienced a similar history of European conquest and settlement. What sets South Africa apart from the rest of the world, however, is the relative emptiness of much of its rural landscape except for some high-potential areas along the eastern seaboard. In most of the country, rural villages, settlements, scattered farms and homesteads of farm laborers such as those found in the rural areas of Europe, Latin America, Asia, and elsewhere in Africa are rare.

Approximately 86 percent of agricultural land is held by 67,000 mostly white, large-scale farmers, supporting a rural population of 5.3 million. Consequently, the large-scale farming areas have a very low population density (about 16.2 hectares of agricultural land per rural resident). In contrast, a rural population of about 13.1 million resided in the homelands in 1988, on an area of 17.1 million hectares. Thus, 29 percent of South Africa's rural population (mostly farm workers and their dependents) lived on nearly 86 percent of the agricultural land, while 71 percent of its rural population lived on the remaining 14 percent.

The first impression that emerges from an overview of the agriculture sector in South Africa is of a set of structures that has been very successful in producing large volumes of commodities. The volume of production relative to neighboring countries and the high level of food self-sufficiency all confirm this impression. What is less apparent, however, are the highly artificial means that have been employed to establish and maintain these agricultural structures. Understanding the discriminatory mechanisms and contrivances that have been used to create the dominant elements of the sector is essential to understanding the options available to the sector for the future.

Beginning with the formation of the Union of South Africa in 1910 led to the creation of a policy environment characterized by the suppression of independent and tenant African farming and its eventual isolation from 20th century mainstream agriculture. With its main objective being to turn independent and tenant African farmers into laborers and channel them to white farms, mining and manufacturing the apparatus of the Union of South Africa was stronger and richer than state formations of the earlier period. In addition, the land companies and big landowners who had previously frustrated earlier policies to curtail tenant African farming, were now either included as part of the new policy environment, or their leverage was reduced relative to that of the mining industry and settler farmers. What was damaging African farming was not only the legislation and administrative measures that were leveled against it but, more importantly, the systematic closing of all avenues whether these were land, input and outputs markets, or credit except the labor market to African farmers to accumulate capital, wealth and farming skills.

The suppression of small-scale black farmers was complemented by the extensive support systems provided to the large-scale farming enterprises. Perhaps the most effective form of support to the large-scale farms has been the pricing and marketing systems, which is now being phased out, not least because of pressure from producers to find more efficient marketing channels.⁴ In essence, the combination of controlled input and output prices along with single-channel marketing systems for the majority of agricultural commodities have restricted competition and provided large-scale farmers with an income guarantee. During the 1980s, efforts to liberalize the pricing and marketing system have introduced more competition and contributed to the rise in bankruptcies among large-scale farmers but also must be regarded as incomplete.

Efficiency of Agricultural Production

Agriculture in South Africa has consistently produced surpluses, and as a result is typically regarded as an efficient sector. In recent years, however, the financial problems experienced by many farmers largely as a result of drought and policy changes have caused some important sub-sectors in agriculture to be seen as inefficient. The issue of large farm efficiency in South Africa is critical to the development of a strategy for the rural economy. If, as some argue, the large-farm model is a valid one characterized by economies of scale then a strategy that consists largely of removing existing policy distortions would increase the efficiency of the sector as a whole. If, however, there are no significant economies of scale associated with large-farm production models, simply reforming policy will only yield a portion of the potential efficiency gain. The balance of the efficiency gain could only be achieved by restructuring through downsizing the present farming sector.

Unfortunately, a direct comparison of efficiency between the large-scale and small-scale farm sectors in South Africa is difficult if not impossible, because black owned, small-scale farms have all but disappeared. Ample historical and international evidence suggests, however, that when compared to small-scale farms many large-scale farming enterprises in South Africa, as

elsewhere in the world, are inefficient with respect to profits, employment and output generated per unit of capital invested.

The move toward larger farms in South Africa was strongly associated with farmers' adoption of mechanization, which was facilitated and strengthened by subsidized interest rates, tax breaks, and the support of output prices above border parity. Yet in spite of massive additional financial assistance to farmers, the profitability of agriculture remained low. By 1984, an estimated 22,700 farmers (33 percent of the total) had debt burdens beyond the critical level. Most of these farmers were concentrated in the Transvaal and Orange Free State the regions where mechanization of monocropped cereals had been pushed to economically sub-optimal levels and exposed farmers to high risk levels.

The policy objectives that justified these interventions were twofold national food self-sufficiency and maintaining income levels for large-scale commercial farmers. Agricultural production in South Africa increased at a rate of over 3 percent annually over the last four decades, while the population increased at an average rate of 2.8 percent. Moreover, the social objective of maintaining incomes for large-scale farmers at levels comparable to the incomes in the urban sectors seems also to have been obtained for at least some farmers. From 1970/71 to 1991, total net farm income increased in real terms from R2,728 million to R3,469 million, but with significant fluctuations throughout the period and a considerably skewed distribution.

The picture of South African agriculture that emerges from the Bank's analysis of efficiency is a varied one, but one for which several important sub-sectors can be characterized by: (i) a gradual deterioration of price efficiency which, in effect, shows that farmers were compensated for the implied loss of efficiency through other channels; (ii) scale efficiencies that are the result of a combination of a distorted policy environment and managerial ability; and (iii) uneven improvements in technical efficiency that are modest by international standards and differ markedly by sub-sector.

The policy distortions that have given rise to the inefficiencies that characterize large parts of the agricultural sector (e.g., subsidized interest rates, favorable credit regimes and tax concessions on agricultural investment) are not particularly difficult to reverse. Over the past decade, a wide range of policy changes in the general direction of greater market orientation have been introduced and have affected both agricultural inputs and outputs. The impact of these changes has varied considerably by sub-sector: debt-free producers of some export commodities have benefited, while profits for others, notably the main grain producers, have fallen. For the sector as a whole, the capital-intensity of production declined throughout the 1980s and employment increased through 1987. More recently, however, employment has again declined. Although the cause for this decline is unclear, it is likely due to political uncertainty over the future of white-owned farms, reversal of incentives to crop in pasture land, and the financial deterioration of the sector.

Farm Profitability

The ultimate test of efficiency and financial sustainability of the large-scale farm model is their response to the withdrawal of the preferential policy treatment. If as the structure of incentives (e.g., prices of inputs and outputs, taxes, and/or marketing systems) changes, important segments of the sector are unable to respond adequately and ensure their profitability, this constitutes a reliable indicator of their inefficiency in an undistorted policy environment.

Since the early 1970s, agriculture in South Africa has been exposed to a cost-price squeeze that reduced farm profitability. This was compounded during the 1980s by: (i) unfavorable weather conditions; (ii) reduction of farm subsidies; (iii) liberalization of marketing policies that often resulted in lower real producer prices; (iv) and higher capital costs due mainly to higher interest costs. The failure of many firms to respond to the changing price environment meant that many farms continued to rely on the established, capital-intensive production methods.

Given the variable agro-climatic conditions to which South African farming is exposed, the continued reliance in important sub-sectors on mechanized, monocropped farming also entailed a higher exposure to climatic risk and increased the volatility of farm profits.

As a result, the debt burden carried by many farmers escalated to unsustainable levels, in particular those in the summer rainfall areas (e.g., wheat and maize growers). Although real farm debt reached its highest level in 1985 and has declined since then, the financial position of many farmers has continued to deteriorate, as illustrated by a continuing increase in the debt-asset ratio.

Moreover, the ratio of short-term debt to total debt increased considerably. Higher capital costs, tighter credit standards, fewer farm subsidies, and the growing unsustainability of the debt burden should have positive effects on labor employment in the sector and force less efficient farmers into foreclosure. However, the government has continued its attempts to aid the sector financially and when the 1992 drought occurred, substantial amounts of debt which had been accumulated during the 1980s were effectively written off through a massive recapitalization effort targeted to grain producers and totaling R3.4 billion.

The implication of the downward trend in farm profitability and the resultant accumulation of debt, in large measure a result of the changing policy environment, suggests that many of the large-scale farms are inefficient. To the extent that this inefficiency is caused by size, it argues for a strategy that encourages a down-sizing of agricultural enterprises. This conclusion must, however, be treated with caution. There is tremendous variability across the agriculture sector and it would be incorrect to argue that a smaller scale of operations would be appropriate for all sub-sectors. At the same time, a combination of international evidence with regard to farm size and recent South African experience suggest *that a smaller scale of operations in many agricultural sub-sectors of South Africa would be at least as efficient as the larger scale farms once the policy distortions are eliminated.*

The policy of distorting the structure of incentives facing farmers has resulted in a serious misallocation of resources, large public sector expenditures, and some environmental degradation. Although steps have been taken in recent years to improve the policy environment in the rural

economy and the performance of large-scale farmers, there is still considerable scope for further liberalization. Although liberalization will improve the efficiency of existing agricultural producers, it will not address the basic problem of a skewed distribution of land and the need to improve the access of formerly disenfranchised people to a range of land use activities.

One of the areas that needs further attention is the implication of downsizing farms on agricultural employment and the labor market. So far, the work on rural restructuring has focused on creating livelihoods through implementing a small-scale farming sector. However, some economists have argued that this may not generate additional employment, at least in the short-term, because the managerial capacity of the large-scale farms encourages greater use of wage labor. These economists argue that a more appropriate strategy would be to encourage labor intensive agriculture without an emphasis on downsizing. Such a strategy would focus more closely on the needs of rural women, who are the chief source of low-paid agricultural employment, and whose incomes would be raised most effectively by such a strategy.

Recognizing that liberalization alone will not address the problems of social injustice in the rural economy, it is worth noting the importance of the social aspect of rural South Africa in the light of international experience. International experience suggests that economies with a land distribution similar to South Africa's are prone to a pattern of civil disorder and violence (Binswanger and Deininger, 1993). Hence, it is unlikely that the present highly inequitable distribution of resources most notably land will be sustainable from the point of view of social justice and possibly political stability. For this reason, the core element of a rural development strategy will need to be the redistribution of land.

Options for Land Reform and Rural Restructuring

The starting point for developing a set of land reform options is an examination of international experience. Among other things, the lessons of international and South African experience demonstrate that a successful land reform program needs to: (i) be implemented expeditiously in order to avoid a combination of bureaucratic inertia, legal challenges, and the power of present landowners to launch attempts to render the program ineffective; (ii) be politically acceptable and legitimate in order to forestall efforts to reverse the reform in the future; (iii) have a clear role for the public and private sectors defined in such a way that beneficiaries can exercise as much choice as possible since programs that have relied entirely on the public sector in the belief that the sector is the only one capable of maintaining integrity, delivering services, determining needs, and managing the process have been failures; and (iv) be part of a clearly articulated broader strategy of economic growth.

Further, when considering the context for land reform, it is important to recognize that there are three basic methods for landless people to gain access to land in any country: (i) invasion; (ii) restoration of existing claims; and/or (iii) redistribution. Where either restoration or

redistribution fail to provide land, invasion is often seen as the only option available to the landless population.

Invasion

A continuation of land invasions would present a new South African government with an exceedingly difficult problem. It would mean that the credibility of existing legal institutions will have been undermined because of their inability to implement effectively the land restitution and redistribution processes. Consequently, people who have invaded land are unlikely to respond to court orders to vacate and forced evictions may become necessary. Given the recent history of South Africa, however, it is highly unlikely that a new government will be able to carry out such evictions without causing massive political alienation. In order to avoid large-scale land invasions, an effective program of land restoration and redistribution is necessary.

Given the likely inability of a new government to undo land invasion, it is essential that an expeditious, transparent, and thorough land restoration and redistribution process be implemented as a means of discouraging the landless from resorting to land invasions. Although squatting and trespass will likely be decriminalized, landowners will continue to have remedies to protect their property rights. In the event of invasion, the landowner will retain rights to seek a court order requiring the squatters to vacate the property. Under these circumstances landowners would have the right to demand that a court order be implemented, failing which they may claim that the state had effectively confiscated their property and must pay compensation in accordance with the constitutional protection against expropriation without compensation. Invasion, therefore, will not usually result in lower fiscal cost of land acquisition than expropriation in public interest or purchase of land. However, decriminalization will make it necessary to develop additional disincentives to invasions that could include the denial of grants under the redistributive process to groups participating in invasions, once the restoration and redistribution programs are functioning.

Restoration

The land restoration (or land claims) process involves the return by means of an administrative or adjudicative process of specific parcels of land to individuals or communities who were unjustly removed in pursuance of racially based land legislation or policies. This aspect of land reform is especially important in South Africa given the history of forced removals. In order for any land reform program to have credibility, it is essential that a credible restoration process be in operation. This process has the benefit of expediting the restoration of specific land; however, it raises important gender and class issues which will need to be addressed. Restoring the *status quo ante* could reimpose the original patterns of land holdings, including in some cases a patriarchal ownership structure to the exclusion of women and in some cases tenants.

Consequently, for the purposes of developing land reform options, it is assumed that a equitable and effective land restoration process (e.g., land claims court) will be implemented and that the remaining issue is the design and implementation of a redistribution process.

Legal Issues

Recognizing the lessons of experience, the distinction between restoration and redistribution in the South African context, and the risks of land invasions, the next issue is an assessment of the legal environment. Because the legal process in South Africa has been closely linked with dispossession within the rural sector and other parts of the economy, it is essential that a land reform program have a solid foundation in a new constitution and property relations. There are four main legal issues that need to be examined in the context of rural restructuring.

- The *constitutional structure of government* which will likely require that a rural restructuring program launch separate initiatives in each of the nine regions of South Africa, in order to take account of: (i) each region's exclusive legislative competencies in the functional areas of planning and development, town planning, traditional authorities, indigenous law, delivery of water, electricity and other essential services; and (ii) the competencies each region shares with the national government in the functional areas of local government, agriculture, fish and game preservation, the environment, public works, and regional and local policing.
- The *constitutional status of land and property rights* will be reflected in a property clause in the constitution. That clause needs to be restricted in its scope and have a clear compensation clause specifying the relevant factors the court must consider in a compensation determination. Further, it is necessary to maintain a clear distinction between the state *regulating* property, and the state using its power to *acquire* an individual's property. Even with a property clause in the constitution, it is important for the success of any rural restructuring program that land is given its own constitutional status. Such a clause would take precedence over the general property clause and provide a basis for a restitution process. This would allow claims for restoration of specific land, as well as general claims for restitution arising from dispossession and denial of land rights.
- The *constitutional recognition of gender equality* needs to address the present legal status of African women namely that of a minor under the perpetual tutelage of her male relatives to insure that they will be accorded majority status. This is necessary to insure that women are not excluded from the restitution process.
- The *status of national land and environmental legislation* will need to be researched in order to understand the specific legislation and tenure rights applicable in each particular area of the country. This task will be complicated by the lack of documentation about

applicable legislation and regulations in some self-governing territories, and even the disappearance of land records in some areas.

Redistribution

The heart of a land reform program in South Africa is likely to be the redistribution process, because it is anticipated that the majority of land reform activities will occur under the heading of redistribution rather than restoration. This involves providing access to land for selected groups or individuals and supplying them with the necessary support services to use that land effectively. Models of land redistribution can be thought of as consisting of two stages acquisition and distribution of land. The central issue in the way these two stages are implemented is the role of the public sector. Although there are numerous variations in the role that the public sector plays in these stages, it is possible to think of each stage as being either market-assisted or publicly administered. Figure 1 depicts the four general models of redistribution that emerge from this classification and some examples.

Figure 1. Models of Land Redistribution

	Market-Assisted Acquisition	Administrative Acquisition
Market-Assisted Distribution	With both stages handled by market mechanisms, such as a willing-buyer, willing-seller model. The role of the state is limited to monitoring and facilitating the process.	In this case the state acquires the land (through expropriation or direct purchase) and relies on a market device for distribution, e.g., a bidding process.
Administrative Distribution	In this case, the state acquires land in the market and then administers the settlement program, e.g., homeland consolidation and betterment schemes.	An example of an administratively handled land redistribution is the process of directed resettlement on state owned or expropriated land.

International and South African experience clearly indicates that the performance (as measured by pace and extent of land reform as well as the performance of settlers) of models that are dominated by the public sector through various administrative devices such as centralized decision making is typically unsatisfactory. In contrast, reliance on market forces improves the performance of the model, but requires government intervention or guidance to ensure that certain social objectives are achieved. The redistribution options described in this report (for both the acquisition and distribution stages) rely on market mechanisms, combined with a recognition of the need for government to ensure that the broader social objectives of the land redistribution program are achieved.

Apart from the role of the public sector in land reform, one of the central tensions in designing a land redistribution model is that between the *desire to address welfare and asset*

transfer objectives through the redistribution of land (essentially transferring an asset) and the *desire to promote the productive use of land*. Some individuals who qualify for land or assistance under welfare objectives of a program, may have little experience in agriculture. In contrast, the most experienced and well-qualified farmers are unlikely to qualify to receive land under welfare objectives. Some redistribution models have taken the view that those individuals qualifying under welfare guidelines will acquire the necessary farming skills, but because of the time required for such skill acquisition, this approach is more costly. This difficulty should *not* however, be cause for sacrificing welfare and asset redistribution objectives in a land redistribution program.

To the extent that a South African land redistribution program wishes to address welfare objectives, one option is for the land redistribution program to include a basic grant. The basic grant would be available to all individuals who meet the requirements for participation in the redistribution program. The size of the individual grants would be determined largely by budgetary considerations and the needs of the participants, but would likely be sufficient to pay for a rural housing site. In the context of rural restructuring, a basic grant scheme would provide the new South African government with a very flexible tool. If the new government opts for a large welfare (grant) component to the land redistribution program, the size of the basic grant could be increased subject to budget constraints thereby allowing grant recipients access to more land. For such a basic grant scheme to operate effectively, the government will need to ensure that the land market provides opportunities for beneficiaries to gain access to land. Options for the government to fulfill this responsibility are described below.

In order to support increased access to land by individuals or groups that will use land for production, a matching grant option can be added to the program. Under this option the individual or group that wishes to gain access to land (through purchase or lease arrangements) would provide a portion of the purchase price as would the redistribution program. Therefore, the resources for the purchase (or lease) price of the land would consist of a matching grant from the government which can be separated or combined with the pure grant component discussed above and the beneficiaries' co-payment. The size of the matching grant could be designed in several ways; however, it is assumed that the higher the value of land the smaller the matching grant *share*. (In terms of Figure 1, this option corresponds to relying on market-assisted devices for both acquisition and distribution.)

Apart from budgetary considerations, there are other advantages and disadvantages associated with a matching grant or co-payment requirement. Among the advantages are the following: (i) co-payment acts as a self-selection or rationing device and reduces frivolous requests for land from people who are not really interested in living in rural areas or operating a farm; (ii) co-payment increases the incentives for using land in a productive and sustainable manner; (iii) co-payment may encourage prudent thrift, capital accumulation and familiarity with financial instruments among the beneficiaries; and (iv) co-payment makes it less attractive for the wealthy to claim land, especially if the co-payment requirements increase progressively with the amount of land claimed. Therefore the program will have fewer inherent incentives for arbitrary allocations of the land or corruption.

At the same time, however, a matching grant scheme has disadvantages. First, such a requirement may be inconsistent with the prevailing ideology that the right to land for purposes of shelter and food production should be free, especially in view of past abuses in South Africa. Second, if a co-payment is required, low income individuals and households are likely to be excluded from the program, thereby subjecting the program to charges of elitism. Clearly these disadvantages center on the tension between the welfare objectives and the desire to have land used productively. It is for this reason that the options presented in this report are based on two components basic grants and co-payments. This approach allows some land to be available (through the grant component) for housing (or other uses) even if the beneficiary is unable to participate to the co-payment component of the program. Any additional access to land through the redistribution program would require a co-payment. Within this context, government would have the option to make the program more equitable, and to reduce the incentives for corruption, by placing a ceiling on the size of the government's co-payment. In order to further reduce the burden of co-payment requirements of the program, poor beneficiaries might also be allowed to pay for their co-payment portion in kind, i.e., in the form of labor or materials for the construction of the basic infrastructure which would be part of the program.

Another question that needs to be considered is who will receive the matching grants and how much land (or grant value) will they receive? International experience

Small-Scale Agriculture and the Environment

Rural restructuring in South Africa raises important questions about the environmental implications of alternative agricultural structures. Some will contend that large-scale agriculture--with its heavy machinery, its use of chemicals, its monoculture--is the most destructive to environmental resources. This view regards small-scale commercial agriculture--with its emphasis on family labor--as much more environmentally friendly. Others will point out that serious poverty is very often associated with overexploitation of the environment as individuals and families resort to a variety of survival strategies. This view holds that poverty imposes its own time-horizon imperative on farmers and so they cannot afford to worry about the future. As long as small-scale agriculture keeps families in relative poverty, the environment will suffer.

Both views carry some truth, and yet both follow from certain unexamined premises. It is impossible to assert, *prima facie*, that large farms (or small farms) are better (or worse) for the environment. One must look beyond size to understand the complex issues here.

In South Africa the technology of grain production has been mainly large-scale enterprises where expensive equipment--often used but a few weeks out of the year--can be employed on a large number of hectares. This does not necessarily mean, however, that such farms automatically squander soil and water resources. Likewise, intensive agriculture producing vegetables for urban markets may be "small" in comparison to grain farms, but could use chemicals that harm not only the local environment, but the consumers of those vegetables.

The key to environmentally sustainable agricultural policy is to be sure that the incentives upon which farmers operate do not encourage practices that fail to account for the full social costs of agriculture. That principle is true regardless of whether we focus on small-scale agriculture or large-scale agriculture. For example, subsidized prices of agricultural chemicals encourage over-use by both small and large farmers. Subsidized extraction of scarce groundwater renders agriculture unsustainable over the long run, and often imposes serious losses on other sectors as well. Tax policies often encourage mechanization and the purchase of equipment that may not be suited to local agro-ecological conditions.

clearly indicates that the characteristics of those who participate in a land redistribution program are important factors in determining the success or failure of the program. In the context of a land redistribution program, there are two broad methods for determining who will participate in the program: (i) self-selection; and (ii) criteria based on certain characteristics of the beneficiaries.

These two methods can operate individually or they can be combined in a variety of ways. The basic self-selection model is one in which any individual or group could participate in the program. (Even in this option some simple criteria would likely be applied, e.g., participants need to be historically disadvantaged and South African citizens.) In terms of the matching grant model discussed above, an individual or group would have their contribution to the purchase price of the land automatically matched in accordance with the particular copayment or grant function selected for the program. For example, an individual (or group) wishing to purchase a piece of land would compute the value of the matching grant they were eligible for (typically based on the value of land) and their required payment. Once their required payment was deposited in an escrow account and their application to the program validated, the matching component would be deposited in the same escrow account. The account could then only be used for a land purchase.

The application of criteria to the program simply means that individuals or groups need to be certified as having the necessary qualifying characteristics before being allowed to participate in it. For example, points could be assigned for various characteristics that are judged to be desirable, e.g., relevant experience, social circumstances, and/or gender. On the basis of total points, an individual (or group) would qualify for a particular level of grant financing. An individual or group receiving more points (reflecting the characteristics valued by the program) would be eligible for a higher share of grant up to some limit, say 50 percent (or 100 percent if a full grant component was judged necessary for the program).

A variation of the points system could involve qualifying individuals with certain characteristics, e.g., tenants, landless people, or victims of betterment planning, for immediate participation in the program. Alternatively, criteria could be based in large measure on means testing. In such an option, it needs to be stressed that decisions regarding who participates in a land redistribution program must be accepted by society in order for the program as a whole to have credibility.

Ensuring the Availability of Land

As stated earlier, a central theme of the land redistribution options described in this report is a reliance on market forces for facilitating both the acquisition and redistribution of land (Figure 1). At the same time, it is recognized that the government must accept ultimate responsibility for ensuring the success of the redistribution program. A critical requirement for a market assisted redistribution program is the assurance that sufficient land will come on the market and that land prices will not be driven up beyond levels that correspond to the productivity and profit potential of the land. Among the options for achieving these objectives are the following:

- Elimination of policies and programs that favor large scale agriculture will reduce the land price which is simply a capitalization of these privileges into the land price. Much of this has already happened over the last few years and has contributed to the decline in real land prices.
- State land can be either sold or directly provided to particularly needy beneficiary groups such as former labor tenants or victims of dislocation associated with betterment schemes. Sale of state land will increase the supply of land, while direct distribution will reduce demand for land by beneficiaries. Since low quality land is unsuitable for direct settlement, only the unoccupied, high quality, state-owned land should be used for direct distribution. The remaining land can be sold, with the profit going to purchase more appropriate land. Of the total amount of state owned land, it is estimated that only about 600,000 hectares is suitable for crop production of which only about 320,000 hectares is unoccupied.
- If land supply is still a problem, another option would be to encourage through a variety of means land owners to sell their land. For example, what amounts to a pension scheme (based on the net worth of the farm) could be designed that would provide current owners with a secure income stream based on the net worth of their farms. If the current owners perceive the pensions as providing a secure income stream, rather than risky farm profits, they are likely to be willing to sell the land for a present value of pension benefits which is lower than the market price of the land. The pension scheme has the additional advantage that it allows for the deferral of the fiscal cost of the land purchase over time. To reduce the perceived risk of the pensions, a portion could be guaranteed by the South African state, while another portion of the pensions could be guaranteed by an international donor consortium against political risk. A time limit on the pension offers would encourage additional land supply for the critical first few years in which much land needs to change hands to satisfy the land hunger.
- Another option for increasing the supply of land would be to encourage the Credit Board and other financial intermediaries to accelerate the foreclosure on farms with non-performing loans. For a certain number of years the banks would be recapitalized for a certain percentage of their loan losses, say 30 percent, on farms which change hands from current owners to any of the beneficiary groups, either in a direct sale, or as a consequence of foreclosure. Finally the state could pay brokers a fee for bringing additional land on the market.
- On the demand side, the credit system is likely to place limits on the mortgage loans that beneficiaries could apply to their land purchase. Even today, for example, the Land Bank's mortgage finance is capped with an upper limit defined by the productive value of the land. Thus, by limiting the price which beneficiaries are able to bid, such a lending policy will help to avoid price wars between competing beneficiary groups.

If all the above measures fail to stimulate an adequate supply of land in a given district, an institution such as a district land committee could be empowered to recommend expropriation of specific farms to a national land committee under the constitutional provision for expropriation in the public interest. In order for the benefits of a market-assisted system to be realized this option needs to be used only rarely, if at all. Such action should, therefore, be triggered by a clearly specified set of indicators, such as an excessive rise in the real land price or an excessively low level of transactions relative to beneficiary demand. A recommendation to activate this option would have to be reviewed by the national or regional land committee to ensure that common policies with respect to the trigger indicators are satisfied before the district land committee could expropriate with compensation. If an expropriation order is issued, the land committee would then be able to distribute the land via the normal market-assisted mechanisms to program participants.

Summary

The operation of the land reform program can be summarized as follows. Initially individuals or groups that wish to gain access to land have three choices: (i) seek land through the restoration process; (ii) acquire land through the redistribution channel; or (iii) purchase land without assistance from the program. The criteria for participation in the restoration process will be well-known, and any individuals (or groups) that qualify would submit an application to the appropriate institution (e.g., a land claims court, a land commission, or a land committee). Having entered the claims process, there are four possible outcomes: (i) a land award; (ii) a cash award; (iii) the denial of the claim; or (iv) conversion of the claim to the redistribution process. The latter outcome would be an option for a claimant who felt that the claims process would be too time consuming and was willing to accept compensation through automatic participation in the redistribution process. In designing the program it may be decided that special consideration should be given to such individuals (or groups) in the redistribution process. Hence, claimants who relinquish their claim to restoration could be put in the front of the queue or awarded additional points if that is the relevant model.

Support Services

It is important to state that the actual transfer of land as difficult as that process will be is only the beginning of the larger process of rural development. The two critical components of that process which are examined in the report are administration and support services. The central theme that characterizes the report's examination of these topics is that communities, however they define themselves, must have the resources (financial and human) needed to specify and gain access to the necessary support services. The role of administrative structures is to ensure that communities have the information and resources needed to participate successfully in this process.

Fiscal decentralization is needed if the scale, scope and timing of rural restructuring and development activities is to match local needs. Local and district councils need to have the power to generate revenues and to control the expenditure of funds collected. It is envisaged that the new councils would have the power to set rates and collect levies, fees and license charges, and possibly real estate taxes, from their constituents.

A vital part of the development process is empowering local people (individuals and communities) to take charge of their own affairs, to establish their own priorities, to make choices, and deal effectively with outsiders. Few governments display a real willingness to trust the people to decide for themselves. But where public funds have been transferred directly to local communities and used by them according to their priorities, as in parts of India and in Mexico, the result has been a remarkable acceleration of rural development. Sustainable rural development is about giving people the power to make choices, to take responsibility, and to make those who provide services and inputs accountable to the recipients.

One option that can be considered for delivering support services would operate like an entitlement scheme, under which a community would be entitled to a bundle of resources for support services. The services could be contracted for a wide range of sources selected by the community. The bundle could include guidelines on the use of the resources such as the share devoted to social and economic infrastructure services. A pre-requisite would be that a management and administration training program be available for the community development council.

One of the critical assumptions on which the findings of this land reform program hinge is the viability of part time and small-scale rural enterprises, especially in agriculture. In order to assess the potential for income and employment generation of the land redistribution process, examples of small-scale land use models were modeled. The models were derived from South African data on land use, net farm incomes, household size, and agricultural income shares. Although the results can be seen only as indicative, the results clearly indicate *a substantial increase in rural employment and income as a result of land redistribution*. This is because farming will become more labor intensive and because the increased number of part-time farmers will generate a multiplier effect by adding a large number of non-farm jobs. Moreover, the cost of the farm capital necessary to establish these small holdings is surprisingly small, even at current market prices.

An example will illustrate this point. If 30 percent of land moves from large to small farms in the areas studied, a total of about one million rural jobs would be created. The cost of this program to the government over five years would be approximately R10.2 billion plus a contingency of R2.6 billion, bringing the total cost to the government to R12.8 billion or about R2.5 billion per year. This implies a cost per job to the government of around R12,800.

The options examined in this report concentrate on the role of small-scale actors in the rural economy. This is not to suggest that the present large-scale rural actors do not have a role

in the rural restructuring. The decision on how much land will go into the rural restructuring process will be taken by a new government. (The scenarios examined in this report range from 10 percent to 50 percent of existing commercial farm land going into the land reform process through redistribution and separate from the restoration process.) Under all of the scenarios examined in this report, there is a role for the existing large-scale rural enterprises in production, processing, marketing, and support services. In this regard, the objective of land reform and rural restructuring is to encourage a wider range of farm sizes in order to promote greater efficiency and equity in the rural economy and to supply necessary support services to all farmers.

Economic Viability: Rural Livelihoods and Costs

Growth and Small Farmers: Some International Experience

While the evidence documenting the achievements of small farms in expanding output is clear, this does not preclude the co-existence of large-scale farming operations which have continued to play an important role in both Kenya and Zimbabwe, for example. Since much of South Africa's agricultural land is not suited to small-scale farming due to soil and climatic constraints, large-scale farming will always have a role to play.

The world-wide evidence, moreover, does not substantiate the fear of small producers and lower production in land redistribution programs. In Kenya, for example, the significant increase in agricultural output which occurred following the subdivision of the large white-owned estates has been led by small producers, mostly on small units. This increase occurred with both food and cash crops. Simultaneously, however, large and small-scale farmers continue to coexist in a mutually beneficial synergy. In Zimbabwe, the remarkable increase in cotton output since 1980 (almost trebled) is due almost entirely to an expansion of small farm output. Similarly for maize, while national production has declined since independence, the proportion derived from the small producers has increased from less than 10% to nearly 60% in a normal year. A critical factor in both countries, was the provision of a package of support services (extension, marketing, infrastructure, social) to which small farmers had previously been largely denied.

Perhaps the most dramatic results have been seen in China where, following the dismantling of the huge communes and the allocation of what are mostly very small units to individual families (less than 2 ha in most cases), agricultural output has expanded at unprecedented rates. More than simply redistributing the land was involved. Other factors such as improved pricing and marketing were also present. Many are not aware that the remarkable economic growth in China has been agriculturally led and that the agriculture is based on small holdings operated in most cases by part-time family farmers. The dramatic increases in rural incomes which resulted, led to equally dramatic transformation of the rural economy in many areas. Also, the basis for the remarkable increases in agricultural incomes and production in Taiwan and Korea was land reform and redistribution.

International research reveals that there are actually few economies of scale to be had in the agricultural production process beyond that amount of land which one family is able to manage, given any one type of technology (say one 60 hp tractor or one span of oxen). The exceptions are with some plantation crops. But even here, the large operations are not now thought to be as essential as was previously thought. Cane sugar and the South African experience with the increase in the number of out-growers on small, part-time operated farms is an example. Many confuse the scale economies of processing and marketing agricultural commodities with the actual production process. Moreover, they also tend to confuse the high personal incomes of many large-scale operations with scale economies.

Furthermore, size of farm is not a barrier to achieving high yields. One does not need a large farm to be able to achieve the biologically optimum yields. Small farmers the world over have demonstrated this point beyond refute. The reason why yields are often lower on small farms is due to other factors such as constraints of land quality and resources such as labor and capital. But lower yields do not necessarily mean economic inefficiency. Studies in Zimbabwe have confirmed that despite the comparatively low yields achieved by the communal sector farmers, these producers are actually no less economically efficient than their large-scale counterparts. The reasons for this lie in the technologies used. One is capital intensive using modern technology such as high inputs and mechanization, the other is low input, low cost using labor and ox power.

Conclusions

There are several points that emerge from the above discussion that are worth stressing. With regard to the *process* that has been employed in South Africa, it has been essential that the client: (i) is clearly identified and is the focus of the work program; and (ii) understand the range of products that the Bank is able to deliver. In the case of South Africa, the government was not a suitable sole contact point and it was necessary for the Bank to work with a wider range of groups (e.g., the ANC and PAC) than might have been the case in other circumstances. As a result of such initiatives, there is now a comparatively wide understanding within South Africa of the Bank agricultural program. With regard to the need to define the Bank's product, the fact that the Bank was unable to lend in South Africa at the time that much of the sector work was being conducted was, in many ways, an advantage. As a result of this constraint, the Bank was able to concentrate on articulating options in response to the needs of the client.

With respect to the *substance* of the land reform options described in this paper, the salient points are that: (i) land reform needs to be designed in such a way that the beneficiary has as much choice about the use of land and the allocation of the other resources (e.g., extension advice) as possible; (ii) land reform is not just about land transfer, but needs to be part of a broader rural development strategy that includes the provision of support services for beneficiaries; (iii) given the depth of rural poverty in South Africa any land reform program needs to be planned with poverty reduction objectives in mind, however, these objectives also need to be reconciled with the need to use land efficiently. Hence, the options articulated here have opted for a basic grant scheme as opposed to widespread state distribution of land to the poor; (iv) market-assisted mechanisms seem to offer effective mechanisms for land reform provided that the state is able to intervene effectively so as to assist the operation of land markets.⁵

Endnotes

1. The five papers presented at the workshop are: Binswanger and Deininger (1993); Kinsey and Binswanger (1993); Duncan and Jones (1993); Lipton and Lipton (1993); and Christiansen (1993).
2. The subjects of the individual reports were: (i) Required Elements of the Constitution and the Land Act; (ii) Legal Aspects of Land Titling and Transfer; (iii) Agricultural Pricing and Marketing; (iv) Land Market and Land Price Analysis; (v) Administrative Requirements for a Rural Restructuring Program; (vi) Community Group Structures and Requirements; (vii) Criteria for Group and Individual Participation; (viii) Review of South African and International Experience with Rural Resettlement; (ix) Agricultural Livelihood Options; (x) Advisory Services for Program Participants; (xi) Mechanisms for Support Services for Program Participants; and (xii) Financing A Program for Restructuring the Rural Economy.
3. In 1989, South Africa produced more than the combined total of the SADCC countries for a number of basic agricultural products including maize, wheat, sunflower seed, and sugar. The value of South Africa's agricultural exports is broadly equal to the value of total SADCC country agricultural exports (in 1988 US\$1.40 billion for the SADCC countries and US\$1.46 billion for South Africa). Nonetheless, it is estimated that the total area under arable and permanent cropland in South Africa is only slightly more than half that of the SADCC countries combined. Unlike most SADCC countries, South Africa is self-sufficient in cereals production and, between 1980 and 1989, produced surpluses of such basic food crops as maize, wheat, rye, dry beans, grain sorghum, groundnuts, soybeans, oats, and barley.
4. The bulk of agricultural products in South Africa are marketed under marketing schemes set up in terms of the Marketing Act of 1968. The original promulgation of this Act in 1937 was closely related to other legislation, including the Co-operative Societies Acts, the Land Acts and the Land and Agricultural Bank Act. As of the early 1990s, about two-thirds of the value of farm produce was marketed under the Marketing Act.
5. This paper draws heavily on two recent World Bank reports, "South African Agriculture: Structure, Performance & Options for the Future" and "Options for Land Reform and Rural Restructuring in South Africa." These two reports, in turn, were based on numerous background reports that reflect the work and expertise of many individuals. Hence, the present authors wish to acknowledge D. Callear, G. Coetzee, M. de Klerk, G. Donovan, D. Hanekom, H. Klug, M. Lipton, S. Lund, M. Mbongwe, B. Njobe, K. Nhlapo, K. Treu, R. van den Brink, J. van Rooyen, J. van Zyl, N. Vink, P. Wakelin, and members of the Advisory Group, as some of the people who have helped us to see issues of process and substance more clearly than would have been the case had we been left to our own devices. A particular debt is owed to Hans Binswanger who provided considerable intellectual leadership and advice to our efforts to focus on land reform and restructuring issues in South Africa.

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Property Rights Normalization in Mexico: The Initial Impact

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The Reform of the Mexican Revolution

The reform promoted by the Mexican government over the last five years, has captured the attention of the international community, particularly in those aspects related to macroeconomic stabilization, the reduction of commercial barriers, and the privatization of state-owned corporations.

There have been changes in the economy, in the society and in the political conditions of Mexico. These changes are part of a deep transformation guided by a large reform program under government initiative, but enriched and made feasible through civil society. This program, because of its combined features of change and continuity, has been designated "The Reform of the Mexican Revolution."

The modernization strategy in Mexico takes into account the fact that economic reform is supported by transformations in power structures and social representations, without which the reform would not be viable. Thus, changes do not only look forward to achieving economic stability, consolidating democratic elections and enhancing social justice, but also aim to shape culture and its institutions in ways that go beyond the limits of a closed economy. The objective is to integrate Mexico into the international globalization trends. The changes taking place in our country today favor a vigorous open society with a new political ethic, vindicating the principles of sovereignty, democracy, liberty and justice.

Looking at the last five years in retrospect, it is possible to assert that today, the reform process is facing its most difficult stage: that of consolidation. Extending social consensus in relation to the pace and modalities of the changes is an unavoidable task, since the changes implicitly represent a redefinition of the social pact.

A central element of the state reform is constituted by its agrarian component, particularly those pertaining to the legal enforcement of property rights in the countryside. This issue was at the core of the agrarian legal reform undertaken two years ago. After extended legislative deliberations, the Mexican Congress concluded, on January 6, 1992, the reform of Article 27 of the constitution. In relation to rural society, this article defines the types of land tenure with its property rights characteristics, and before the reform this article included the state's obligation to respond positively to all demands of land distribution.

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Shortly afterwards, (on February 26, 1992) the new Agrarian Law was promulgated in order to regulate by rule the constitutional reform.

Historic Agrarian Reform

Before discussing in detail the particulars of the changes regarding property rights and their initial impact, I would like to explain the status of land tenancy before the legal reform occurred. That is, I would like to outline the results of a long land distribution process that today has come to its end.

At the beginning of the 20th century, the Mexican agrarian structure was dominated by rural latifundium. Large land estates were concentrated in a few hands, surrounded by small farms and indigenous communities. Based on certain estimations¹, by 1930 --before massive land distribution started-- there were 1,932 huge estates, the so-called haciendas or latifundium, each with 10,000 hectares (ha.) or more.

In economic and social terms, the latifundium was an obsolete institution. Politically, it represented a local power apparatus that enforced control over the population settled in its area of influence, suppressing *de facto* the political rights related to organization, free speech and effective suffrage provided for all Mexicans by the 1857 Constitution. This, incidentally, explains why the 1910 Mexican Revolution assumed the form of a large peasant war.

Agrarian reform was the policy adopted by the state in order to modify this inefficient and unfair agrarian structure. With the land distribution policy, three different types of land tenure were defined: private small holdings, *ejido* and communal land. This policy transformed the countryside's social profile and eliminated the latifundium.

The demand for land was at the core of peasant mobilization, and the main reason why the peasants without land organized themselves. The practices of direct action in land distribution and possession dominated during the initial years of the 1910 agrarian revolution movement. With the promulgation of the 1917 Constitution, a basic legal framework was provided for land redistribution.

After many legislative deliberations, the new law was finally enacted in 1933. During the 1920s, differing views about land distribution inhibited agreement on the legal framework. There were two radical positions regarding this matter.

On one side was a vision of land distribution as a way to recover the communal experience of the indigenous tradition, strongly rooted in Mexico's center and southeast regions, and illustrated in the *ejido* form of land tenure. The other conception consisted of a scheme of agrarian distribution, where the *ejido* was considered a transition stage toward the creation of small rural private property. It was not until the promulgation of the Agrarian Code in 1933, that

the legal framework achieved a consensus between these polarized views in the agrarian debate. Thus, agrarian reform was implemented. The program was widely implemented between 1934 and 1940. Afterward, however, the pace of its implementation slowed down.

Three types of land tenure were created. (1) small private property, subject to land market laws and individual land benefit; (2) communal estates, characterized by the indigenous communities, completely out of the markets' influence and with collective usufruct; and (3) the *ejido*, kept out of the land market and distributed to those peasants without land. Land in the *ejido* consists of three types: land area divided into parcels for individual benefit; a common land area for collective exploitation and benefit, and areas for the human settlement.

In the first stage of the agrarian reform, the rural strategy demanded that the *ejido* maintain certain minimum subsistence production levels, in order to guarantee labor for production within the *ejidos* as well as waged labor out of the *ejido* unity. This strategy implied a strong control and regulation of land distribution to guarantee the subsistence production level. Consequently, the *ejido* developed a political role as a control apparatus of peasant villages. In a second stage, in the 1950s, the *ejidos'* economic activities were reoriented to basic food production, while commercial agriculture concentrated on the most profitable products.

The creation of a large peasant class is the most outstanding sociological result of the agrarian reform. But it is not the only one. In demographic terms, the reform contributed to a better population distribution in favor of certain regions which in the 1950s were still scarcely populated, such as the center and southeast regions. In economic terms, land distribution allowed the incorporation of idle lands to production and created a strong domestic market. And politically, the decision to maintain the legal obligation of extending land distribution meant some sort of legitimacy, which contributed to political stability.

In sum, the agrarian reform was so successful that for a long time the issues related to land tenure were postponed until the agricultural economic crisis began. Over time, however, its limitations became more visible and it became necessary to "reform the reform."

The Agriculture Crisis

Since the 1940s, Mexico's countryside has been a place of intense contrasts. The national development path was adopted under the premise of creating an industry-oriented society, geared toward import substitution. It was supported by protectionism, with a subsequent long period of what was referred to in Mexico as "stabilizer development." This period was characterized by a privileged urban life pattern. It also resulted in rural development. These factors, which condoned the exploitation and degradation of natural resources, constrained agricultural growth and contributed to the marginalization of the social and economic conditions of the majority of the rural population, and severe ecological deterioration. In general terms, commercial and foreign exchange policies penalized exportable agriculture products and import substitutes. In contrast,

preferential interest rates for rural credit, government investment in agriculture and a low-wage policy, constituted three compensatory elements. This agricultural compensatory policy had a bias against the peasant economy due to its disproportionate support for economic units oriented toward exports or satisfying new consumption patterns in the expanding urban marketplace. In contrast, government support reaching the peasant economy was significantly less and relatively insufficient.

Agricultural production increased an average rate of 7.1 percent per annum under this development scheme. This was obtained basically through increments in harvested area, the result of the agrarian reform.

This model reached its natural limits when the land distribution policy was no longer feasible. At the same time, the state's economic policy was founded almost exclusively on its capacity to contract debts, a fact that eroded the basis of economic stability. These trends were reflected in agricultural stagnation.

In 1965, the long crisis in agricultural production began. The private sector attributed this situation to the land tenure insecurity arising from the agrarian reform process. The truth is that to have kept the land distribution policy open, it sooner or later would have reached its physical limit in terms of the total amount of land available for productive use. Moreover, the land distribution policy created uncertainty not only for those private owners threatened with the possibility of losing their land through agrarian expropriation, but also for the *ejido* regime which was subject to a diversity of regulations, which generated confusion about property rights. There was no clear definition of real ownership within the *ejido*, whether it was the government's, the *ejido* authorities' or the *ejidatario*'s. Even so, the property rights issue was only a part of a more complex set of issues contributing to the agricultural crisis.

Agricultural stagnation has persisted since 1965, due to the lack of an effective equilibrium between agriculture and the rest of the economy, notwithstanding some exceptional moments where groups of producers or certain products achieved relative but temporary success.

Agricultural production had grown very slowly, below the performance of the global economy. The rural population had not declined in absolute terms, due to a relative lack of capacity in the rest of economic sectors to absorb rural labor over the long-term. Although there was a relative decrease in population, it was due to the sector's economic stagnation.

The consequence of the development model that was in effect until the 1980s was a set of policies that made agriculture extremely dependent on state intervention. These policies, with very limited productive results, brought about stagnation in the agriculture sector, beginning in the late 1960s. The system of compensations designed to mitigate the negative effects of the anti-agriculture bias of the protectionist model was not only expensive, but also inefficient and unproductive. The real issue was the overwhelming presence of a rent-seeking mentality and institutional strategies that captured most of the public resources in favor of certain privileged producers.

The origin of the Mexican agricultural crisis can be traced to the moment government policies shifted in favor of segmentation of the rural economy. On one hand, the policies favored developing a modern, highly subsidized commercial agricultural sector, and on the other, they condoned maintaining the peasants' agricultural economy in a subordinate role, utilizing it as a source of cheap labor and social support for the government. This strategy assumed that it was possible to isolate the two segments of the rural economy, without having their own dynamics influencing each other. This assumption was incorrect. The peasants' economic crisis and the resultant deepening of social inequity, rebounded negatively into the whole rural economy and severely restrained its growth.

In the 1970s, efforts were made to solve the productive imbalances of agriculture by channeling massive amounts of financial resources, obtained through loans contracted with foreign entities. This was complemented by legislative measures oriented toward improving the peasants' economic organization. The Federal Law of Agrarian Reform of 1972 was expedited to put more emphasis into the organizational aspects of production. It was also a law that, according to the political climate of that time, assigned to the state ample rights and options of intervention, which finally resulted in an inhibition of the peasants' economic initiative

To reverse the stagnation of agricultural production, increasing amounts of public resources were assigned to the sector, and a key program, the "Mexican Food System"², was implemented. Supported by the resources generated from the "oil boom," this program made possible a relative rise in agriculture output. That, apparently, was the solution! So we became accustomed to a scheme in which economic problems were systematically resolved by increasing the state's responsibility by implementing new economic functions and broadening its areas of intervention

In the 1980s, when external resources became inaccessible, and the efforts for a better economic organization were discontinued due to poor results, it became clear that the moment for a deep reform to establish and enforce property rights could no longer be postponed.

The type of relationship between the state and the rural society that emerged in the 1930s was definitively dislocated in 1982. The debt crisis compelled a comprehensive program. During the 1980s, Mexico's macroeconomic policy was redefined as were the policies related to each sector of the economy.

To obtain a picture of the economic reality in which the new agrarian reform was undertaken, it is useful to point out the more illustrative indicators of the present Mexican rural situation. Between 1980 and 1992, the domestic production of agriculture, livestock and forestry grew at an annual average rate of 0.9 percent³. During the same time period, annual average growth rate of the Gross Domestic Product (GDP) was 1.8 percent, resulting in a reduction from 8 percent to 7 percent of the sector's share in the GDP.

This long period of stagnation has not been reversed despite a 6.1 percent productive increase in 1990, because the growth was only enough to compensate the 1988 and 1989 decline. There was minor growth of 0.5 percent in 1991, but it was followed by a 1.5 percent fall in 1992.

According to Mexico's last agriculture and livestock census of 1991 102,876,789 hectares⁴ (ha.) belong to *ejidos* and indigenous communities⁵. This area represents 52 percent of the national territory and shows the dimension of the agrarian land distribution. The area belonging to the so-called *reformed property* is divided into production units (parceled areas and collective *ejidos*) and common land, amounting to 39.7 percent and 60.3 percent respectively. Small private property totals 70.9 million ha..

Considering only the rural production units, 1.3 million units are private property and 3.0 million units are *social property* (*ejidos* and communities). The private units have an average size of 57 ha. while the social property averages 23 ha. per production unit.

The Legal Reform

For the Mexican countryside, an open economy implies a redefinition of the relationship between the state and the agrarian society, where the main axis is neither land distribution nor a central peasant organization.

A reorganization of peasant representation is underway in which it is no longer viewed as a homogeneous block isolated from the rest of the social sectors, nor is it dependent upon the government. This rigid and strongly centralized scheme of the past is obsolete. The new rural organization is becoming more autonomous in its capacity to make decisions and more flexible in its economic associations.

The concept of a proprietor State --in direct command of production-- has been abandoned, and instead, its role in the management of public finances and design of public policies to promote development and equity, has been underscored. When the market fails to respond to the challenges of poverty alleviation in the rural areas, economic development and environmental protection suffer.

The new forms of peasant representation, started two decades ago and characterized by a network format, are becoming the social base of the peasant reform that today is recognized by the state. Changes in the agrarian legislation, with explicit objectives of more freedom and justice, respond to the social demands that emphasize complete land tenure security and better conditions for economic activity.

Legal reform required a thorough revision of the Mexican agrarian law from one that was essentially administrative and, for that reason, discretionary in its application, to one based on civil

and mercantile legal provisions. The government's involvement in agrarian matters is now limited to promoting rural development through the definition of specific social and agricultural policies.

In the new legal framework, the agrarian law facilitates the new definition of relationships among producers and rural settlers and other economic agents in organizing production or establishing services and communal projects. The law recognizes rural citizens' roles in the design of policies and the designation of their beneficiaries.

The broadening of both individual and associative responsibility requires fewer administrative and regulatory measures. In legal terms, the rural society was considered a conglomerate similar to a closed feudal estate. The rural inhabitants acquire a formal condition of equality comparable to that of the rest of their fellow citizens. In this sense, the juridical reform eliminates most of the rules that defined the rural society as a different and separate society, and integrates it, in a more formal sense, with the rest of the national society, constructed in the pattern of a liberal market economy. For this reason, our agrarian law takes a civil and mercantile emphasis.

The juridical reform defines the criteria upon which property rights are clarified, associations promoted and transitions from one type of land tenure to another are allowed. The first is the prohibition of the latifundium and the second, the conclusion of the state's obligation to sustain the distribution of land.

The new Article 27 clarified property rights in the *ejido* communal lands. It ended the confusion about who was the real proprietor of the *ejido*, a confusion that contributed greatly to establishment of exaggerated state intervention in the inner life of the *ejidos*. Now it is absolutely clear that the direct owners of *ejidos* and communal lands are the *ejidos* and indigenous communities themselves, recognized under the law as specific entities, whose members, the *ejidatarios* and *comuneros*, have the right to usufruct their lands and also to become full owners of their respective individual parcels. The limit to the size of individual property is 5 percent of the total *ejido* land or the size limit for the small private property, whichever is smaller.

Now, individual plots of land can enter land markets under two modalities: one, inside the *ejido* by a transaction among *ejidatarios* themselves or by selling the property rights to a settler without agrarian rights but living inside the *ejido* limits (the so-called *avecindado*).

This type of transaction only requires notification of the National Agrarian Register. The second modality, when the sale of the parcel of land is made to an external agent, is a transaction that requires the *ejidatario* to have complete legal domain over his individual parcel. This complete domain can be obtained with an approval of the *ejido's* assembly, with the number of votes in favor greater than 66 percent of the *ejidatarios* present in the assembly and with a quorum of half plus one of the total *ejidatarios* belonging to the *ejido*.

The land for the human settlement consists of the "urbanization area" that include the areas necessary for the *ejido's* community life. Now, the lots in the "urbanization area" will become the certified and absolute property of the corresponding settlers.

With regard to private, individual parcels of agricultural, livestock and forestry lands, the law establishes several types of small private property, and sets the constitutional limits to its area in accordance with the quality of the land or the crop. Thus, the following limits are imposed: a limit of 100 ha. in case of irrigated land, which is equivalent to 200 ha. of rainfed land; 400 ha. of good pasture land, and 800 ha. of woodland or pasture land in arid zones. In grazing land, the legal limit equals the area needed to sustain up to 500 cattle animals or their equivalent in small livestock.

The mercantile societies can be composed of up to 25 individual members whose contribution is land. Consequently, the total area owned by the society is constrained by the sum of the limits for the small private property. For example, in the case of irrigated land the size limit for the society is 2,500 hectares (ha.). In all cases, regulated limits apply to the sum of land area that each individual utilizes directly or has in one or more mercantile societies.

The allowed activities of the society, the so-called social objectives, are those related to the production, industrial transformation or marketing of agricultural, livestock and forestry products as well as their inputs and accessories. The participation in the society of the partners that contributed land will be distinguished through a series of "Type T" shares.

As part of the rural reform, an Agrarian Attorney's Office was created to defend the rights of rural citizens. It has 33 delegations and 88 offices whose operations are performed by 1,017 inspectors, 110 agrarian attorneys and 2,034 peasants with one year of training, who will eventually be incorporated into their *ejidos* and organizations. Each inspector, assisted by two peasant trainees, attends to an average of 30 *ejidos* in his/her territorial area.

Agrarian Courts were also established to resolve, through trial, the conflicts that arise in connection with the enforcement of agrarian rights. The Agrarian Courts are organized by a central Agrarian Superior Court and 34 regional Unitarian Courts distributed throughout the country, each endowed with autonomy in jurisdiction. They are in charge of handing down the decisions on property rights disputes.

It is in the *ejido* and communal sectors where the uncertainty related to property rights is strongest. This is a consequence of the uneven agrarian land distribution and distribution methods which resulted in conflicts of interest between the older *ejidatarios* and subsequent generations. In addition, the changing technical elements and procedures used in each stage generated confusion over property rights and limits, and led to the slow and unfinished certification process. This forced a direct division of land into parcels, and combined with incomplete legal support, aggravated the difficulties in defining the legal successors. This contributed to a broad black market of *ejido* lands.

According to data from the Agrarian Attorney's Office, from April 1992 to July 1993, 47,368 applications demanding attention were received of which 36,206 were from *ejidos* (27,004 pertained to internal controversies), 3,084 from indigenous communities and 1,728 from small private land holders.

In direct response to the uncertainty surrounding rights and ownership within the *ejidos*, the Program of Certification of *Ejidors* Rights and Entitlement of Urban Lots (the so-called PROCEDE) was created in April 1993, with the objective of reaching a just and final solution to the controversies, and above all, with the purpose of consolidating property rights. The first stage of the program consisted of informational activities in the rural communal areas and the identification of the *ejidos* which fulfill the conditions of eligibility for the program. The second stage of the PROCEDE program concerns the approval of the *ejidatarios* assembly of each ejido to initiate the PROCEDE procedures needed to achieve certification of property rights. This requires the assembly to confirm or modify the allocation of the individual land parcels, communal lands, and residential areas. Subsequently, the technicians of the National Institute of Statistics, Geography and Information (INEGI) carry out a survey --local census of real property-- according to the resolutions of the assembly. Following that, the assembly is called to approve the results of the survey and the corresponding plan. Finally, the certificates of property rights are issued and registered at National Agrarian Registration.

Based on the performance monitoring system of PROCEDE, at the end of October, 1993, the PROCEDE program had covered 26,462 *ejidos*⁶, of which 17,751 have had official reviews with their representative authorities, resulting in 12,478 decisions, 9,690 of them favorable and 2,778 unfavorable. The states that registered the highest number of reviews with *ejidos'* representative authorities were Veracruz (2,048), Tamaulipas(1,263), Jalisco (1,207) and Chiapas (1,066).

There have been 8,821 assemblies summoned to discuss entry into the PROCEDE program, of which 8,009 have been held. In 7,606 *ejidos* the program has been accepted, representing 95 percent of assemblies held, only 403 *ejidos* have rejected it.

Also, at the end of October, 1993, the survey by INEGI had been conducted in 1,670 *ejidos*. The states registering the highest number of *ejidos* having undertaken surveys were Mexico, Morelos, Tamaulipas, Veracruz and Puebla, with 144, 123, 115, 106 and 99 respectively.

Summons have been issued for 1,287 final assemblies to approve the survey results, distribution and assignment of land (delimitation of individual parcels, common lands and residential areas), and 818 (64 percent) have been held.

In summary, at the end of October, 1993, the number of *ejidatarios* that had been incorporated into PROCEDE program totals 720,000, representing 25 percent of the total of 2,910,000 farmers. The land area covered by these *ejidatarios* totals 17,645,000 ha., representing 20 percent of the total of 89,546,000 ha. of *ejido* land considered eligible for the program⁷.

The results produced during the first year of operation of the PROCEDE program were not significant, but what is truly important is that the process has begun, and it requires patience and experience in order for it to achieve the objectives of the law.

Possible Scenarios

The implementation and success of the rural reforms rely on the completion of a process sustained by the regional consensus (determined by regional economic and social conditions) and by the local power nets.

Also, successful implementation of reforms requires consideration of the different characteristics of each region, a reflection of an agriculture composed of a rich variety of natural resources and different organizational, productivity and cultural conditions.

It is difficult to capture the global scenario outlined by these regional developments. It would be more useful to analyze the possible challenges --the risks and the opportunities-- especially in the present moment which is crucial for the social assimilation of the reforms and for the preservation of their original objectives.

In this sense, I would like to comment very briefly on the initial challenges, many of which are related to the transition from a closed rural economy toward a market-oriented one. The situation is characterized by elements favorable to social integration, resulting from a positive balance between state intervention, efficiency of the market, community development and associations.

First -- In viewing the *ejido* as an economic unit, the new rules play an important role in the diversification of the two economic areas of the *ejido*: the individual small-holdings and the lands of common use. The new legislation promotes the creation of different types of associations within the *ejido* such as the so-called Societies of Rural Production, Agroindustrial Units for Women, Societies of Social Solidarity and the Associations in Participation with other economic agents.

The *ejido*, as a whole, can be regarded as a scale model of a holding company, with diversified economic associations under its direct sphere of economic influence. The *ejido*, in the role of a holding company, could take the role of the local provider of many quality services at competitive prices that the rural economy in Mexico urgently requires. The *ejido* could provide, for example, storage, infrastructure, transportation, marketing of inputs and products, technical assistance, project design and management services.

This favorable scenario for the *ejido* is not completely new. It has its roots in the 1970s when in many regions several groups of rural producers, whose main demand was economic

liberty, achieved important organizational reforms to sustain self-management of their productive processes.

Second – A pending task is the establishment in each *ejido* of a new set of internal rules that enforce the recent legal recognition of the entity's economic autonomy and the new responsibilities of its assembly. Such a set of rules that allow for and support the implementation of a transparent and efficient mechanism for collective decision-making, will play a key role in developing the *ejidos'* internal democracy, and in generating consensus in order to establish productive associations and develop new economic projects.

Third – A new and strong peasant regional strategy, complemented by sound and effective public policies, could tighten the community bonds inside the *ejido* and induce the creation of many small, local enterprises dedicated to marketing, technical assistance and transportation. These types of efforts will compensate undesired regional trends of land concentration, weakening of community bonds, migration and underemployment in the surplus work force of the peasant family.

Fourth – The opportunities for a profound integration of the *ejido* to an open and market oriented rural economy, depend strongly on the conditions and intensity with which the recent rural reforms are assimilated by each *ejido*. Undoubtedly, this process of assimilation will reflect the current level of economic organization and the ability and social disposition of the *ejidatarios* to establish associations with other economic agents.

These economic associations will be a key factor in the transition process, since they will guide the social sector toward market interactions, alternative sources of credit, new technologies and options of commercialization and managerial capacities.

Fifth – In the poorest and most backward regions with very weak or almost non-existent peasant organizations, social conflicts may be aggravated. The oppression of local bosses (*caciques*), excessive exploitation and unsolved problems of property rights inside the *ejido* or between *ejido* lands, probably will contribute to social unrest.

These potential conflicts could be minimized or solved by two factors. First, the government has decided via the PROCEDE program, on a policy that does not force the certification process of property rights for the *ejidos'* land, and leaves the initiative to the *ejido* assembly; and second, the growing regional presence of the new Agrarian Attorney's Office is a channel to solve conflicts and prevent the attempts of illegal land concentration. These two actions, however, will be insufficient unless they are complemented with efforts to encourage creation of a strong democratic process inside the *ejidos* and the indigenous communities.

Sixth – The reforms will surely generate gradual changes in migratory flows. The pace and direction these changes take, will depend on three elements: first, a possible multiplier effect in the consolidation of small land holdings and establishment of economic associations; second, the

timing of the process toward open markets in agriculture, determined mainly by the North American Free Trade Agreement (NAFTA~); and third, the orientation of legislation for the rural labor force.

Two factors make it possible now for the migrant *ejidatarios* to stay for longer periods away from the *ejido*. The legal norm establishing that if the *ejidatario* abandoned his parcel of land he was subject to lose his agrarian rights over it, has been eliminated and the new law gives way to a land market inside the *ejido*.

A tendency toward longer periods in the migration movements will affect the flow of money from the migrant *ejidatarios* to their places of origin. It is difficult to say if this flow of cash will be improved or will fall, but surely the expedition of land titles for agricultural purposes and also for non-agricultural activities, will reinforce the *ejidatario s* family economy. A new and adequate system of saving and credit for the rural sector could mobilize these monetary resources and make them accessible at the regional level, generating a positive trend against migrations.

Seventh – For small private property, certain trends are evident: among farmers with very small land parcels (the so-called *minifundistas*, who have never been supported by state programs), it is possible that a process of consolidation of land parcels will be induced by the new government policies.

With regard to the commercial producers of basic grains or export products, there could be a great diversification of production, supported by the creation of credit unions and marketing companies.

In the irrigation districts, with a combination of private property and *ejido* land, the consolidation of lands, as well as long term leasing of *ejido* land parcels, probably will develop.

Eighth – The rural reform favors those trends that augment the capitalization of the agricultural sector. Even so, there is a delay in the flow of private capital for several reasons:

- The formation of associations, farmers and other economic agents is proceeding slowly but will surely be accelerated with the recent initiation of NAFTA.
- The levels of profit remain low in most of the rural economic activities, and there is still uncertainty about alternative products and international markets.
- During the first stages of the reform, a significant number of investments that are being made represent reallocation of property or assets in the rural economy. In the future, some of these transactions will give way to real increases in net capital.
- At the local level, initial investments will flow toward non-production areas such as infrastructure, agribusiness, marketing and other services.

- There exists a natural delay between the legal reform and the design and implementation of integral agricultural policies.

Finally, we must have in mind that the dimension of the reform implies a reorganization of state power and of social forces. Moreover, the economic reform in the countryside constitutes a profound political reform that necessarily will have effects in the vast social universe in which rests the national consensus.

Endnotes

1. De la Peña, Moises. "Problems Demográficos y Agrarios" Published in the Journal *Problemas Agrícolas e Industriales de México*, Vol. II, number 3-4 page 134. October/December, 1950.
2. Sistema Alimentario Mexicano, SAM, by its name in Spanish.
3. Report *Indicadores Economicos*, published by Banco de México. Mexico, May 1993.
4. 1 hectare = 2.47 acres.
5. This is a preliminary use of the report published by INEGI: *Resultados Preliminares VII Censo Agropecuario 1991*, Aguascalientes, Mexico, 1992.
6. This data corresponds to the total of *ejidos* minus the communal properties, in accordance with information provided by the Ministry of Agrarian Reform.
7. These figures in *ejidatarios* and area of land correspond to the universe of the PROCEDE program: 26, 462 *ejidos*.

Restructuring of Socialized Farms and New Land Relations in Russia

Karen Brooks and Zvi Lerman*

On October 29, 1993, the Moscow daily *Izvestiya* carried the headline "Peasants Get the Land that Bolsheviks Promised Them in 1917." Thus, exactly 76 years after the Land Decree of October 1917, which abolished private ownership of land and effectively prohibited all land transactions, a decree by the Russian president declared that land was not different from other fixed assets and explicitly allowed it to be bought and sold. The presidential decree ultimately will have to be strengthened by incorporation of its principles in the new constitution and by passage of enabling legislation. These legal aspects will have to be addressed by the new Russian parliament.

The October 1993 presidential decree allowing land transactions was the latest in a series of reforms relating to land relations and restructuring of socialized farm enterprises in Russia. It removed the main obstacle to the development of land markets in Russia. Yet the transition in Russian agriculture, involving changes of land ownership and reorganization of farms, began much earlier.

Russia's agriculture in the 20th century has been subject to almost continual reform, both major and minor. In the second half of the 1980s, agricultural policies increasingly began to emphasize individual motivation and involvement in production within a collectivist framework. This timid and ineffective beginning gained momentum in 1990-1991, with the dramatic political changes that ultimately led to the disintegration of the Soviet Union. Since 1991, land reform and farm restructuring have had as their objective the creation of a market-oriented agriculture based on predominately private (i.e., non-state) ownership of land and assets.

This paper aims to elucidate this first phase of the transition in Russia's agriculture, with particular emphasis on changes observable at the farm level. It is based on a survey that includes 2,700 respondents in three categories: managers of large-scale farm enterprises, employees of farm enterprises, and private farmers. The survey was conducted in the period from November 1992 through January 1993 in five Russian provinces (*oblasti*) representing a range of agroclimatic conditions and specializations by a team of the Agrarian Institute of the Russian Academy of Agricultural Sciences in Moscow, with support from the World Bank¹. The empirical data collected in this survey capture the Russian farm sector in transition and draw a detailed picture of changing patterns of land ownership, land use, and farm structure in Russia, as viewed at the end of 1992.

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The Legal Framework

In the past, Russian agriculture was based, in accordance with the traditional Soviet model, on large-scale collective and state farms cultivating state-owned land. The inefficiency of this structure is now generally recognized. Moreover, the international experience indicates that collective forms of agricultural production are inherently less efficient than private farming². Russia's transition to a market-based economy therefore must include reorientation of its farming sector toward privatized land and more efficient farming structures. This reorientation is usually what is meant by land reform and farm restructuring in the context of Russia and other countries of the former Soviet Union.

The legal framework for land reform and farm restructuring should define rights of owners of land and other farm assets; mechanisms for transfer of ownership, both during and after restructuring; and, more generally, organizational options for economic agents in the agricultural sector, including the rights and obligations of these agents. The most basic economic rights are the right to own property, the right to transfer property either permanently or temporarily, and the right to engage in production and commerce without undue interference from the government or any private party.

Legal Framework for New Land Relations

Approximately 80 legal documents enacted since 1990 on the federal level form the legal basis for land relations in Russia. The legal framework of land reform addresses the major issues of ownership and distribution of land.

Land Ownership

Ownership of land by individual citizens, in addition to state ownership, was reinstated by the Law on Land Reform of November 23, 1990, after 73 years of totally nationalized land³. Russian law today recognizes several forms of ownership⁴.

- state and municipal ownership, in which a level of government is the juridical owner;
- individual ownership;
- collective undivided ownership (*obshchaya sovmevnaya sobstvennost'*), in which a legally constituted collective is the owner and the land is used by an enterprise operated by the collective. Under this form of ownership, individual shares of members of the collective need not be defined;
- collective shared ownership (*obshchaya dolevaya sobstvennost'*). Here, as above, a legally constituted collective is the owner and the land is used by the enterprise operated by the collective, but land shares are distributed to individual members. Land area and/or specific tracts may be identified with individual members of the collective, but need not be.

Individual ownership is the dominant form for the new private farms, although some land in private farms is held in other forms of tenure (mainly possession and lease). Most household subsidiary

plots of employees on collective farms (about 3 percent of all agricultural land in Russia) are in the process of registration under individual ownership.

Current land legislation significantly circumscribes the rights of owners in two important areas: *land holding* and *land use*. The law specifies that ownership of farm land carries the obligation to farm the land and to observe conservation practices. Agricultural land that is not used for its intended purpose (i.e., agricultural production) or is farmed irresponsibly (i.e., without proper ecological safeguards) can be confiscated with no compensation to the owner, regardless of whether or not the owner has received title to this land. The law also sets upper limits on the size of holdings. These limits vary by district, according to the land-to-labor ratios in agriculture within the district.

These restrictions are intended to create owner-operators of farm land. In further pursuit of this objective and with the aim of preventing absentee ownership, the original land reform legislation in Russia also imposed severe restrictions on leasing land and prohibited sales of agricultural land during a 10-year moratorium (except for the very small proportion of land-about 3 percent of the total-held in household plots and vegetable gardens). The restrictions initially circumscribing the rights of owners in the important area of *land transfer* were abolished by presidential decree in October 1993. The elimination of restrictions to buying and selling land removes a major obstacle to the development of land markets in Russia, but a presidential decree is a relatively fragile guarantor of this fundamental property right, which must ultimately be incorporated in the new Constitution.

Distribution of Land

According to the Law on Land Reform (November 1990), the objective of land reform is to promote different forms of land use, with allocation of land to individuals and diverse organizations. Since most agricultural land in Russia is currently allocated to existing farms, assignment of land to new entities created in the process of reform necessarily requires redistribution of existing land resources among users. The process of redistributing land among users and owners is thus one of the basic components of the land reform.

The first step in land distribution is determination of how much of the original farm's land is eligible for redistribution. The farm can allocate no more than the average allotment per person, determined at the district level, times the number of participants in the distribution. The district norm is determined according to land-to-labor ratios within the district, and norms of distribution can vary at the local level within districts. Land in excess of the total distributable to members remains in state ownership and formally passes to the so-called *redistribution fund* or *reserve*. The purpose of the redistribution fund is to meet the future demand for private farms, subsidiary household plots, and municipal expansion needs. The undistributed land, although formally transferred to the redistribution fund, may be retained under use rights by farm enterprises until it is needed for its intended purpose.

The presidential decree of December 29, 1991, setting farm reorganization procedures, stipulates that land shall be distributed to the workers and pensioners of the collective and state farms⁵. The employees of non-farm rural social services (such as doctors, teachers, letter carriers, etc.) may also be included at the discretion of the farm's collective. By defining a broad group of eligible

participants in land distribution, the December 1991 presidential decree reduces the share of each individual. In order to allow small land shares to be consolidated into larger, commercially viable units, the decree permitted recipients of land shares to sell them to other recipients within an enterprise at freely negotiated prices. This right to "trade land shares" provided a mechanism for partial adjustment of holding size even before the October 1993 decree that allowed buying and selling of land, but its legal status was ambiguous during the period when land transactions were explicitly prohibited by the constitution.

The land allotment based on the district norm is distributed free, without any payment. Additional land can be leased or purchased from the redistribution fund at rates that are linked to the land tax rate: rental rates are not allowed by law to exceed the rate of land tax and, in the absence of land markets, the purchase price of reserve land is set by government directives at 50 times its assessed tax rate⁶. Individuals not entitled to participate in internal distribution can also acquire land by leasing or purchasing from the redistribution fund.

Legal Framework for Farm Restructuring

The Law of Peasant Farms (November 1990) established the right of members and employees of collective and state farms to exit with a share of land and assets in order to start a private farm. This right is the fundamental motive force behind farm reorganization, since it gives members a meaningful choice between different kinds of farm organizations. A number of changes in procedures for defining, calculating, and distributing shares have been introduced since 1990, but the basic right of members to leave with land and asset shares has been affirmed.

Collective and state farms were required by presidential decree to declare their status by the end of 1992⁷. The new form of organization had to be decided by a vote at a general meeting of farm members and then registered with local authorities. Options for farm registration can be classified according to *collective* and *individual* forms of organization.

Collective Forms of Organization

Collective organizations principally include the following:

- *Collective farm (kolkhoz)*, in conformance with a revised charter.
- *State farm (sovkhos)* with ownership of non-land assets transferred from the state to the enterprise⁸. The structure and ownership of large, highly specialized farms will require additional attention, perhaps through the program of privatization of state enterprises.
- *Limited liability partnership (tovarishchestvo)*. Land and asset shares of the founders are pooled, and some or all of the founders work on the farm.
- *Joint stock society or company (aktsionernoye obshchestvo)*. This form is similar to the limited liability partnership, except that stock certificates are issued to owners according to the value of their land and asset shares. If the company is *closed*, stock can be sold outside the enterprise only upon approval of the members' council, which permits carefully

managed turnover in the composition of members without creating a tradeable financial instrument. In an *open* joint stock company, shares are tradeable on the open market.

The differences among these collective forms of organization are not always clear to participants in the process. Thus, collective farms often change their name to *agricultural producers' cooperative* or *collective enterprise (kollektivnoye predpriyatiye)* in the revised charter, without any other change of substance. Since the registration mandated in 1992 has created a number of similar organizations with different names and unclear procedures for operation, it is likely that further legal refinement of enterprise types will be necessary. As the legal definition of forms of organization is clarified, many farms may choose to re-register.

Individual Forms of Organization

A real alternative to collective forms of organization is provided by *peasant farms*. These are farms based on privately owned or leased land and established, in many cases, by individuals who left the collective or state farms with their land and asset shares. Most often, one family owns and operates the farm, but multiple family farms are legal and, in some areas, common. Limits on the size of peasant farms are set at the level of constituent republics or provinces and vary from 30 hectares in Moscow Province, to 80 hectares in Rostov Province, and 350 hectares in Saratov Province. The Russian average in January 1993 was 42 hectares per peasant farm. Once a farm is registered as a peasant farm, it cannot be partitioned or divided upon the exit of a member. Peasant farms are offered a number of benefits, including initial start-up grants, release from land tax for five years, reduced social security tax, and additional credit subsidies above those offered to state and collective farms.

Peasant farms may form a local *association of peasant farms*. This is a kind of production or service cooperative, the members of which in theory should all be registered private farmers. In practice, however, associations of peasant farms often do not have independently registered members and they are often chosen simply as another collective form of organization in the process of registration of former farm enterprises. Land in associations of peasant farms should generally be divided among the members, but does not always appear to be so.

Responsibility for Social Assets

Collective enterprises, in addition to producing agricultural commodities, have historically been providers of social services to rural communities, and the disposition of responsibility for social assets and services is an important issue in the restructuring of farm enterprises. Legislation provides for the transfer of public services to the local council. Many farm enterprises, however, prefer to keep the responsibility for the social services after restructuring. Even if the farm enterprises are willing to transfer the social assets, the local council may not be prepared to accept the responsibility: the Congress of Peoples' Deputies (the Russian Federal Parliament, dissolved in October 1993) has never passed complementary legislation that obliges the local councils to take over the social assets. Moreover, budgetary channels for financing social services by local councils have never been set up.

Implementation of Reforms in Agriculture: Aggregate Data

This section presents an overview of the status of implementation of land reform and farm restructuring in Russia at the end of 1992 based on aggregate data collected by the State Committee on Statistics (*Goskomstat*) and the State Land Committee (*Goskomzem*). It provides a context for the discussion of survey findings in subsequent sections.

Changes in Land Ownership

In 1992, the state ceased to be the dominant owner of agricultural land in Russia. According to aggregate data of Goskomzem, as of January 1, 1993, the state owned only one-third of agricultural land (*sel'khozugodya*), while another 12 percent was owned by rural local authorities (municipal and common land, including the redistribution fund). Of the remainder, 46 percent was in collective ownership and 8 percent was privately owned, including 3 percent in private farms (Table 1).

This distribution of land ownership is a major departure from the traditional pattern during the Soviet period, when the state owned all agricultural land. It is not, however, qualitatively different from that of much of Central and Eastern Europe during the era of collectivist agriculture, where a system of mixed ownership of land was the prevailing tenure regime after 1948.

The fact that the state no longer owns most agricultural land does not imply privatization of agricultural production. Privately owned farm land is only a small segment, and the agricultural sector remains predominantly collective, with most land owned and farmed collectively. On January 1, 1993, 92 percent of agricultural land was still in the collective and state sector. The agricultural land in all family farms (6.6 million hectares in 184 thousand farms) was still less than the land in subsidiary plots of farm employees and urban residents (5.5 million hectares in over 20 million subsidiary household plots plus 1.6 million hectares in private gardens and vegetable plots of some 40 million urban residents).

Between January 1991 and January 1993, the original state and collective farms lost 160 million hectares of land in the process of reorganization, 125 million hectares to new collective structures, 19 million hectares to the private sector, and about 16 million hectares to the redistribution fund. The total land in the private sector nearly trebled in this period (Table 2). Most of the land transferred to the private sector (15 million out of 19 million hectares) was allotted to some 150,000 commercial producers (private farmers and agricultural cooperatives, which are mostly multiple family farming units). The remaining 4 million hectares was allotted to tens of millions of households as subsidiary plots and gardens. Many of these plots, however, are for household, recreational, or residential use, and their importance for commercial agricultural production is secondary.

Farm Restructuring

By January 1, 1993, 78 percent of all socialized farms had registered according to government directives. In many provinces, the registration rate was over 90 percent of all public farms. In the

process of registration, land ownership was transferred from the state to the farms, thus laying the foundation for further internal restructuring through distribution of land and other assets to members and employees.

Table 1. State, Collective, Private, And Municipal Land In Russia As Of January 1, 1993

	All land		Agricultural land	
	million hectares	percent of total	million hectares	percent of total
(1) State owned	242.6	36.7	73.7	33.3
(2) Collectively owned	339.2	51.4	102.8	46.4
Farm enterprises keeping previous status	206.9	31.3	17.7	7.9
Open joint-stock societies	3.5	0.5	1.3	0.6
Limited-liability partnerships	112.6	17.1	77.3	34.9
Closed joint-stock societies and other	16.2	2.5	6.5	2.9
(3) Privately owned	23.1	3.5	17.7	8.0
Private farms	7.8	1.2	6.6	3.0
Agricultural cooperatives	7.4	1.1	3.9	2.0
Subsidiary household plots	5.9	0.9	5.5	2.5
Gardens, vegetable and dacha plots	2.0	0.3	1.6	0.7
(4) Municipal ownership	55.2	8.4	27.4	12.4
TOTAL	660.2	100.0	221.5	100.0

Source: Agrarian Institute based on Goskomstat and Goskomezem data.

Farm enterprises show a high tendency to register as whole units in collectives, rather than break up into smaller units and individual farms. The behavioral significance of registration will therefore derive from further internal restructuring. The collective forms of farm organization at the beginning of 1993, including both farms that registered and those that did not, consisted of 27 percent collective farms, 22 percent state farms, 32 percent limited liability partnerships, and about 20 percent in a mix of other collective forms (Table 3).

Table 2. Growth Of Private Sector In Russia From January 1991 To January 1993 (All Land, Thousands Of Hectares)

	Jan. 1991	Jan. 1992	Jan. 1993	Growth factor	
				1991-1992	1992-1993
Private farms	204	2068	7820	10.1	3.8
Agricultural cooperatives	266	1147	7437	4.3	6.5
Subsidiary household plots	3250	3654	5877	1.12	1.61
Gardens, vegetable and dacha plots	922	1666	1996	1.81	1.20
All privately owned land	4643	8535	23129	1.84	2.71

Source: Agrarian Institute based on Goskomstat and Goskomezem data.

Even farms that registered as collective or state farms generally made changes in ownership of assets within the farm. Most collective farms adopted collective shared (*dolevaya*) forms of ownership

of land and property. In this respect they differ from their predecessors, in which land was owned by the state, and nonland assets by the collective indivisibly.

Table 3. Structure Of Collective Agricultural Enterprises In Russia, January 1, 1993

	Number	Percent
Not reorganized (not registered)	5753	21.6
Kolkhozes	2364	8.9
Sovkhozes	3389	12.7
Reorganized and registered	20937	78.4
Kolkhozes [∗]	4763	17.8
Sovkhozes	2478	9.3
Limited liability partnership	8551	32.0
Agricultural cooperatives	1662	6.2
Subsidiary enterprises of nonagricultural organizations	347	1.3
Associations of peasant farmers [∗]	748	2.8
Open joint stock societies	328	1.2
Closed joint stock societies and other	2062	7.7
TOTAL	26690	100.0

[∗] Of these, 251 are former sovkhozes that chose to register as kolkhozes.

[∗] In only 268 associations members are individually registered private farms; in the remaining 480 associations the constituent farms are not individually registered as private farms.

Source: Agrarian Institute.

The process of registration of collective and state farms produced 43,590 private farms, or about 23 percent of the total number of 184,000 registered private farms on January 1, 1993. The remainder of private farms were established on reserve land by outsiders from other rural districts and towns, or were organized prior to 1992. The number of private farms, at 184 thousand, implies approximately seven per collective enterprise. Private farms are not equally distributed geographically, and many collective enterprises are in communities where the number of private farms is large enough to affect local markets for agricultural inputs and services. This represents a change from the prior year, when the aggregate ratio of private farms to collective enterprises in Russia was less than two to one.

Restructuring of Farm Enterprises: Evidence from the Sample

By the end of 1992, 90 percent of farm enterprises in the sample had made decisions to reorganize (higher than the national average of 78 percent). Among the 235 sampled farms that reorganized, 53 percent chose to become limited liability partnerships, 27 percent became closed joint-stock societies, and 9 percent retained their former status (with a revised charter). Most enterprises thus reorganized as whole units, retaining virtually all former employees (Table 4).

Distribution of Land and Assets

The farm enterprises in the sample have on average 8,000 hectares of land, of which 5,000 are arable. Between 1990 and 1992, farm enterprises lost, on average, 1,500 hectares, about half to the district redistribution fund, one-fifth to household subsidiary plots, and one-third to private family farms (Table 4). One-quarter of farm enterprises report that they lease land in, and therefore some of the land recorded in the redistribution fund may still be worked by the farm.

Table 4. Change In Land And Labor In Sampled Farm Enterprises: 1990-1992

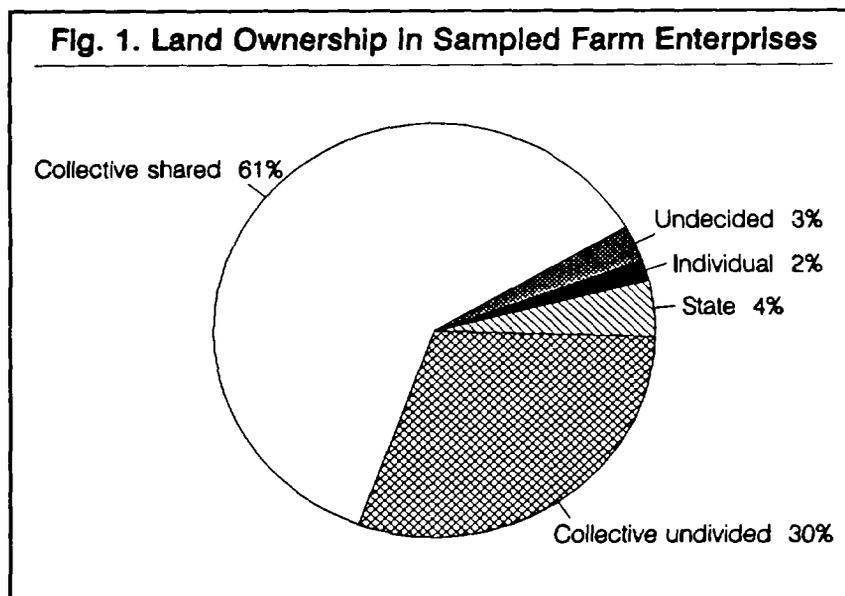
	1990	1992	Decrease, percent	Transferred to (hectares):		
				Redistribution fund	House- holds	Private farms
Land	9700	8124	15.4	725	336	473
People employed	312	293	4.3*			

* Not statistically significant. Land and number of people employed are sample averages. Percentage decrease was calculated as the mean of the responses from different numbers of respondents and are not necessarily equal to the change in mean land and labor figures.

Land tenure has shifted almost uniformly from state to collective, rather than individual, ownership (Fig. 1). Fully 91 percent of farm enterprises reported that their land was in collective ownership, and only about 4 percent of the farms in the sample retained state ownership of land. These sample data are consistent with the aggregate picture for Russia (see Table 1), where collective and state ownership still account for over 90 percent of land assigned to registered users. The balance has shifted dramatically from state to collective ownership.

Most farm enterprises with collectively owned land (95 percent) had decided to issue land shares. In 87 percent of the cases, the physical size of the allotment had been determined. A smaller proportion of the farm enterprises (77 percent) had determined the shares of physical assets at the time of the survey.

The definition of a land share ranges from a paper entitlement to land without designation of its area, location or boundaries to specification of an actual physical allotment. In 84 percent of the cases, the distribution of land shares was "conditional": the shares were mere paper entitlements not supported by any physical identification of land plots. In 11 percent of the farms, physical plots of land had been assigned to individual shareholders, but these allotments continued to be cultivated jointly. None of the farms in the sample had allocated physical plots to shareholders. When asset shares had been determined and assigned to individuals, virtually no distribution of physical assets in kind or monetization of shares had taken place.



Eligible Beneficiaries

Virtually all farm enterprises that reported dividing land included both employees and pensioners among the list of eligible claimants. A somewhat smaller proportion (75 percent) included farm employees in social services, and fewer still (about 50 percent) included rural doctors, teachers, and other off-farm employees of public services in the village. There is no statistically significant difference in size of land share according to the status of the recipient among the different categories of people eligible for the shares. If, for example, rural teachers or doctors were included among claimants, they were not offered significantly smaller land shares. Asset shares, on the other hand, were determined according to the work contribution of each individual to the farm over the years. Years on the job and salary level served as the primary criteria for distributing asset shares (96 percent of the farms). In 86 percent of the farms, pensioners were included with the current employees among the beneficiaries entitled to asset shares. Former employees were entitled to participate in the distribution of assets in only 13 percent of the cases.

Size of Shares

Land shares reported in the sample are relatively small, at an average of 11-12 hectares per shareholder. Over half of managers report average land shares of less than 10 hectares. The largest reported average share is 36 hectares. The land shares, of course, are much bigger than the subsidiary household plots now owned by farm employees (ranging from 0.12 hectares to 1.12 hectares in the sample), but they are substantially smaller than the average area of 26 hectares per worker in the sample farms. This difference is the result of the broad eligibility base of beneficiaries participating in the distribution of land, which includes pensioners and the rural intelligentsia. The reported land shares in the sample are also smaller than the per household

endowments of land that private farmers brought to their farms, ranging from 72 hectares in Novosibirsk to 48 in Rostov and 20 in Pskov.

The value of an average asset share as reported by managers was 270,000 rubles in December 1992. These values are modest when converted at the market exchange rate in December 1992 of approximately 500 rubles to the dollar. The low value of the ruble in international conversions produces a downward bias in the dollar value of the share, but more significantly, the shares are stated at balance sheet values frozen on the day when the calculations were made. Thus, although the average share value of 270,000 rubles is less than one third of the required start-up investment of 860,000 rubles for private farms established in 1992, the true value of the shares in current purchase value of the underlying asset may be substantially higher⁹.

Rights Associated with Shares

Around two-thirds of farm managers report that holders of both land and asset shares have the right to exchange the share for a plot of land or a physical asset upon leaving the collective to start private farming and the right to pass the share in inheritance to heirs within the farm membership (Table 5). Other commonly reported rights attached to land and asset shares include the right to receive dividends (in cash or in kind) and the right to sell shares to the enterprise or to individuals within the enterprise¹⁰.

The mechanism of distributing land and asset shares to farm employees is designed to meet a dual purpose. On the one hand, it facilitates the exit of individuals from collective farm enterprises with the object of establishing a private farm by providing the initial endowment. On the other hand, it offers various incentives to those who choose to remain members of a restructured collective. The preference to avert risk and uncertainty by remaining in the collective is predominant among the respondents: approximately 80 percent of farm-enterprise employees indicated intentions to assign their land and asset shares for collective production to the farms on which they are employed; in almost half of reorganizations no employees left the enterprise to begin private farming. Yet the findings of the survey also provide evidence of the opposite trend: 6 percent of farm employees expressed intention to use their land and asset shares to start private farms, and in more than 50 percent of the reorganizing farms between 1 and 134 people (out of an average work force of about 300) left to become private farmers (Fig. 2).

Changes in Farm Management

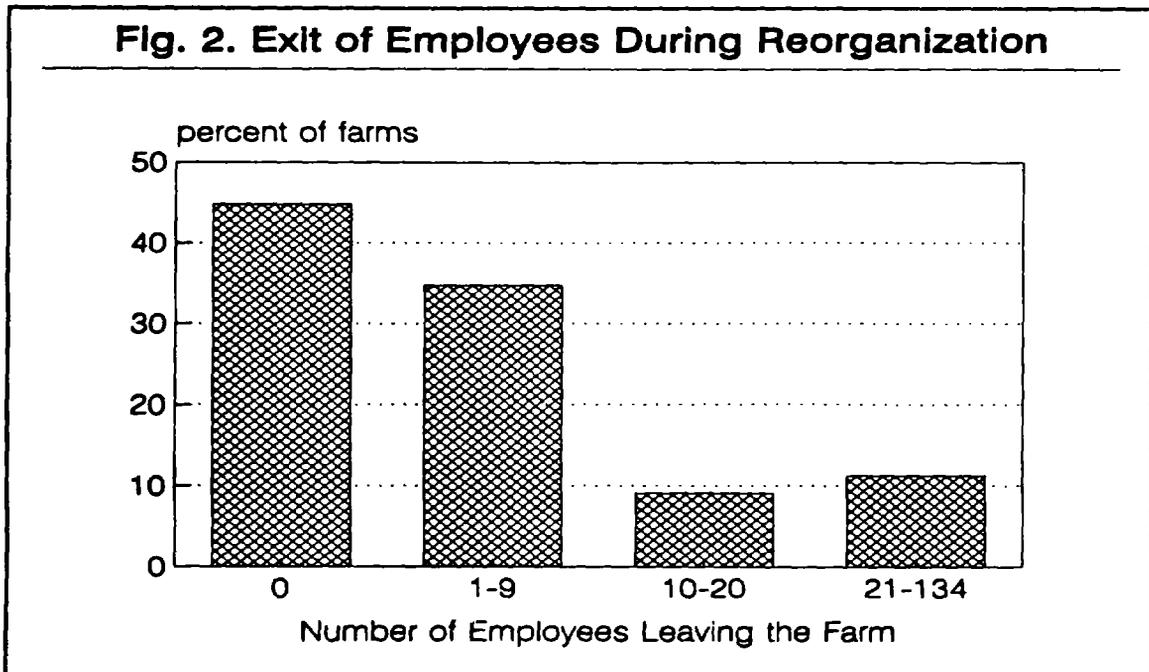
Despite loss of about 15 percent of their land over two years, farm enterprises did not reduce their labor force. The farm enterprises in the sample have, on average, just under 300 full-time employees (a land to labor ratio of 26 hectares per worker), and the reduction in the number of employees between 1990 and 1992 is not statistically significant (see Table 4). The decline in area and production should have created labor redundancies. Yet one-quarter of managers actually report a shortage of labor and 57 percent report hiring seasonal labor in addition to the full-time work force. Nearly 50 percent of managers indicated that they did not expect the

number of full-time employees to change in 1993. Only 10 percent of managers report excess labor on their farms.

Table 5. Rights Associated With Land And Asset Shares: Frequency Of Different Categories Of Rights As Reported By Farm-Enterprise Managers In The Sample

<i>Rights</i>	<i>Land Shares</i>	<i>Asset Shares</i>
Get land/asset upon leaving enterprise to start private farm	66.5	66.9
Use asset share to purchase home	NA	41.1
Bequeath share to heirs within farm enterprise	62.7	67.3
Bequeath share to any heirs	33.1	32.7
Receive dividends from farm profits	57.7	76.2
Receive distribution in kind	48.1	NA
Sell share to farm enterprise	32.7	58.1
Sell share to other farm employees	31.2	52.3
Receive value of share upon retirement	24.2	21.8
Receive value of share if fired	19.6	43.1
Exchange shares (land for asset or asset for land)	15.8	10.0
No approved charter	11.9	NA
No rights provided by charter	11.5	NA

* Percent of managers out of 260 respondents indicating that the particular right was associated with land shares in their farm enterprise. NA -- Not Applicable.



Under the circumstances, reported labor shortages may reflect traditional tendencies of collective and state farms toward overstaffing. These findings suggest that the managers have not yet adjusted to the new economic reality, even though fully 53 percent admit that they could not meet the payroll for at least one month in 1992 and the proportion of wages and salaries in total farm expenditure increased from 27 percent in 1990 to 34 percent in 1992. Despite these financial signals, few managers express clear intentions to improve farm earnings by dismissing redundant workers, reducing wages, or shifting workers to more profitable outside jobs (Table 6). The preferred strategy for resolving liquidity problems is taking on additional debt to pay wages (70 percent of managers) or delaying payment for other expenses (65 percent). Fifty-seven percent of the managers are willing to postpone wage payments in the future rather than dismiss some of their workers.

Table 6. Management Strategies: What to Do If No Money to Meet Payroll?
(percent of managers responding)

	<i>Yes</i>	<i>No</i>
Dismiss some workers	13.2	80.6
Keep workers, reduce wages	7.8	87.2
Delay wage payments	57.0	39.1
Delay other payments	64.7	31.4
Take debt	69.8	27.9
Shift workers to outside jobs	8.9	82.2

Farm managers in the sample also appear reluctant to change their product mix despite changes in relative prices and profitability of various commodities. On the whole, around 60 percent of managers report that they intend to keep the same production levels as in the past, although some 80 percent of the respondents admit that livestock products, for instance, have become unprofitable.

Social Services

Collective enterprises, in addition to their primary production activity, are providers of a wide range of economic and social services to rural communities (Table 7). Although some of these services (such as education and medical care) are largely financed by transfers from the government, farms are active partners in their provision to the population. Managers in the sample reported that social services accounted for 10 percent to 15 percent of total current farm expenditures. Since most farms had accounting profits in 1992, social services do not appear to weigh heavily on farm budgets. This explains the low rate of transfer of the responsibility for social services and assets from farm enterprises to local councils. Fully 40 percent of the managers in the sample so far have not even considered the problem of transferring the social sphere to local government; around 30 percent indicate that they have decided to retain the major social services as the responsibility of the farm enterprise; and less than 10 percent of managers

report on the whole that they have successfully transferred the social services and assets to local council.

Collectives continue to provide many services to private farmers in their areas, and private farmers previously employed by collective enterprises report that they have retained a number of social benefits even after leaving the collective. Most notably, 31 percent of households continue using enterprise-owned housing after leaving the collective (compared to 46 percent before) and 12 percent of private farmers still receive heating fuel from the farm enterprise. This situation persists perhaps because many collectives have fewer than 10 private farmers in their area, compared to a collective work force of about 300, and the cost of maintaining services for this small group of people is not great.

As a result, at the end of 1992, neither those in collective enterprises nor private farmers perceived social services as a critical constraint to farm restructuring. More than 55 percent of farm-enterprise employees indicated that the possibility of losing the social benefits provided by the collective farms was not an important consideration in their decision as to whether or not to enter private farming. Concerns about social benefits ranked considerably below inadequacy of capital and machinery as factors keeping employees within collective enterprises. The relative complacency with regard to social services is not likely to remain if the number of private farmers significantly increases in the future and if farm enterprises begin to feel financially constrained as a result of effective implementation of macroeconomic stabilization policies.

Problems in Restructuring

In general, managers did not indicate a high frequency of severe problems associated with restructuring, except for the *information problem*. The most frequently cited difficulty was in communicating to employees the meaning of new laws and decrees (50 percent of managers complained of this problem). Access of managers themselves to information was a lesser problem than explaining the laws to their employees and coworkers: only one quarter of managers felt that their access to information about laws and decrees was a serious difficulty.

Other problems, each cited only by about one quarter of managers, included difficulties with privatization of housing, funding of social services, and problems determining land and asset shares. Potentially troubling issues of whether and how to include pensioners, former farm employees, and rural intelligentsia in the distribution of shares did not constitute any problem according to more than half the managers. Fifty percent of managers indicated that paying off inherited debt did not constitute any obstacle to the process of restructuring. The general lack of concern about these issues may reflect the fact that only a few farms have had to contend with them so far, i.e., few farms undertook the process of physically dividing and allocating land or transferring social assets to the local council.

Table 7. Provision of Social Services by Sampled Farms

	<i>Percent of farms providing the service</i>
Compensation for price increases	40.0
Pension augmentation	21.2
Child allowances	50.4
Day care	79.2
School subsidies	70.8
Student stipends	82.7
House maintenance and repairs	91.5
Heating fuel	76.5
Subsidized food	88.1
Subsidized consumer goods	21.2
Subsidized utilities	69.2
Medical care	69.2
Use of vacation facilities	82.3
Housing	72.7
Subsidized rent	52.3
Transport	95.4
Other services	5.0
Assistance with household plots	67.3

Private Farming: Evidence From the Sample

The first private farms in the sample were registered in 1989: these were three farms in the Orel and Pskov provinces. They were followed by 31 new private farms in 1990, 292 in 1991, and 647 in 1992. Thus, 30 percent of all farms sampled in the five provinces registered in 1991 and another 67 percent in 1992. This steep increase in the rate of registration is consistent with the average pattern of new farm registrations in all of Russia (see Table 2). The new farm registration process reveals a distinct seasonal behavior: there is a burst of new registration in the winter and early spring, when the farmers are relatively free, and a pronounced lull all through the summer and early autumn, when farm activities are at their peak.

Demographic Profile

The demographic profile of private farmer families in the sample is not much different from the families of farm employees. In both samples, nearly 90 percent of the families are of between two and five people (the average family size is 3.9 for private farmers and 3.7 for farm

employees, the difference between the two being not statistically significant). The average age of the respondent is 40 with 47 percent of household members are aged 25 and younger. Over 80 percent of both private farmers and farm employees have been rural residents for more than 10 years (75 percent of private farmers identify themselves as being of rural origin). The main significant difference is that private farmers in the sample are better educated than farm employees: 87 percent of private farmers have secondary and higher education, compared to only 68 percent of farm employees. There is thus a definite correlation between the level of education and the willingness to try a new and risky way of life.

Private farmers and farm employees live in approximately the same housing stock: 62 percent of each in separate homes, about 27 percent in 2-4 unit apartments, and 8 to 9 percent in larger multi-story apartment buildings. Private farmers tend to own their homes more frequently than do employees: 60 percent of private farmers live in privately owned houses, compared to only 47 percent of farm employees. Yet 27 percent of private farmers still live in dwellings owned by collective enterprises and another 13 percent in housing owned by the local council. Thus, most private farmers continue to live in central villages, together with neighbors who are employees of collectives, and the creation of private farms has not been accompanied by physical dispersion of the population in isolated farmsteads. This may explain in part why most private farmers report that they continue to enjoy access to schools, medical care, and other public services. It is through housing and social services more than through input supply and marketing that private farmers continue to be linked to cooperatives.

Structure of Private Farms

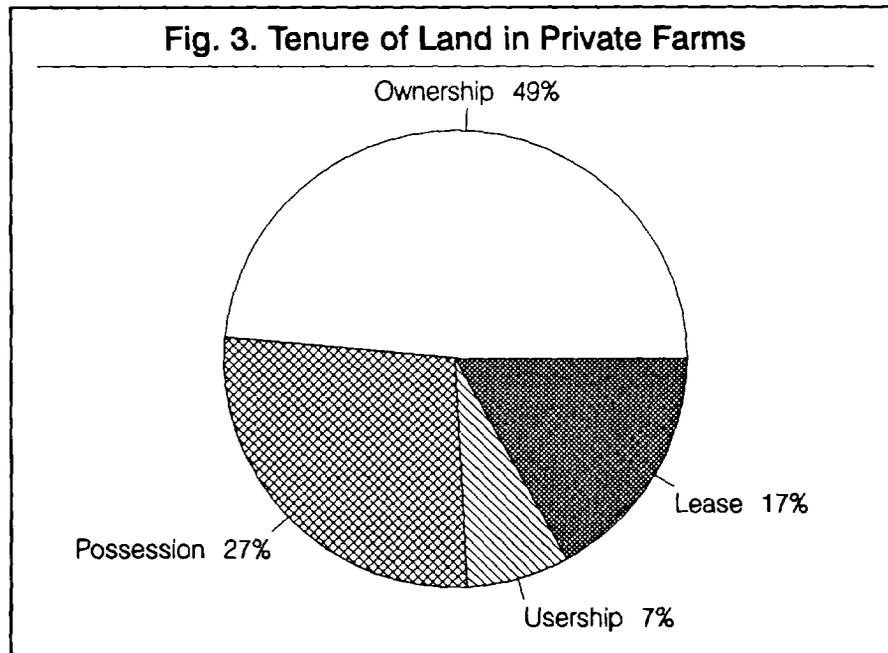
The typical private farm in the sample is a single-family farm with four people per household (66 percent of all farms in the sample). A phenomenon in all sampled provinces is the frequent occurrence of multiple family farms: the average number of households per farm for the entire sample is 2.2, and in the Saratov Province 7.4 percent of farms had from 10 to 50 households. Multiple family farms are typically larger than single family farms. Thus, the size of single-family farms is, on average, 50 hectares, while multifamily farms average 181 hectares (the average size of private farms over the entire sample is 96 hectares). The size of single-family farms should be compared to a land share of 11-12 hectares determined, on average, for farm-enterprise employees in the sample. Even assuming two land shares per household (husband and wife both working on the farm enterprise), the land entitlement of farm employees is much smaller than the endowment in private farms.

Ownership and Sources of Land

Almost half of the parcels in the sampled farms are privately owned (Fig. 3). Leasing is an important source of land in private farms: 17 percent of parcels are leased. A large proportion of land was, at the time of the survey, still held in lifetime possession.

The survey highlights the importance of the redistribution fund as a source of land in the past. About one-quarter of private farmers who had formerly worked on state or collective farms

indicated that, contrary to explicit legal provisions, they received nothing upon leaving the farm (these respondents were concentrated in Orel and Pskov provinces). Only 30 percent of parcels originated from collective and state farms and fully 65 percent of the parcels were received directly from the redistribution fund (through district and village councils).



As of January 1993, 15.6 million hectares remained in the redistribution fund, or more than double the existing area in private farms. Although this is still a large area, little of it is prime agricultural land, or in provinces where demand for private land is great. The depletion of high-quality agricultural land in the fund implies that land shares of collective enterprises and land markets will be of increasing importance in the future. Future growth of private farming will put additional pressure on collective units to identify parcels and associate them with individual owners within the collectives.

Farmers reported that 90 percent of parcels were documented at the time of the survey. Perceived security of tenure is high. Most privately owned land is considered secure, and much of the less secure land is in use right or leased.

Production

Households of private farmers in the sample derive on average 85 percent of family income from their farms. In comparison, farm employees derive from one-quarter to one-half of income from household subsidiary agriculture. Private farms are definitely not subsistence farms, as is clearly seen from the large proportion of the output of some major products sold outside the family (Table 8). Much of the land area on private farms is planted to grains and sunflowers and,

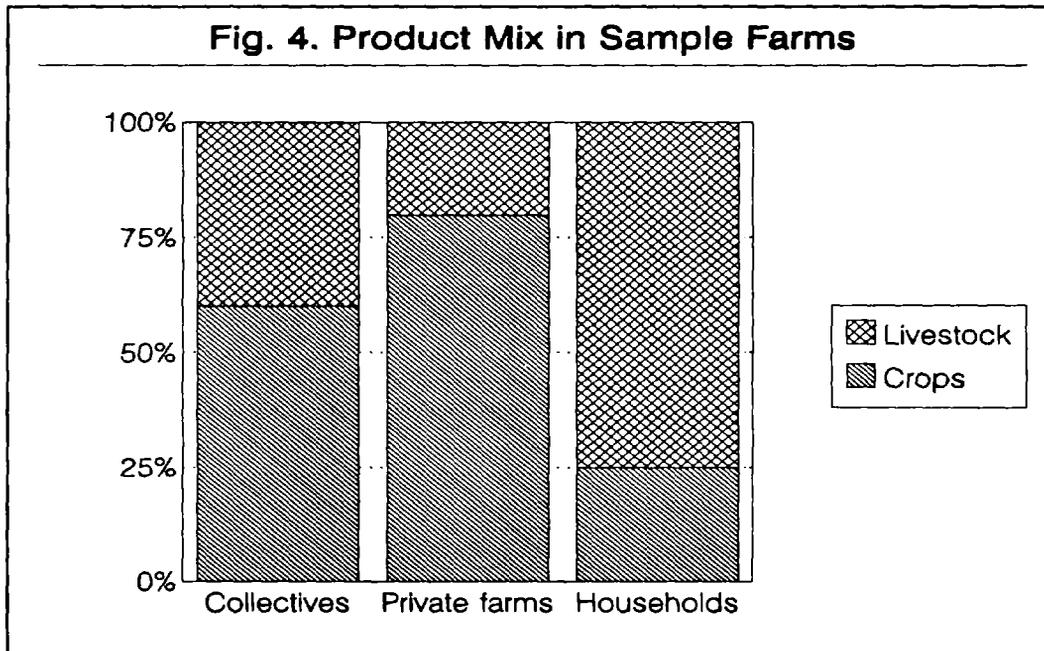
as shown in Table 8, these crop products are marketed. Although production of potatoes, vegetables, fruits, and berries is, in this sample, mainly for subsistence, meat and dairy products are both for home use and for the market, whereas grain and sunflower are "cash crops."

Table 8. Proportion of Output Consumed and Sold by Private Farms in the Sample

<i>Commodity</i>	<i>Consume</i>	<i>Sell</i>
Grain	33.0	66.9
Potatoes	88.1	11.9
Vegetables	89.5	10.5
Fruit&Berries	96.5	3.5
Meat	54.2	45.8
Milk	64.9	35.2
Eggs	95.7	4.3
Wool	58.2	41.0
Sunflower	15.0	84.9

Private farmers differ most strikingly from collective enterprises in the product mix, specifically in the greater relative weight of the crop sector and lesser dependence on sales of livestock products (Fig. 4). In private farms, 72 percent of sales are derived from crop products and only 22 percent from livestock products. Farm enterprises, on the other hand, derive only 56 percent of their sales from crop products and as much as 42 percent from livestock products. The contrast is particularly pronounced in comparison with subsidiary household plots of enterprise employees, the traditional "quasi-private" agriculture in Russia, where two-thirds to four-fifths of earnings are derived from livestock products. Moreover, private producers (and similarly, subsidiary household farmers) report that livestock production is profitable under their technology and at their levels of output, while managers of collectives invariably report that livestock production is unprofitable but nevertheless show reluctance to reduce this subsector. Private farmers are also planning to increase grain production and reduce sunflower production among their main cash crops, while most collective farm managers report that they plan to maintain the same level of production of these crops.

The study thus suggests that as private farmers leave collectives, they reinvest in product mixes and technologies more appropriate for new relative prices. The growth of private farming thus appears to be the vehicle through which the agricultural sector changes product mix and adjusts out of products and technologies for which profitability is low under new relative prices.



Comparison of crop yields between private farms and collective farm enterprises does not reveal a consistent picture: the relative ranking of private farms and collectives in the sample changes from province to province and from crop to crop; in many instances, the yields are statistically indistinguishable. The only consistent and statistically significant difference across all provinces is in the milk yield per cow: milk yields achieved by private farmers are significantly higher than the milk yields of collective farm enterprises (2,820 kg per cow per year compared to 2,250 kg per cow per year in the sample). Since the average milk output per private farm in the sample is 30 tons per year while collective farm enterprises average 1,500 tons of milk per year, the higher yields per cow on private farms may be attributable to better care of animals and higher production efficiency achievable with the markedly smaller scale of livestock operations.

Labor

Private farms rely primarily on labor of immediate and extended families: only 3 percent of the farms report using permanent hired workers and 10 percent hire seasonal help. A private farm employs, on average, five people but there are significant differences in the labor force between single-family and multi-family farms: 3.7 versus 7.4 workers (Table 9). This difference in the number of workers on a farm is entirely attributable to the additional members of other households entering the farm labor pool in multi-family farms, since the number of primary family members, hired workers, and relatives/friends is not significantly different between the two categories of farms. Multi-family farms have a larger own-labor base than single-family farms: as a result, members of immediate and extended families in multi-family farms account for over 80 percent of the labor force, while in single-family farms household members represent only 65 percent of all labor.

Table 9. Components of Farm Labor and Farm Size Indicators in Sampled Private Farms

	<i>All sample</i>	<i>Single-family farms</i>	<i>Multi-family farms</i>
Number of employed	4.9	3.7	7.4
Respondent's family members	2.3	2.4	2.1
Members of other households	1.4	0.2	4.0
Permanent hired workers	0.1	0.1	0.1
Seasonal hired workers	0.3	0.3	0.3
Relatives/friends	0.8	0.7	0.9
Number of families	2.2	1.0	4.6
Size, hectares	96	50	181

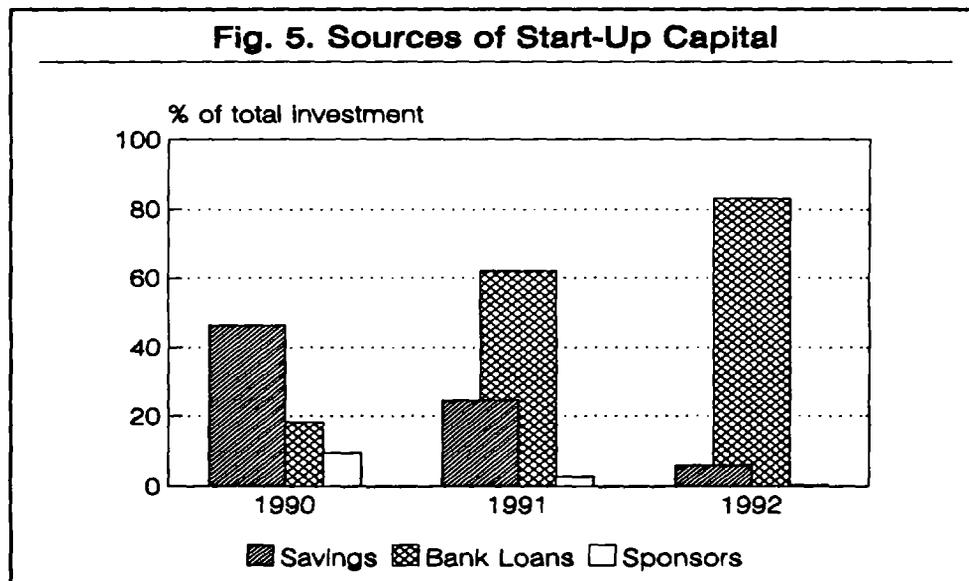
In households of private farmers, 42 percent of the members are employed full time in farming (virtually the same as for households of farm-enterprise employees) and another 21 percent are employed part time (compared to only 8 percent for employee households). Members of private farm households thus tend to devote to farming a greater share of their time off the main job. Among spouses of private farmers, only 45 percent list private farming as their primary occupation: 24 percent are employed in the village (as teachers, medical workers, employees in the social sphere or in rural industry) and 11 percent hold managerial and professional positions on farm enterprises. The off-farm job diversification of private-farmer spouses provides income insurance in a highly uncertain new occupation.

Debt and Finances

Entrants into private farming need machinery and small loans. Lack of access to machinery services and capital are reported to be the main factors keeping producers in collectives, much more so than potential difficulties with access to social services. Machinery is reported to be available for farmers who can finance purchases, but installment credit and mortgage mechanisms for farm equipment are still missing.

Private farmers who began farming in 1992 report start-up investment of 860,000 rubles, or around \$4,000. The start-up amounts per farm are low, in part because private farmers usually retain their former housing, even if it is owned by the collective, and because they maintain fewer livestock. Private farmers who began in 1990 and 1991 raised their start-up capital from personal savings and bank loans (Fig. 5). For those who began farming during the inflation of 1992, savings were an insignificant source of investment and over 80 percent of start-up capital came from bank loans, usually guaranteed by AKKOR, the Russian Association of Private Farmers. Property shares of people leaving collective enterprises so far have not provided significant capital for private farming. Yet 40 percent of farmers reported that they had no outstanding debt or loans. There is no clear indication that credit rationing prevents access to loans.

The average debt for 57 percent of the farmers reporting non-zero debt was 880,000 rubles (as of end of 1992). The average debt for farmers who established their farms in 1992 was 910,000 rubles. This figure may be usefully compared to total investment of 860,000 rubles reported by private farmers who established their farms in 1992. Although the reported investments are quite modest, the lack of farmers' own capital and the importance of guarantees from AKKOR raise questions about the adequacy of the system to serve even the current flow of new farmers.



Marketing and Input Supply

Private farmers do not appear to be overly dependent on the collective sector for product marketing or supply of inputs. Private farmers, and similarly, those in collective enterprises, sell more of their output through the formerly state-owned procurement organizations than through other channels. Although these former state organizations have been formally privatized, they still enjoy monopolistic status and are supported by preferential government credits. Nevertheless, the majority of private producers (60-80 percent depending on commodity) report that they can choose marketing channels. Very little output is marketed by private farmers through collectives and other enterprises. Although private commercial producers of grain and sunflower sell almost exclusively through state procurement channels, they nevertheless indicate availability of alternative channels for both crops (61 percent of grain producers and 75 percent of sunflower producers). It is noteworthy that a small number of grain sales are already now channeled through commodity exchanges (1.4 percent of commercial producers).

Private farmers, and similarly, managers of collective enterprises, report few problems associated with marketing their output. Dissatisfaction with low prices is the main concern for both private farmers and managers of collectives. Late payment, slack demand, and difficulties

with transport were secondary to concerns about prices received. The prices that private farmers report receiving for the major products (grain, sunflower, milk, eggs, and wool) are statistically indistinguishable from those that farm managers report. Private farmers appear to receive significantly higher prices for potatoes, vegetables, and meat, a relatively high proportion of which is sold directly to consumers in local markets. Lack of standardization for quality, however, makes it difficult to compare prices.

Private farms indicate diverse sources of input supply. Relatively little comes from private suppliers, but the farms do not appear dependent on collective enterprises in their localities for most inputs. Instead, they purchase directly from the formerly state-owned supply channels, which are still highly monopolized, and from private and other suppliers. The input supply pattern for private producers is on the whole not different from that for collective farms, which purchase mainly from the formerly state-owned supply sector, with supplementary reliance on interenterprise transactions and private suppliers (mainly for construction materials).

Both private farmers and managers of collective enterprises reported very few inputs to be in short supply, although high prices limited the quantities that could be purchased. Spare parts, construction materials, veterinary medicines, and breeding stock were judged to be relatively scarce, but overall less than 10 percent of private producers complained of problems with availability of inputs and services. On the other hand, over 50 percent of farmers complained of high prices of farm inputs and services, especially fuel, agricultural machinery, spare parts, fertilizers, and construction materials. Fuel was reported to be available, but prohibitively expensive. The majority of private producers indicated no problems, either with prices or physical availability, of feed, veterinary medicines and services, and machinery services. The complacency regarding inputs for the livestock sector reflects the extent to which private producers have adjusted volume and technology of production in the livestock sector to the new relative prices.

Emergence of Alternative Service Structures

A number of farmers indicated that they were both suppliers and consumers of agricultural inputs. Between one-fifth and one-quarter of the farmers supply seeds and seedlings, agricultural equipment, spare parts, and even fuel. Over 40 percent of the farmers are suppliers of machinery services, i.e., they rent their tractors, combines, and other equipment to work on other private farms (probably with the owner also acting as operator). This is an important indication of a fledgling market for services among new private farmers.

Private farmers also report joint activities with other farmers, either informally or as part of an organization. Among 984 respondents, 95 percent participate in some form of joint activity in provision or use of farm services. Between 30 percent and 40 percent of farmers in the sample indicated that they join with other private farmers for production, marketing, input supply, use of machinery, and provision or receipt of credit. More than half the private farmers in the sample cooperate in the use of consulting services. Cooperation in processing, on the other hand, is virtually nonexistent at this stage. The emergence of private and cooperative initiative in provision of farm services is an important step toward the development of new market-oriented

structures that will eventually replace the inefficient marketing and input supply monopolies inherited from the command economy.

Conclusions

The Land Decree of October 1993 and passage of the new constitution strengthen the legal framework within which Russia is moving to create the institutions supportive of private agriculture. The Land Decree does not herald the start of privatization of land, since most land was formally moved out of state ownership in 1992. Instead it broadens the rights of those who received entitlement to ownership of land in 1992 by sanctioning transactions in land. Marketability increases the value of land. In an atmosphere of confidence in the economy, the decree could be expected to increase the number of shareholders requesting identification of a specific plot of land, and seeking to exchange their shares for titles.

Land markets will function only if owners feel that their property rights are secure and that transactions entered into today will be protected by existing and future laws. In this respect the Land Decree is a fairly weak instrument, because it was followed by the December 1993 election with resulting uncertainty that the new legislature will sanction transactions in land upon expiration of the Presidential Decree.

The election results suggest that the gridlock of reform and opposition that dominated Russian economic policy at the macro level throughout 1992 and 1993 is likely to persist, and to be reflected in mixed signals at the farm level. Thus, even though interest rates have been raised and preferential credit to agriculture curtailed, the election results make it very likely that the question of agricultural subsidies will be reopened by the new legislature. Mixed economic signals will inhibit rapid change at the farm level.

Even though further restructuring may be slow, the accomplishments of 1992 and 1993 provide a holding pattern for property rights until a consensus can be established to move ahead. Farms may not be under increased financial pressure to restructure, but those that choose to do so have the legal basis to proceed. Individuals who want to leave collectives to start private farms can draw on the precedent of private farms already established, and on the right to have land identified against a land share.

The slow and incremental change around the edges of collectivist agriculture that proceeded throughout 1992 and 1993 can survive discordance at the macro level, since this was the environment that gave rise to it. Continuation of change at the farm level at the pace observed in the 1992 survey is not likely to bring noticeable improvement in the performance of the sector. As viewed from the sample data at the end of 1992, new collective enterprises looked and behaved much as did their predecessors, the state and collective farms. Farm employees still derived their livelihood from wage work in the collective sector augmented by income from

subsidiary household plots. The increase of household plots through farm reorganization had not been significant enough to change their qualitative role within the collective system.

Managerial behavior on reorganized farms appeared to differ little from that on farms that did not reorganize. Managers in the 1992 survey were guiding their farms through reorganization, as mandated by decrees, but did not appear to be doing so in an atmosphere of crisis or urgency. The farms were not in a financial crisis and the level of reported farm debt was strikingly low. On many of these farms, the combination of price and credit subsidies throughout 1992 appeared to have softened the financial impact of the change in relative prices. Although collective enterprises had made few if any changes in employment and production, 80 percent of managers expected to show a profit in 1992. Even though profits are calculated on a cash flow basis without adjustment for inflation, these figures reflect generally optimistic views of performance among managers and do not provide managers with any signals for a need to change.

The managers' survey in 1992 indicated very little perception at the farm level that traditional practices are threatened and production must fundamentally change in response to new conditions. Farms are reorganizing, but fully 58 percent of managers expect the reorganization to have little effect on the farms' performance or do not know what the effect will be.

Although little change has taken place in the role of the employee within the enterprise, the employees' rights to land and assets have been strengthened. The traditional job security of farm-enterprise employees has been redefined through the allocation of land and asset shares. If financial pressure in the future should require farm-enterprise managers to dismiss redundant workers, unemployed farm workers would take with them their share of land and assets upon exit from farms.

Managers of collective enterprises still provide many social services in rural areas. Managers' ability to carry expenses for social services and provide relatively open access will fall if and when financial pressure on agricultural enterprises increases. This will inevitably stimulate restructuring of institutions delivering social services to rural people and accelerate legislation of budgetary aspects of the social sphere at the local government level. Thus, for instance, the land tax, which is currently low in real terms and earmarked primarily for land conservation uses, may have to be raised and directed to local councils to enable them to accept responsibility for provision of social services.

The private sector (excluding household subsidiary production) is still small, but growing. The economic behavior of private producers in the sample differed from collectives in the choice of product mix, suggesting that the private sector is more responsive to signals regarding profitability. Private producers reported problems with regard to start-up capital and access to machinery, and indicated that these were the main constraints on expansion of private farming.

In the absence of a strong national consensus to move forward with an economic reform program integrating macroeconomic stabilization with adjustment in all sectors, the pace of restructuring at the farm level is likely to remain modest. The survey conducted in 1992 suggests that changes have not yet brought the quantitative improvement in the performance of the sector,

but that important progress has been made, nonetheless. The distribution of land and asset shares observed in the sample, increased acquaintance with new concepts of farm organization, and gradual increase in the number of private farms should strengthen the sector's ability to respond positively if and when a national consensus is reached to move ahead firmly on economic reform.

Endnotes

1. This paper is based on a survey which was partially funded by the World Bank and the National Council on Soviet and East European Research through a grant to the University of Minnesota. El'mira Krylatykh, Vasili Uzun, and Aleksander Petrikov of the Agrarian Institute of the Russian Ministry of Agriculture made valuable comments on an earlier draft of the paper. The detailed results of the survey were published in K. Brooks and Z. Lerman, *Land Reform and Farm Restructuring in Russia*, World Bank Discussion Paper 233, World Bank, Washington, D.C. (1994).

The five provinces participating in the survey were *Saratov* (Lower Volga Region, southeastern part of East European Plain), *Rostov* (North-Caucasus Region, Don basin, southern part of East European Plain), *Novosibirsk* (southeast of West Siberian Plain, between Ob' and Irtysh rivers), *Orel* (central part of Central Russian Plateau), and *Pskov* (northwestern part of European Russia, bordering on Belorus, Latvia, and Estonia). The composition of the sample is given below:

Province	Farm Managers	Farm Employees	Private Farms
Saratov	101	403	324
Rostov	35	306	293
Novosibirsk	43	300	142
Orel	70	318	125
Pskov	11	100	100
TOTAL	260	1427	984

2. For a review of the relevant international experience, see K. Deininger, *Cooperatives and the Breakup of Large Mechanized Farms: Theoretical Perspectives and Empirical Evidence*, World Bank Discussion Paper 218, the World Bank, Washington, D.C. (1993).

3. The right of entities other than the state to own land used in agriculture is confirmed by the Constitution of the Russian Federation, as amended. Citizens' rights to private ownership of land are also protected by the Law on Property of the RSFSR and the Land Code of the RSFSR, both dating from 1990, prior to the dissolution of the Soviet Union. Although these laws are formally in effect throughout the Russian Federation, 10 republics do not recognize private ownership of land within their territories. These are Tatarstan, Bashkiriya, Dagestan, Komi, Mariel, Kabardino-Balkariya, North Osetiya, Tuva, Yakutiya-Sakha, and Koriakiya.

4. Ownership (*sobstvennost'*) is a property right introduced fairly recently in Russian legislation (1990). Russian law still recognizes two traditional forms of tenure, possession (*vladeniye*) and usership (*pol'zovaniye*). Under possession, the land holder has a lifetime use right that can be passed to heirs. This form of tenure is currently being converted to ownership and is

not expected to be important in the future. Land users may also have usership rights (*pol'zovaniye*), which is less formal and of shorter duration than possession. Leasing (*arenda*) is recognized as an additional category of land tenure that confers specific use rights.

5. Originally, the Land Code stipulated that land was to be distributed to *employees* of state farms and *members* of collective farms. This language implied that pensioners would be included in distribution of kolkhoz land, but excluded from distribution of sovkhoz land. Moreover, the Land Code does not give any rights to rural social employees. The presidential decree of December 1991 was intended to correct these omissions.

6. The principle of payment for land use was introduced for the first time in the February 1990 Soviet Land Law and has since been retained in the October 1991 Russian Law on Payment for Land and in various directives for setting land taxes and normative prices for land. All land users are required to pay an annual land tax, but private farms are exempt for the first five years of operation. Tax rates are adjusted to reflect different quality and location of land. Revenues from land tax are intended by law to be used primarily for land conservation and improvement. Nonpayment of tax for two years entitles the government to confiscate the land.

7. The presidential decree, *On Immediate Measures for Implementation of Land Reform*, (December 27, 1991) and the associated clarifying documents required state and collective farms to declare their status by the end of 1992 according to the Law on Enterprises and Entrepreneurship, which did not include the traditional collective and state farms as valid options. The December 29, 1991, government resolution *On Procedures for Reorganizing State and Collective Farms* and recommendations issued by the Russian Ministry of Agriculture on January 14, 1992, offer details on procedures for reorganization. A supplementary governmental resolution of March 6, 1992, reinstated the option of registering as a state or collective farm, provided the land tenure within the farm conformed to prevailing law and members had free right to leave the farm with asset and land shares to start private farms. Farm restructuring was linked to privatization of food processing through a government resolution of September 4, 1992, assigning a portion of shares in processing plants to agricultural producers.

8. Non-land assets of state farms, unlike those of collective farms, were traditionally state property. Assets of state farms were privatized under a December 1990 constitutional addendum, which declared the state farm to be the juridical owner of its assets and production. This placed state and collective farms in approximately the same legal position at the start of reorganization and allowed decrees and directives to apply to both. The nature of the enterprise formed through transfer of state owned assets to the state farm was not clarified, however, and the change in juridical status did not bring a change in organization

9. The October 1993 presidential decree also stipulates indexing of the asset shares to the average wage level as a minimum.

10. Although receipt of cash dividends is reported as a primary right of holders of asset shares (76 percent of farms), only 17 percent of managers indicated that the percentage of profits to be

distributed as dividends had been determined. These few farms chose to distribute between 10 percent and 30 percent of profits as dividends, with an average of 15 percent. Regarding the widely reported right to sell asset shares within the enterprise, in only three cases did managers indicate that sales had taken place: a total of nine people were involved in these transactions.

Land Reform and Farm Sector Restructuring in the Former Socialist Countries in Europe

Csaba Csaki and Zvi Lerman*

Abstract

Land reform in former socialist countries is proceeding along the dual track of restitution to former owners and distribution to users. Privatization of land is accompanied by restructuring of large-scale farm enterprises, where all the production assets and facilities accumulated during the collectivist era. Despite an impressive growth in the number of private farmers and complete dismantling of collectives in some countries, farmers are not rushing to establish independent farms on private land. The majority prefer to remain in some sort of a collective, where they can combine the benefits of private production with the supportive framework of a larger cooperative organization. The farming structure is developing toward a mixture of small family farms, larger multifamily or commercial units, and looser cooperatives and farmers' associations emerging from large-scale socialized farms.

Introduction

The former European socialist countries, which for the purpose of this paper include the Soviet Union and the countries of Central and Eastern Europe, are undergoing a fundamental economic and political transformation. Far-reaching changes that surpass all previous reform attempts are taking place in the agrarian economy of these countries, where the creation of a new agricultural structure based on private ownership and a market-oriented economy has begun. All the countries in the region are striving to overcome serious economic difficulties with comprehensive political and economic reforms. They are in a process of transition: many details have yet to be clarified and there is much uncertainty regarding the future. These changes will fundamentally reshape agriculture in the region and deeply affect its functioning and its role in international agrarian relations.

The transition from socialist to market-based agriculture is a complex and multifaceted process that raises many difficult questions. The major issues include privatization of land and other productive assets, development of a new incentive framework, establishment of a market-controlled system with a working market for agricultural inputs and products, redefinition of the

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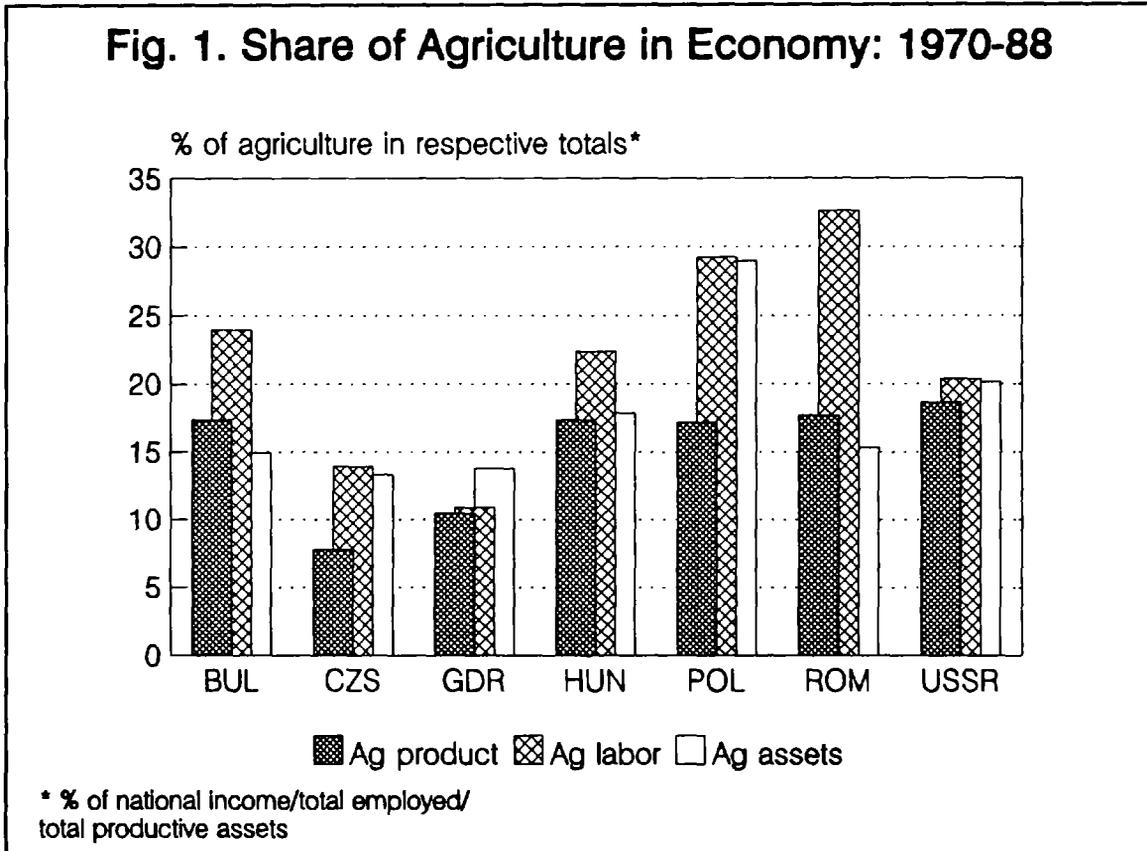
role of government in agriculture, and implementation of appropriate institutional changes and reforms. Above all, the transformation of agriculture is a part of an overall macroeconomic transition and requires a set of consistent actions that add up to a comprehensive reform strategy. These topics have been examined in the literature in various contexts (see, e.g., Braverman and Guasch 1990; Braverman et al. 1993; Brooks 1991; Brooks et al. 1991; Csaki 1990, 1991, 1993; Kovacs and Tardos 1992; OECD 1991; Wädekin and Brada 1988; World Bank 1992), but there are no textbook solutions and the process of transition is shrouded in uncertainty. The next few years will be characterized by fluidity and change as the former socialist countries move toward new goals and structures while simultaneously searching for their own solutions, possibly taking account of the diverse world experiences.

Analysis of different reform strategies and alternative trajectories of change is an important and timely task that can help decision-makers to formulate relevant policies. The objective of this paper is much more modest, however. We focus on the process of change as it is actually unfolding in the former socialist countries and provide a comparative review of two main issues: an account of the land reform process and an overview of the attempts to restructure and privatize the collective and state farms.

Common Heritage of Socialist Agriculture

Agriculture has traditionally been a prominent sector in the economies of former socialist countries in Europe. Figure 1 shows the share of agriculture in national income and labor force of these countries before the transition (1970-1988 averages): agriculture accounted for over 15 percent of national income and over 20 percent of the total labor force in most Eastern and Central European countries and the former Soviet Union (Fig. 1). The only exceptions were Czechoslovakia and East Germany, where the share of agriculture was only around 10 percent in national income and in the number of employed. Fixed assets in agriculture accounted for 15-20 percent of all productive assets in these countries, and in Poland the share of agricultural assets was nearly 30 percent (1970-1988 average, Fig. 1). Socialist agriculture was thus relatively labor intensive and also had unproductive investments: both the share of employed and the share of capital assets in agriculture was higher than agriculture's share in national income.

In all former socialist countries in Europe agriculture was organized on similar principles of a centrally planned economy, with a pervasive administrative command system. The philosophy of controlling agriculture by plans and administrative commands created a farming structure based on dominance of large-scale farms. The large-scale farms in these countries are a product of the collectivization process, which began in the Soviet Union in 1928-1929 and was copied to the countries of Central and Eastern Europe after World War II. Collectivization of agricultural production was promoted as a means of achieving central management (it also, of course, ensured political control).



Source: Author's calculations based on Statisticheskii Yezhegodnik Stran-Chlenov Soveta Ekonomicheskoi Vzaïmopomoshchi, Moscow, "Finansy i Statistika" Publ. (various years).

Table 1 shows some major indicators of large-scale socialized farming in Eastern and Central Europe and in the former USSR. In most countries in the region, 80 percent-100 percent of all agricultural land was ultimately (mid-1980s) organized in socialized (i.e., state and collective) farms, although there were local differences in execution and different structures emerged across the region. Poland was the only socialist country in Europe that escaped all-embracing collectivization: here only 20 percent of the land had been collectivized and private farms retained their predominance, although the government impeded their progress for a long time.

Table 1. Socialized Farm Enterprises And Land Held In The Private Sector

	State Farms		Collective Farms		Land in private sector (% of total land)**
	Number	Average area	Number	Average area	
Albania	70	2,400 ha	420	1,270 ha	--
Bulgaria*	536	9,692 ha	NA	NA	10%
Czechoslovakia	226	6,204 ha	1,677	2,605 ha	9%
East Germany	465	945 ha	3,904	1,370 ha	11%
Hungary	128	7,598 ha	1,270	4,195 ha	19%
Poland	1,258	2,665 ha	2,342	297 ha	80%
Romania	419	4,895 ha	4,363	2,093 ha	15%
USSR	22,690	16,051 ha	26,660	6,370 ha	2%

* Total number of agricultural units in 150 agroindustrial complexes.

** Land used in individual production, not necessarily privately owned land.

Source: State and collective farms (1985 data): N.J. Cochrane, *Agricultural Statistics of Eastern Europe and the Soviet Union, 1965-85*, USDA Economic Research Service, Statistical Bulletin No. 778, Washington, D.C., July 1989. Land in private sector (1960-1988 averages): authors' calculations based on *Statisticheskii Yezhegodnik Stran-Chlenov Soveta Ekonomicheskoi Vzaimopomoshchi*, Moscow, "Finansy i Statistika" Publ. (various years).

Outside of Poland, few classical private farms survived the socialist reorganization of agriculture. However, despite the virtually total absence of a traditional private farming sector, individual production survived in all countries (except Albania) in the form of household farms engaged in part-time farming. Table 1 (last column) shows the proportion of land farmed by this quasi-private farming sector: although used for individual farming, this land in most cases was not privately owned. The subsidiary household farms in the former Soviet Union, Hungary, and Bulgaria consistently accounted for around 25 percent-30 percent of total agricultural product, which is more than their share of land: the difference is particularly striking in the former Soviet Union, where subsidiary household farms produced nearly 30 percent of agricultural output on 2 percent of the land (for a possible explanation of this phenomenon, see Lerman et al. 1993). The rate of private production in Czechoslovakia and the former GDR - the least agricultural among these countries - was about 10 percent. No reliable figures on individual production are available

for Romania, although we know that the household farming sector accounted for 15 percent of agricultural land. The small private producers specialized primarily in labor-intensive enterprises, such as livestock and vegetables, while grain and other scale crops were concentrated almost exclusively in the capital-intensive socialized farms. The political attitude toward these quasi-private farming activities changed frequently. It is only in Hungary that subsidiary household farming was tolerated continuously and often even supported by the socialist system.

Collectivization of agriculture was implemented against a backdrop of changes in land ownership relations and policies. In the Soviet Union, all land was nationalized within days of the October 1917 revolution. After that, state land was given to farmers in lifetime use and no private land ownership was recognized. Albania also nationalized land after its transition to a socialist regime. In general, however, land in Central and Eastern Europe was collectivized, but not nationalized. In addition to state property, cooperative or collective land ownership emerged, while private land continued to exist in various forms, especially in Hungary, Poland, and Czechoslovakia. Although private land ownership was preserved in some countries, property rights became a mere formality over the years. Land markets were abolished, and in line with Marxist economics, the value of land was not included in production costs.

Need for Reform

Decades of socialism manifested in central planning, administrative commands, and collective ownership produced a similar legacy for agriculture in the Soviet Union and in the countries of Central and Eastern Europe:

- large, inefficient farms with high production costs, suffering from lack of individual initiative and "free rider" attitudes;
- elimination of incentives for efficiency improvement due to institution of cost-based procurement prices and unrestricted subsidized credits;
- food price subsidies, producing an excess demand for food at the subsidized prices and a high level of food consumption relative to countries of comparable wealth in market economies;
- pervasive monopoly of the state in food processing and distribution and in farm input supply, leading to destruction of economic intermediation mechanisms and total dependence of producers on centrally allocated inputs;
- macroeconomic distortions, including a chronic budget deficit, inflation, and mounting foreign debt.

This negative legacy is a natural consequence of the ideological goal of controlling all agricultural production, distribution, and consumption. The economic distortions introduced by the administrative command system became apparent fairly early and triggered periodic reform attempts across the region. However, the weakness was endemic to the system: the various reform attempts failed to resolve the major shortcomings of the system and to produce the desired

improvements in agricultural performance. Instead of creating a better system of socialist agriculture, the central command system collapsed between 1989-1991.

Following the political changes in former socialist Europe, efforts to create a completely new agrarian structure replaced the technical reform attempts frequently undertaken during the collectivist period. The change in agriculture is most discernible in the former GDR, Hungary, Poland, and Czechoslovakia, where the introduction of a true multiparty system ended the communist monopoly. Changes are also occurring in Romania, Bulgaria, and Albania, but the prospects of agricultural transformation are more uncertain in these countries, where the post-communist democratic parties are not yet firmly in power and the policy retains elements of the former centrally planned system. The dissolution of the Soviet Union has created the political conditions for a real change in agriculture in the 15 former republics. However, a detailed agenda for the transformation of Soviet agriculture began to emerge only in the first half of 1992, and consistent strategies for agricultural transformation still do not exist.

Economic and Political Framework for Reform

The former socialist countries in Europe are facing severe problems that make the required sectoral adjustment and implementation of agricultural reforms difficult. Perhaps foremost among these problems is the loss of traditional markets and the resulting decline in demand for agricultural products. With the dissolution of Comecon, the Central and Eastern European countries lost almost completely their lucrative export markets, where they had traditionally enjoyed preferential positions. The collapse of the Soviet Union has created similar difficulties for those of the former republics which previously enjoyed net agricultural exports within the USSR and further exacerbated the trade difficulties within the rest of the former socialist block.

At the same time, the protectionist attitudes of the Western countries rule out rapid development of alternative export markets for the former socialist countries. While the Europe Association Agreements are expected to provide additional access for some of the Central European Countries, the former Soviet Union republics remain practically without any alternatives for their agricultural exports. Moreover, agriculture, and especially the food processing industry and the agricultural marketing system in the former socialist countries fall far below the level of acceptability to the Western consumer, and this clearly constitutes another major obstacle for a successful export drive to the West.

The macroeconomic distortions inherited from the administrative command system have actually increased in most countries, and especially in the former Soviet Union, in the last few years. Continuing price increases, which border on hyperinflation in some cases, the lack of internal competitive markets, nonexistent commercial credit systems, and almost total absence of new capital are deadly combinations for countries trying to move to a new system in agriculture.

In addition to economic difficulties, agriculture is facing an unstable political environment, which is not always truly reform-minded. In this context, it is essential to distinguish clearly the Eastern and Central European countries, which have already accomplished the political transition to a democratic pluralistic framework, from most of the former Soviet republics, where despite the changes the political regime still has many quasi-communist or centralistic features. In countries with a democratic framework, agricultural reforms are fully supported by the political establishment, while in the other group of countries the government, despite formal commitment, does not appear really motivated to implement a true and radical transformation of the sector. This difference in political atmosphere must be borne in mind when comparing the developments in different countries across the region.

Land Ownership Reforms

The process of land reform in former socialist countries involves three distinct issues:

- the establishment of a legal framework for private land ownership and land markets;
- the decision on actual eligibility and allocation of land to new owners;
- the creation of a new farming structure, including the restructuring of existing large-scale farms in line with the new ownership patterns and the principles of a market-based economy.

Major legislation related to land reform in Eastern and Central Europe and Russia is summarized in Appendix A.

During 1991-1992, land ownership has been the focal point of heated political debate throughout the region. At the very beginning of the transition to new political and economic conditions in the region, several proposals were made to change the inherited land ownership and tenure structure. The main alternatives are listed below (not in any particular order):

- retain the state ownership of land and allow individual use of land through leasing;
- make the land the property of those who wish to pursue agricultural production, while limiting the right to sell and lease out the land during a certain transition period;
- allow private ownership of land by farmers without any restrictions on immediate sale or leasing;
- grant land ownership based on pre-collectivization property rights to those who want to farm and compensate financially the previous owners who are not active farmers;
- restore pre-collectivization land ownership relations without any restrictions;
- treat land ownership as an integrated element of an overall compensation and privatization package.

In Eastern and Central Europe the validity of private ownership of land was never in doubt and the focus was on restitution and distribution procedures. In the former Soviet Union, on the

other hand, the debate primarily focused on whether or not to allow private ownership of land, and this fundamental issue is still unresolved in some of the former republics. Legislation related to privatization of land was passed in Romania, Bulgaria, Hungary, Czechoslovakia, and Albania in 1990-1992. In the USSR, the 1991 Union-level land legislation has been followed by detailed "land codes" in many of the former republics. All these laws recognize private land ownership, with various restrictions on transfer of property rights, land use, and size of holdings (Table 2), which are gradually being relaxed as the reform progresses. An interesting case is Belarus, whose June 1993 land code allows private ownership of land in household plots but mandates that land for commercial agricultural production remains state-owned and will be leased by producers (both individual and collective) from the state. A similar system is also adopted in Central Asian republics.

Table 2. Common Restrictions On Land Ownership Ineastern And Central Europe And The Former Soviet Union

Maximum size of holdings
Land must be used for agricultural production
Moratorium on buy and sell transactions
Land may be leased out only within the village
Land may be sold only within the village
Land may be sold only back to the state
No mortgage of land allowed
Foreigners are not allowed to own agricultural land

The continuing debate around land ownership focuses primarily on two diametrically opposite approaches, which can be broadly characterized as distribution of land to users versus restitution to former owners (Table 3). Issues of former ownership and restitution are relevant mainly for the "western" countries in the region, where private land ownership existed until after World War II and the original land owners or their descendants are identifiable to this day. In the former Soviet republics, where the traditions of private ownership were never strong, the major issue is eligibility and the pattern of distribution: should land be given to everybody or only to those who currently work the land; should there be a ceiling on land holdings or should an individual be allowed to own any amount of land.

In the former Soviet republics, land is normally distributed without payment to current users, i.e., members and workers in collective and state farms and some other rural residents. Reinstatement of pre-collectivization ownership and compensation of former landowners is practiced only in the Baltics, where current land users have no eligibility rights and prospective private farmers must purchase plots from a pool of unclaimed land (Meyers et al. 1992, Zile 1993). This land-purchase mechanism actually provides funds for compensation of former owners who are not planning to take up farming. The issue of restitution is of public concern also in Moldova, Western Ukraine, and Belarus. Although the collectivization of agriculture in Moldova was completed as recently as 1950, roughly at the same time as in the Baltics, Moldovan land code explicitly rules out restitution of land or compensation of former land owners.

Table 3. Entitlement Basis For Privatization Of Land

Eastern/Central Europe	Restitution to former owners + distribution to workers
Albania	Workers
Hungary	Former owners+workers
Romania	Former owners+workers
Czechia/Slovakia	Former owners+workers
East Germany	Former owners+workers
Bulgaria	Former owners
Former Soviet Union	Predominantly distribution to workers
Baltics	Restitution to former owners
Other former republics	Distribution to workers

Land legislation outside the former Soviet Union generally recognizes the rights of current land users and also the rights of landowners immediately prior to collectivization. The two extreme exceptions are Albania, where only the current land users participate in the distribution of land, and Bulgaria, where collectivized land is returned to former owners, while workers in collectives are allotted land for farming without any ownership rights. In some countries in Eastern and Central Europe (most notably in Hungary and the former East Germany) money compensation of former owners is adopted in cases when physical restitution of old plots is infeasible.

In all countries, there is a distinct difference in the process of land privatization between collective and state farms. In the former Soviet Union most state farms are simply transformed into collective farms in a process that transfers state-owned land to the collective for subsequent

distribution to the members. In Eastern and Central Europe, on the other hand, only the land held in collectives and cooperatives is directly privatized, while the state farms still remain intact awaiting decision on procedures for future transformation. State farms account for a significant proportion of agricultural land in these countries (30 percent in Romania and Czechoslovakia, 20 percent in Albania and Poland, 15 percent in Hungary), and this factor must be borne in mind when evaluating progress with land distribution in the region. In Poland, where most of the land has always remained in private ownership and use, the future of state farmland is only now beginning to be discussed.

In Albania, the nationalized land previously held in collective farms was distributed to individuals in 1991, although the legal framework of land ownership is still not fully in place. In Romania, the collective land was quickly distributed within six months in 1991-1992, in part to former land owners and in part to cooperative members based on their labor contribution, without any intention of creating farms of optimal size or determining how farmers will produce after the land is distributed. This has resulted in very small, highly fragmented plots (about 1.7 ha per household, divided into four or five separate parcels) (World Bank 1993). In Bulgaria, an attempt was made to construct holdings of appropriate size through "rational" administrative assignment of land to former owners. This intrinsically slow and costly method, involving a complex system of so-called liquidation committees, was virtually brought to a standstill by political tension in the country, and it was only after September 1992 that the new non-communist Bulgarian government decided to speed up the process. In Czechoslovakia, the law mandates return of agricultural land to prior owners who are willing to cultivate it. Although more than 70 percent of the country's agricultural land is scheduled to be privatized under this law, only modest interest in reclaiming land has been reported thus far. In former East Germany, the privatization of farm land is handled with the rest of productive assets by Treuhandstalt (THA), a central privatization trust, which still owns 24 percent of agricultural land, while most of the remainder has been distributed to individuals (22 percent to cooperative members and 47 percent to former owners who are not members of cooperatives) (Jeffries 1993; Lueschen 1993).

In Hungary, the guiding principle is restitution of land to pre-collectivization owners, but nearly 40 percent of land managed by cooperatives is earmarked for distribution to members who are not former landowners. The initial attempt in 1990 to return agricultural land to prior owners was blocked by the Constitutional Court, which ruled that land ownership must be treated like other assets. In 1991, landowners and dispossessed owners of other property received vouchers redeemable for agricultural land and other assets, which essentially gave monetary compensation to prior owners. Land auctions are being organized by government agencies, providing voucher holders and others with an opportunity to purchase land. This strategy may lead to accumulation of farmland in the hands of non-farmers and even non-rural residents. Landowners who continued to hold title to land managed by cooperatives were granted unconditional restitution of their ownership rights.

Land ownership issues are more complicated in the former USSR, where land was nationalized back in 1917 and farming was subsequently collectivized. In Russia, a presidential

decree on the continuation of land reform adopted in December 1991 took substantial steps toward the establishment of private land ownership, while another decree signed in October 1993 eliminated previous restrictions on buying and selling of land, thus removing a major obstacle to the development of land markets. The substance of these presidential decrees dealing with normalization of land relations is incorporated in the new Russian Constitution that was approved in the December 1993 referendum. The legal status of land ownership in other republics in the former Soviet Union is similar to that in Russia, although restrictions on land transfer still remain in force. These restrictions will probably be removed in the near future, as other republics usually follow the Russian example with some delay.

Russian legislation recognizes two categories of land ownership: state (including municipal) land and private land. State-owned land, which up to 1991 accounted for 98 percent of all agricultural land, has shrunk to about 46 percent (January 1993 data); another 46 percent has been transferred from the state to collectives and 8 percent is registered to individual owners. The distribution of land ownership in Russia is thus shifting from the traditional Soviet pattern to the pre-1990 pattern of Eastern and Central Europe, where mixed state, collective, and private ownership was the prevailing tenure regime during the era of collectivist agriculture after 1948. In the second stage, non-state land in Russian collectives is privatized to members by distribution of "conditional shares." This process normally does not involve physical allocation of land, although in some exceptional cases large-scale farms have been known to divide their land in physical form to the members. To get his land, the individual normally must leave the collective farm and register as an independent private farmer.

The distinction between former owners and current users of land in Eastern and Central European countries and in the Baltic states leads to obvious issues of inequity. However, even in the former Soviet Union the land reform process is not free from equity problems. Thus, an individual in Russia or Ukraine can receive a parcel of up to 50 or even 100 hectares of land without any payment by applying to the local authorities (some evidence of agricultural background or education is required as an eligibility criterion), while the per-capita land available to workers in collective and state farms is much less (4-10 hectares per person depending on local conditions). This distribution policy creates potential equity problems between new farmers and members of large-scale farms, who are entitled in law only to their share of socialized farm land.

The Future of Large-Scale Farms

The land reform process has focused the attention on the restructuring of collective and state farms, which are the main source of land in all countries of the region, except Poland. The large-scale socialized farms are not suited for efficient operation under market conditions (see Deininger 1993), and their reorganization is a necessary step in the transition to a market-based economy.

Structural and organizational reforms in the collective and state farm sector began independently of land reform legislation more than a decade ago, as part of attempts to improve agricultural performance. In the former Soviet Union, the initiative was that of Mikhail Gorbachev who in the early 1980s, as the politburo secretary for agriculture, supported the experiment with "lease contracts" for small groups of farm members and workers (the scheme was formally endorsed by Gorbachev as Party Secretary in 1986). With time, these changes became more inventive and diverse, and they are now taking several different forms, all of which can be observed simultaneously:

- expansion of individual subsidiary farms within the existing structure of large-scale collective and state farms and their organization into "small cooperatives" of several neighboring families;
- creation of "lease cooperatives" as comparatively independent profit-oriented subdivisions of existing collective and state farms;
- conversion of collective and state farms into associations of farmers, agrofirms, and joint-stock societies;
- separation of individual peasant farms or cooperatives from the existing large-scale farming structure;
- complete dismantling of large-scale farms followed by total privatization of their land and assets.

Although the reorganization began as a spontaneous process, later legislation adopted in 1990-1992 made the restructuring of large-scale farms compulsory in most cases. The legislation provided a general framework for the distribution of land and assets in large-scale farms, but left the responsibility for making the final choice of new structure with the members. In principle, none of the specific forms of farming structure is imposed by legislation upon the members.

Because of the size of the agricultural sector in the region and the sheer number of enterprises involved, the reform is slow and difficult. Yet the restructuring of large-scale farms is moving forward. By the end of 1992, 78 percent of Russian farm enterprises had decided on their reorganization mode in line with recent legislation: most of them chose to register as limited liability partnerships, joint-stock societies, or collective enterprises with a revised charter (Table 4). Almost none of the large-scale farms dismantled, breaking up into hundreds of small private farms. In Ukraine, where the process of reorganization lags by about a year compared to Russia, nearly one quarter of collective and state farms had reorganized by mid-1992. Here also the farms reorganized as a single entity with various degrees of internal restructuring prescribed by the charter. Restructuring of farm enterprises is progressing in all other countries across the region, but the overall progress is slow. Even in Albania and Romania, where the collective farms have all been dismantled, state farms still remain largely unchanged as no final decision has been made regarding their reorganization.

It is remarkable that farm enterprises in many former socialist countries choose to reorganize as whole entities, without dismantling the collective structure. The process of

reorganization of collective and state farms in Russia through the end of 1992 produced 44,000 private farms, or only 23 percent of the total number of registered private farms (Brooks and Lerman 1993). Thus, collective production on privately owned land remains the dominant organizational form in Russia, where it still encompasses over 90 percent of agricultural land and where 85 percent of respondents in a recent survey expressed their intention to remain in a collective (Brooks and Lerman 1994). The situation is not much different in other countries in Eastern and Central Europe. In Hungary, a majority of cooperative members decided to stay in a cooperative framework after receiving ownership rights to a plot of land. In Bulgaria, 50 percent of applicants who submitted claims to formerly owned land expressed intention to remain in a cooperative (Trendafilov and Ivanova-Gidikova 1993). In Romania, 48 percent of privatized land is cultivated in "informal peasant associations" (Gavrilescu 1993). Some former Soviet republics actually recognize a separate category of collective or cooperatively owned land. The existing legislation and government policy in the region thus keeps private agriculture as a supplementary component of a farming structure that continues to rely on large-scale farms.

**Table 4. Restructuring Of Farm Enterprises
In Russia (January 1993 Status)**

	<i>Percent</i>
Not reorganized (6,000 farms)	22
Reorganized (21,000 farms)	78
Keeping the old form with new charter	27
Joint-stock societies	9
Limited liability partnerships	32
Agricultural producers' cooperatives	6
Associations of peasant farms*	3
Other forms	1

Source: Official Russian statistics.

* 748 entities, of which only 268 are *bona fide* associations of individually registered private farms.

Yet the new collectives are not necessarily identical with the old. Statistics often show an increase in the number of registered collective farms compared to 1990, which is the result of fragmentation of large-scale enterprises into smaller (albeit still collective) units. Many collectives

are undergoing internal restructuring aimed at improving their efficiency, and some collective structures are voluntary associations formed by recently established private farmers. These trends are discussed in the next sections.

Restructuring of the farm sector is an ongoing process: it will be long and its final results will be different in different countries. In Central and Eastern Europe, this process will radically reshape the farming structure, although the majority of members probably will not opt for fully independent private farming. In the former Soviet Union, although a large proportion of collective and state farms are undergoing some form of reorganization and restructuring, very few large-scale farms actually dissolve and break up into totally independent private farms. Most of them continue to exist as "federated" structures or "associations of producers." Factors keeping the individuals together include shortage of start-up capital and credit needed for private farming, as well as the developed social infrastructure created and maintained by the collective and state farms. Further economic reorganization of the agricultural sector in the region must find acceptable solutions to the problem of social assets, for instance, by entrusting them to the care of local municipal authorities, supported by sufficient budgets and taxes.

Lease Cooperatives and Shareholder Structures

Back in the mid-1980s, the collective and state farms began to entrust well-defined productive "subdivisions" to the responsibility of workers' teams. This created a more direct link between the workers and the results of their labor and increased the motivation and involvement of the individuals in the final outcome of the enterprise. The latest available statistics on leasing in Russia indicate that 63 percent of all collective and state farms employ some form of lease contracts with producers and as many as 9 percent of the farms have instituted lease arrangements in all their enterprises as of January 1, 1991 (up from 3.8 percent on January 1, 1990). Leaseholders in all categories accounted for 25 percent of workers in collective and state farms in Russia as of January 1, 1991 (up from 15 percent on January 1, 1990).

The new structures based on leasing contracts gradually developed into independent cost centers within large-scale farms, and some of them recently began incorporating as independent legal entities. This process automatically induces a de facto transformation of the centralized large-scale farm into a "federated" structure or an "association of enterprises", possibly without deciding any of the ownership issues. The intrafarm lease groups, even when incorporated as independent legal bodies, continue using the central office for a variety of professional services, including accounting and finance. Since independent purchasing and marketing is often impracticable within the existing system, the independent groups "sign contracts" with the central office for these services. The central office usually receives a certain share of the group profit as a "management fee." In a sense, these structures combine the advantages of individual involvement, possible only in a small group, with the benefits of professional services provided by a large organization.

The privatization legislation and pressures to reorganize have spurred the creation of independent lease cooperatives also outside the existing farming structure. These cooperatives are formed by a number of persons who lease some of the land and other assets of a collective or state farm. They sometimes extend their activities beyond traditional livestock and field crop operations by establishing regional services, such as a repair shop, a garage, a transport service, a construction team, or even a road-building team. The services are particularly important for independent farmers in the area, but they are also useful to collective and state farms that may face difficulties as a result of breakdown of state-monopolized services.

In the former Soviet republics, one of the current options for farm enterprise restructuring is by division of land and other assets into "conditional shares." These are certificates attesting the share of the individual in the total assets of the farm, without attempting physical division of the assets. The introduction of asset shares strengthens the independent business orientation and profit motivation of the intrafarm lease groups. The workers of each group naturally invest their shares in the "common business." Thus, in addition to getting their wages from current proceeds, they also receive a share of the group's residual profit at the end of the year. Other members, in particular pensioners, can "invest" their shares in productive subdivisions of their choice and thus enjoy "dividends" while remaining "passive shareholders." In the future, this form of organization may actually develop into a common-stock corporation, once share tradeability and management issues are resolved.

Meanwhile, however, many collective and state farms in the former Soviet republics are reorganizing as "joint-stock societies," although their shares are not tradeable and not transferable. These joint-stock societies are similar in concept to the labor-managed firms in Yugoslavia or to the companies that were managed by so-called enterprise councils in Hungary. These labor-managed structures, once very popular outside the agricultural sector, have largely failed in Eastern European countries. While better than the traditional administrative-command structure, this form of organization is inefficient in the long run because of pervasive "free riding" and lack of a real feeling of ownership and involvement (Deininger 1993; Schmitt 1993). Also, the short-term consumption preferences of the worker-owners may prevail and long-term capital investments may be neglected. The decision processes in such organizations are diffuse, it is impossible to assign individual responsibility, and the worker-owners continually press the "friendly" management for higher salaries and greater social benefits without greater personal productivity.

The relative popularity of "joint-stock societies" among the reorganizing collective and state farms in the former Soviet Union thus gives reason for concern. Farm reorganization should aim to create clear personal ownership of all collective assets, including land. The new owners should be free to make decisions concerning their property: they may choose to exit and start private farming, they may prefer to work collectively as a small profit-oriented team with other members, and they may decide consciously and voluntarily to invest their property in a corporate shareholding structure. This structure is indeed emerging in some Central and Eastern European countries, especially Hungary, where the new enterprises bear all the features of Western-type

shareholder corporations with a transparent and open ownership structure and separation of management and employment.

What will be the future of collective and state farms in the transforming agricultural economy of the former socialist countries in Europe? In their traditional form, these farms are not suited for the market economy: they are too large and lack profit orientation. In the early stages of the transition, these large-scale farms were expected to dissolve and disappear. It is now clear that a high proportion of collective-farm members do not wish to pursue completely independent farming, at least not in the short run. They want well-defined and freely transferable ownership rights and autonomy, as long as these are supported by the protective net of cooperation. Thus, probably only a small proportion of large-scale farms will be completely dismantled. New forms of cooperatives will emerge, focused not on production but primarily on services, processing, and marketing. This looser form of cooperation may facilitate the ultimate shift to individual farming at a later stage.

First Experiences with Private Farming and Farm Enterprise Restructuring

A new phenomenon in agriculture in the former socialist countries is the development of peasant farms outside the traditional framework of large-scale collective and state farms. The creation of these non-collective farms was enabled by special legislation adopted by different countries in 1990-1991. They are widely promoted by the governments and receive generous financial support.

The number of individual peasant farms is increasing at an impressive rate (Table 5). Thus, in Russia the number of individual peasant farms increased from 231 farms in April 1990 to nearly 35,000 farms in November 1991, 184,000 farms in December 1992, and nearly 250,000 farms in June 1993. In Ukraine, the number of private farms increased from 2,000 in 1991 to 15,000 in December 1992 and 25,000 in June 1993. These farms are quite small, however: an average of around 40 hectares in Russia and 20 hectares in Ukraine (compared to several thousand hectares in an average collective or state farm). Despite the impressive growth in numbers, they still account for a minute percentage of agricultural land and agricultural production in most countries. The only exceptions are Albania, Armenia, and Romania, where the collective farms were completely dismantled soon after the change of the political regime. In tiny Armenia, 243,000 private farms hold 82 percent of agricultural land (January 1993 data) and in Romania 5.3 million families own 80 percent of arable land. In these countries, however, the private farms, with less than 2 hectares of land per household on average, are subsistence farms, similar to those in China. The Baltic states, with their policy of restitution of land to former owners, occupy an intermediate position: as of mid-1993, the 150,000 farms in these three countries averaged 10-15 ha and account for 40 percent of agricultural land. In Eastern and Central Europe the small size of private farms encourages consolidation of plots, which is proceeding either through creation of farmers' associations, as in Romania, or through emergence of commercial farming, as in

Hungary, where business-minded individuals lease or even buy land from less enterprising owners thus creating relatively large farms based on hired labor.

New private farms are often established by persons not immediately employed in agriculture. In Russia, according to June 1991 data, only about 30 percent of all private farmers are former members of collective and state farms; the remaining 70 percent are from the cities, although the law requires that to be eligible for allocation of land they must have some agricultural background or at least training. Thus, in Russia as in other countries of the region, farmers are not rushing to take advantage of the new legislation which allows them to receive land for independent individual farming. Those who do decide to become private farmers are guided primarily by considerations of their children's future, the prospect of higher earnings, and the opportunity to work independently (Table 6).

Table 5. Private Farming In The Former Soviet Union

	<i>Russia</i>	<i>Ukraine</i>	<i>Armenia</i>	<i>Baltics</i>
<i>Number of farms:</i>				
<i>End 1991</i>	35,000	2,000		
<i>End 1992</i>	185,000	12,000		
<i>Mid 1993</i>	240,000	25,000	243,000	150,000
<i>Average farm size</i>	40 ha	20 ha	2 ha	10-15 ha
<i>Share of agricultural land in private farms</i>	3%	3%	82%	40%

Source: Official country statistics.

The conditions for fully independent private farming beyond the level of subsistence agriculture and local markets still do not exist in most countries. Indeed, difficulties with availability of agricultural machinery, input supply, and product marketing are cited as the main reasons for the reluctance of members of collective and state farms to switch to independent farming. There are practically no input supply and product marketing channels outside the rigid state monopoly, and the state system is rapidly collapsing. There is no network of rural shops that sell inputs and implements to private farmers and no system for farm-level or wholesale purchase of agricultural products. The existing auctions, exchanges, and farmers' markets are insufficient to handle the full volume of agricultural product. The transportation system is inadequate. Technical services and equipment are hardly available for private farmers. There is no commercial credit and banking system to finance independent farming operations. Former collective and state farm workers have a very limited knowledge of business operations, financing, accounting, taxation, and risk management. In a 1992 survey of members and employees of collective and state farms (Brooks and Lerman 1994), over 60 percent cite insufficiency of capital and inadequacy of supply channels as the main reasons for their decision not to become private farmers (Table 6). Because

of these obstacles, cooperation among private farmers is essential -- in finance, in marketing, and in technical services.

The model of division of large-scale farms into smaller profit-motivated functional units supported by cooperative services appears to provide a fairly faithful generalization of the diversity of reorganization modes which are occurring in the agricultural sector all over the region. The fledgling private farm sector, which basically represents the extreme form of division to the stage of total separation from the large-scale farm, is also beginning to develop some cooperative structures. Private farmers are beginning to realize that totally independent individual farming is very difficult, especially in the present economic environment. They are beginning to share machinery and equipment, to cooperate in the purchasing of supplies and marketing of products, to pool their land resources in order to achieve more efficient cultivation, and even to establish joint "industrial" enterprises to augment their income from agriculture.

**Table 6. "Do You Intend To Become A Private Farmer?"
(Russian Survey, 1992)**

<i>Reasons given by those answering "NO" (85% of responses), percent of respondents</i>		<i>Reasons given by those answering "YES" (15% of responses), percent of respondents</i>	
Lower earning	11	Higher earnings	58
Less secure earnings	16	Opportunity to work independently	51
Too risky	41	Children's future	64
Don't want change	31	Creativity, initiative	29
Insufficient capital	62	Higher status	18
Insufficient supply channels	65	Forced to become private farmer by liquidation of kolkhoz/sovkhoz	10
Insufficient land	17		
Insufficient skills	17		
Insufficient legal guarantees	36		
Loss of social benefits	18		
Restrictions on buy/sell of land	12		

Source: Brooks and Lerman 1994.

These qualitative observations are borne out by recent empirical findings. In a survey of Russian private farmers conducted in December 1992 (Brooks and Lerman 1994), 95 percent were found to participate in some form of joint activity in provision or use of farm services. Between 30 percent and 40 percent of respondents indicated that they join with other private farmers for production, marketing, input supply, use of machinery, and provision or receipt of credit (Table 7). More than half the private farmers in the survey cooperate in their use of consulting services. Cooperation in processing, on the other hand, is virtually nonexistent at this stage. In another survey conducted by the World Bank in Eastern and Central Europe in mid-1993, 35 percent of Romanian private farmers and 20 to 30 percent of Hungarian private farmers indicated that they participated in cooperative activities with other private farmers.

**Table 7. Cooperation Among Private Farmers
(Russian Survey, December 1992)**

<i>Activity</i>	<i>Percent of Respondents</i>
Consulting	55
Marketing	33
Input supply	37
Machinery pool	35
Mutual credit	35
Joint production	31
Processing	1
Membership in Russian Peasants' Association	85
"Some form" of cooperation	95

Source: Brooks and Lerman 1994.

We are thus witnessing a confluence of two streams in agriculture: large-scale farms split into smaller units supported by cooperative structures, while small-scale individual farmers go through a process of cooperativization creating functionally similar support structures. This suggests that Western-type service cooperatives will play an important role in the future of the farming sector in the region. In the cooperative paradigm, the reorganized agricultural system that would emerge from the former large-scale farms can be viewed as an extension and a modification of the Israeli moshav model (Zusman 1988). Private agricultural production, based both on family farms and on larger multifamily enterprises, will be supported by a range of service cooperatives whose function will be to correct for market failure and to exploit economies of size. New private

service cooperatives can be based on the core of the existing cooperative farms. Farmers should be free, however, to choose the forms of cooperation they prefer, and the new cooperation must be based on private ownership and competition.

In the present environment of high uncertainty and inadequate market structures, regional service cooperatives may provide the necessary reinforcement and backing to the emerging private sector in the former socialist countries by imbuing the new farmers with a sense of collective strength and shielding them to a certain extent from market imperfections. The establishment of service cooperatives should not rule out the establishment of private firms in the same lines of business. Competition between the two forms of organization would only improve the economic efficiency of the system by providing the producers with a greater variety of options.

There is no experience with private cooperatives in the former socialist countries and only limited information is available on this subject. The establishment of the new cooperatives therefore should be supported by the government as a public good. International aid may be appropriate in this area in the form of training programs and direct technical assistance. Promotion programs (advice, technical assistance, etc.) also should be organized to help farmers who opt for fully independent farming.

Conclusions

The agricultural system in the former Socialist countries in Europe has been exposed to a major economic shock, but the agricultural reforms appear to be driven and motivated by political factors and considerations. The reform programs therefore contain many elements related to a specific political setup at a specific time in a specific country. As a consequence, economic efficiency is not the major issue in the reform agenda, at least not in the short run. Decision makers mostly strive to satisfy short-term political objectives, which range from ardent desire to rapidly dismantle the old system at one extreme to attempts to preserve it almost at any price at the other. This is the key to understanding the details of the process: economics is secondary to politics in the former socialist countries.

Because of the political motivation, land reforms are not well-designed processes with careful definition and thorough elaboration. Frequent course changes, which sometimes even have retroactive validity, are a source of uncertainty with short-term negative impacts on production. The administrative implementation of the reforms is poorly organized. In many instances, the framework approved by parliament simply does not match the administrative capability of the country. As a consequence, deadlines have to be postponed, severe slippages occur, and the reform process gets administratively out of control. Many aspects of implementation must be left to local governments, whose attitude to reform is not always positive or helpful. Dissemination of information from the center to the periphery has become a very serious problem: the central party

channels have collapsed without being replaced by comparable communication links between the national government and the outlying provinces.

The main task at this stage is to maintain the momentum of reform by developing the necessary legislative and market framework for the restructuring of large-scale farms. The decision regarding the future organizational structure should be made by the farmers, based on information and advice provided by state and independent sources. The specific implementation at the farm level should be flexible, matching the diversity of local conditions. The newly created structures should remain open to changes, and even dissolution, as decided by the owners.

It is impossible to predict what structure of agriculture will emerge and what the mix of larger and smaller enterprises will be. Yet already it is clear that the process of farm restructuring in the former Socialist countries is taking a course which appears to be different from the original expectations of many Western observers. It is obvious that rapid full-fledged privatization will not take place in the region, with the exception of only a few countries. It is also likely that Western-type family farms will not be the major farming structure for a long time to come. Private farms in the former Socialist countries will probably evolve toward two extremes: either small subsistence farms with little commercial agriculture or relatively large diversified agribusinesses with several hundred hectares of farmland and processing facilities. The major agricultural structures in these countries in all likelihood will cover a wide spectrum of organizational forms, ranging from family farms to associations of private producers supported by voluntary service cooperatives. In all cases, however, the keys to creating efficient farming structures are clear definitions of ownership rights, removal of restrictions on use of land (except for environmental regulations), and easy transferability of titles or leases to the most efficient producers.

The governments' role in the reform process should be much more carefully designed and more sharply targeted, so that agriculture will move in the shortest possible time to an efficient private-based structure. The best contribution that governments can make to reforming the agricultural sector is (a) to ensure macroeconomic stabilization and reliable incentive frameworks and (b) to expedite the development of competitive input-output markets and processing industries. These goals should replace the traditional attempts to exert direct influence on agricultural production.

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Appendix A. Major Land Reform Legislation In Former Socialist Countries

	<i>1990</i>	<i>1991</i>	<i>1992</i>	<i>1993</i>
<i>Albania</i>		Law on Land (July) Distribution of Property of Agricultural Cooperatives (Aug.)	Distribution of State Farm Land (Oct.)	
<i>Bulgaria</i>		Law on Ownership and Use of Land (Jan.)	Law on Ownership and Use of Land (March)	
<i>Czechoslovakia</i>		Land Law (May)		
<i>East Germany</i>	Establishment of privatization trust (June)			
<i>Hungary</i>	Constitutional Court rules against immediate restitution (Oct.)	Compensation Law (April)	Law of Cooperatives (Jan.)	
<i>Romania</i>		Land Fund Law (No. 18) (Feb.) Law on Agricultural Companies and Other Types of Agricultural Associations (No. 36) (April)		
<i>Russia</i>	Law on Land Reform; Law on Private Farms (Nov.)	Decree on Implementation of Land Reform (Dec.)		Decree on Regulation of Land Relations and Development of Agrarian Reform (Oct.)

World Bank Land Policy: Evolution and Current Challenges

Hans P. Binswanger and Klaus Deininger*

Background

The World Bank was successfully involved in land reform long before it had formalized a poverty-oriented rural development policy. In the early 1960s, it supported a project in Kenya, Africa, in which land was transferred from large scale colonial owners to smallholders, thereby initiating a process of land subdivision and transfers that continues to enhance productivity and rural employment in Kenya to this day (Moll 1994). The Bank's stance in favor of small-scale farming and land reform was formalized in the 1975 Land Reform Policy Paper (LRPP) which considered a variety of land policy options including land reform, tenancy regulation, frontier settlement, and land titling programs.

Following the Kenyan project and until the early 1990s, the Bank's involvement in land policy and land reform was, however, minimal, despite recognition by its analysts and management of the merits of a bolder approach. Project support concentrated on technical assistance for land titling in the form of surveys, establishment of cadastres, and registration. While smallholder frontier settlement was initially emphasized (e.g., in Indonesia and Brazil), such frontier settlement programs have subsequently been discontinued due to environmental concerns and lack of cost effectiveness. Broader questions concerning land ownership distribution have been virtually neglected.

The explanation for this timidity can be found in the LRPP which states that "concentration of control over land provides a power base for many groups in developing countries ...[and that]... programs of land reform will not be implemented unless there are shifts in political sentiment and power". When the LRPP was written, the cold war had frozen many policy alternatives in a map sharply divided between East and West, and between one quarter and half of the world's agriculturally suitable land was under collectives or state farms. The end of the cold war has led to the virtual disappearance of the collectives and the ideological polarization, providing an opportunity to address policy issues more directly. Thus, it is no surprise that there has been a recent resurgence of operational involvement in land policy including countries as diverse as Bolivia, El Salvador, Honduras, Mexico, Mozambique, Nicaragua, Russia, Ukraine, Romania, South Africa, and Zambia.

In this paper, we ask how well the positions taken in the LRPP have stood up to the analytical insights and empirical evidence that has become available since then. We briefly allude

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to recent work on decollectivization, and draw on Bank experience to make suggestions for the design of future operational involvement in land policy issues.

Farm-Size Productivity Relationship

A central question for land policy is whether small family farms enjoy an efficiency advantage over large scale farms operated with hired labor. If small farms are more efficient than large ones, redistribution of land could be justified by efficiency as well as equity reasons. The LRPP summarizes a long and often controversial tradition of studies that have generally supported two propositions: (i) small farms have higher yields and probably higher total factor productivity than large farms; (ii) small farms use more labor and less capital per hectare cultivated than large farms. On the basis of these propositions, the LRPP advocates land reform to increase equity and provide productive employment.

The literature that has become available in the meantime clarifies methodological controversies and provides additional and compelling empirical evidence in favor of these two conclusions (Binswanger, Deininger, and Feder 1993). The key element that makes owner-operated (small) farms more efficient than large farms operated by wage-labor is the need to supervise hired workers. Conversely, large farms usually have better access to credit, a fact that provides them with advantages in the rural economy where markets for credit and insurance are usually incomplete. For a few plantation crops such as bananas, sugar, and tea, the scale economies associated with the processing plant are transmitted to the farm because the harvesting and processing of the crops must be closely coordinated. For all other crops and ruminant livestock the empirical evidence rarely shows economies of scale transcending the size of farm that can be operated by a family. This suggests that the supervision cost advantage of small farmers usually exceeds the credit cost advantage of large farms.

In the Muda region in Malaysia, value added per unit of capital used by small farmers is about double the amount used by large farmers (Berry and Cline, 1979). In semiarid areas of India, small farmers are more efficient than large farmers despite the latter's ability to use their wealth as an insurance substitute in this highly risky environment (Rosenzweig and Binswanger 1993). In the Green Revolution areas of India the productivity advantage of small farms was weakened during the Green Revolution but reappeared after an adjustment in farm size had taken place (Rao 1975, Reddy 1993). In Northeastern Brazil, even when all family labor was valued at the full wage, the second largest farm size group was characterized by productivity that was between 20 percent and 70 percent higher than that of large farms (Kutcher and Scandizzo 1981).

The most impressive demonstration of the productive potential of small farm agriculture comes from China. Since 1978, the productivity of the agricultural sector has increased at an annual rate of more than 7 percent, a world record of sustained agricultural growth. That this growth was achieved with an average farm size of 0.5 ha, split, on average, into 8 parcels, suggests that small scale was not a constraining factor and that conversely, economies of scale

are not an important source of growth in agriculture. The development of small farms was accompanied by significant investments in farm- and non-farm capital (Chen 1992 reports an annual increase of 27 percent), suggesting that small farmers' propensity to save, and the productivity of the investment thus undertaken, is at least as high as that of large farmers or government, a fact supported by a recent study of 16 developing countries (Bevan et al 1993).

Despite these productivity advantages, many governments continue to target most of their assistance to large scale farmers. Funds to promote rural development have often ended up as subsidized credits that accelerated mechanization of large farms at the cost of tenants or landless laborers, who were evicted. In Brazil for example, during the 1965-85 period, impressive productivity increases of more than 5 percent per year were associated with extremely rapid and subsidized mechanization. As a consequence, agricultural employment growth was very disappointing at less than 1 percent, far below the growth of the labor force of the country (Maddison et al 1992). In industry, growth of employment and output were much more equal.

Security of Tenure

The LRPP associates traditional tenure systems with lack of security. It therefore assumes that in many parts of the world where communal tenure systems prevail, farmers have insufficient incentives to invest in capital stock, or land improvements or to adopt new technology. Lack of title is believed to make it impossible for small farmers to obtain formal credit for investments and to reduce the rate of land transfer from bad to better managers via the land sales market. As a consequence, the LRPP advocates establishment of cadastres, acceleration of land titling and formal registration of property rights. Wherever access to crop and pasture land is not regulated it also advocates the subdivision of communal land and the transformation of communal into freehold tenure.

Results from further research in this area suggest that these recommendations be significantly modified. Even in environments such as India where common property resources have dramatically declined, these common property resources still provide an important safety net for the rural poor (Jodha 1992) which would be eliminated through privatization. Community titles to pasture and forest resources may strengthen the incentive of communities to improve resource management.

Research has shown that security of tenure in communal systems is usually much higher than assumed by the LRPP and does not constrain incentives to invest (Noronha 1985). Communal systems usually allocate secure and inheritable rights to specific parcels of arable land, while forests and pasture remain accessible to all members of the community. Although communal systems limit sales of land to outsiders—and sometimes rentals as well—such transactions are often allowed within the community. Therefore transfers to enhance efficiency among community members are still possible. The limit of sales to outsiders tends to be eliminated at higher levels of population density, resulting in *de facto* freehold tenure. Therefore, where community structures

are intact and local accountability mechanisms in place, communal tenure systems provide security of tenure, risk-sharing, and a low-cost land administration system. Efficiency losses are likely to be very modest (Binswanger et al. 1993). Therefore, the Bank has stopped advocating the establishment of freehold titles in such situations almost a decade ago.

The detailed information required to decide whether the benefits from free transferability of land exceed the cost in the form of less risk-sharing is likely to be available only at the community level. Therefore, provision of a group-title, accompanied by a range of legal options for the internal rules and structures by which rights to individual parcels can be allocated, would allow communities to adapt their rules flexibly to the particularities of any given location or situation. Communities then can be allowed to determine whether and when they want to eliminate constraints on sales to outsiders and thus join the freehold system. The Mexican land law of 1991 provides exactly such greatly expanded options (see G.deAnda this volume). Community management and allocation of land rights can thus provide tenure security and flexibility at lower cost than establishment of detailed cadastre.

If a titling program is introduced into *de facto* communal tenure situations it may not result in full transferability and alienability of land because the community continues to prevent sales to outsiders. And if the regulations associated with the titles do not conform to established community norms of subdivision and inheritance, the registered rights quickly lose correspondence with the *de facto* allocation of land. In Kenya, for example, land subdivision continued despite a ban, and within a generation many titles lost their value as sources of security or instruments of collateral.

Feder et al (1986) have shown that in Thailand, possession of formal title led to productivity increases of about 25 percent. This increase did not arise from greater tenure security but primarily from better access to formal credit markets associated with titles. On the other hand, similar studies in four African countries show that land titles did not have any productivity-enhancing effect. In these countries the titles did not provide access to formal credit either because no such markets existed, or, as in Kenya, because banks typically do not want to lend to small farmers even if they have title.

The ability to use titles to secure credit does not necessarily enhance repayment performance. In India, the Land Development Banks secure every loan with title but their recovery performance is no better than that of the Credit Cooperatives which provide short term credit without the use of land titles as collateral. In many rural settings, it is politically infeasible to foreclose on small farmers, especially where they are still under *de facto* communal tenure. Feder & Huppi (1991) find that group credit can reduce the cost of credit to small farmers and increase their repayment incentives. Successful group credit schemes all use the threat of discontinuation of further lending, rather than formal security of any kind, as the primary repayment incentive.

Historical studies and recent experience suggest that titling will be most cost effective and contribute to equity objectives if it is area-wide and combined with a system of decentralized or even mobile courts through which all disputes in a particular area can be adjudicated as part of the

area-based titling process. Land titling programs assisted by the World Bank have, therefore, generally used area-wide titling in which all claims in a given area are adjudicated simultaneously. On the other hand, selective titling on demand has generally increased the inequality of land ownership significantly. In the Eastern lowlands of Bolivia, for example, wealthy landowners are able to obtain titles in two years whereas smallholders have to wait an average of 12 years.

We conclude that the emphasis of the LRPP and of Bank operations on titling was probably larger than warranted by its security of tenure and efficiency benefits. In many instances, a much more selective approach to identification of areas where title can make a real contribution is needed. Land titling appears to be a high priority where population densities are high, freehold tenure is already a reality, the traditional system of allocation and adjudication of disputes has broken down, where a formal credit system is willing and able to lend to small farmers against the security of a land title, and lenders are able to foreclose effectively and at low costs on mortgaged land when the debtor fails to make his loan payments. In other situations, traditional systems can often be relied on to provide security and adjudicate disputes. In such areas, small farmer credit schemes for individuals or groups can rely on the threat to discontinue lending to defaulting farmers as the primary repayment incentive.

Settlement of Frontier Land

The LRPP cautiously advocates programs to provide frontier land to smallholders as a low-cost alternative to redistribution through land reform. It notes that, given the limited availability of unutilized land, this strategy cannot provide gainful employment to a large number of landless people and that good mechanisms to successfully implement such programs are not readily available. For example, it is unclear "how to design a settlement program that improves equity."

Today, almost 20 years after the policy paper was written, the issue of settlement projects is still unresolved. The Bank has ceased to support settlement projects, due to three main reasons: (i) Official settlement projects have proven costly and rarely benefit the poor. The LRPP already highlighted that capital requirements per family amounted to more than \$5,000 (about \$15,000-20,000 in current terms). (ii) Frontier settlement has generally tended to replicate the farm size distribution existing in the rest of the country (Thiesenhusen 1991). In the long term the overall agricultural policy framework has more important effects on the land ownership distribution than short term settlement schemes (Binswanger 1989). (iii) Smallholder settlement projects have come under massive attack from the environmental movement because the infrastructure built to connect these areas to markets can also be used by large scale farmers and loggers who tend to have a destructive impact on forest resources without providing compensating income benefits to the poor. Moreover, smallholder settlement in rainforest areas is doomed to failure because of the excessively high input cost associated with permanent agricultural cultivation in these areas.

Experience suggests that the extremely cautious approach taken by the LRPP, as well as the Bank's subsequent abandonment of officially managed settlement schemes, were well justified. Remaining opportunities in this area are few and should take the form of supporting spontaneous community-managed settlements in areas of clear agricultural potential. There a settlement policy should be designed favoring the allocation of land to smallholders.

Tenancy and Tenancy Regulation

In situations where land reform is politically infeasible, the LRPP advocates tenancy regulation as a means to increase security of tenure, and thus investment incentives, as well as equity. This view has not been supported by careful analytical and empirical studies of the efficiency properties of tenancy and sharecropping contracts. Nor did it take into account the frequently perverse equity of tenancy regulation.

An impressive array of studies has demonstrated that land rental markets generally enhance efficiency (Otsuka and Hayami 1988). Persons who can earn more in non-agricultural occupations or who are temporarily or permanently unable to cultivate the land would be better off by renting land out. Agriculturalists with high managerial ability would be able to pay the market rent and still make a profit, leading to a net gain from the rental contract. Under fixed-rent tenancy, the tenant receives the full value of his marginal product so that his incentive to supply effort does not decrease. Under share tenancy, having to pay a share of the harvest generally decreases the tenant's incentive for effort supply but may still be a second-best solution if markets for insurance and credit are imperfect and production is risky (Otsuka, Chuma and Hayami 1992). Theoretical arguments and empirical evidence indicate that share tenancy is much more efficient than wage labor, implying that tenancy regulations that reduce the incidence of land rental in favor of wage contracts, or force the contracting parties to adopt disguised contracts, will decrease productivity.

It is well documented that historically, tenancy regulation—in conjunction with the fear of land reform—has induced landlords to evict tenants and to expand their own cultivation using hired labor, or shift to ranching, or to mechanize (Binswanger, Deininger, and Feder 1993). All of these measures reduced efficiency as well as tenants' welfare. Legal restrictions on tenancy are therefore rarely a good instrument to increase tenant's welfare and usually have perverse welfare impacts.

Many of the land reform laws in Latin America and other parts of the world continue to regulate tenancy or make it infeasible for owners or members of collectives to rent out land. A major land policy agenda is the reform of such antiquated legislation. Such reform has already been completed in Peru, Honduras, and Mexico, in the latter two cases with formal or informal Bank assistance.

Land Sales Markets and Land Reform Implementation

The LRPP took a generally supportive approach to land reform. It does not, however, analyze a key puzzle. If small farms are more efficient than large ones, why do large owners not subdivide their land and sell it at a profit to small farmers, obviating the need for land reform, or confining assistance to small farmers to the provision of mortgage credit at market interest rates. The policy paper also offers very little guidance concerning the implementation of such reform.

A theoretical reason why land reform is necessary to transform land from large to small holdings, even where land sales options and mortgage credit are available, has been derived by Binswanger and Rosenzweig (1986) and further elaborated by Binswanger and Elgin (1988). If the market price of land exceeds the discounted present value of agricultural profits at the market interest rate, poor people without equity or access to grants cannot buy land and repay the mortgage out of the net income generated by farm profits, even if they have access to credit at the discount market rate used to discount future profits. In order to buy land, they would have to reduce their consumption and welfare level below that available to them in the labor market. This implies that under such conditions a significant grant component is necessary to be able to rely on the land sales market in conducting a land reform process which benefits poor people. A large number of empirical studies demonstrate that market values of agricultural land usually exceed the present value of net agricultural profits, a fact familiar to anybody who ever owned a farm.

Even where large farmers are not favored by any policy or program distortions, market prices of land can exceed the discounted value of agricultural profits. This is because of the "collateral value" which arises out of the fact that land ownership facilitates access to credit. In addition to the collateral value, a number of policy and program distortions increase the value of land differentially for large owners beyond the present value of agricultural profits. The most important distortions are preferential tax treatment of agricultural incomes (Long 1990, Knerr 1991), macroeconomic instability which converts land into a hedge against inflation and the use of land as a speculative asset (Brandao and Rezende 1992) – the usefulness of owned land to gain access to subsidized credit. An additional factor which is not due to policy distortions is the expected appreciation of land near urban areas or in the presence of population growth.

It follows that land banks, i.e. institutions that provide credit in order to facilitate land acquisition through the land sales market, are insufficient to significantly change the land ownership distribution in favor of the landless. Instead, experience shows that most of them provided subsidized credit to people who would have been able to use their own assets or remittances to buy land. These individuals could use the inability of the landless to repay as an excuse for their own default, thus most of the land banks ended in financial disaster. If land is to be redistributed to the landless, a grant element has to be involved. Means-testing of such grants would improve equity and also limit the cost of land reform.

Land reform typically has to compensate current owners at market value. Elimination of distortions and subsidies in favor of large farms will decrease market values of land and therefore

the cost of land reform. Where subsidies to large farms continue to exist, land reform is likely to be followed by re-aggregation.

Despite the Kenyan experience where no land reform institute was used, the LRPP envisages land reform to be implemented through centralized government land reform institutions. The experience with such institutions has been almost universally disappointing (Kinsey and Binswanger 1993). The Kenyan land reform was managed in a decentralized fashion by temporary district land committees without permanent staff, similar to the successful land reforms in Taiwan, Korea, and Japan. Therefore, the land reform options considered for South Africa propose decentralized supervision of market assisted land reform by district land committees and a decentralized judicial system to which disputes can be appealed.

Decollectivization

The transfer of land owned and managed by collectives to private farms were not discussed in the LRPP. The reasons for poor performance of state farms and collectives all over the world are, however, well understood (Deininger 1993):

- Collectives are subject to the same supervision constraint as large farms but can normally exert supervision only at very high cost (e.g. not being able to fire shirking members). As a result, members' effort supply (and thus productivity) is low. This problem is particularly severe in agriculture due to the spatial extension of production and the need to constantly adjust to micro-variations in climate.
- Since members, in contrast to hired workers, share in the profit, it will always be more rational for members in an existing collective to reduce the number of members and instead mechanize (often assisted by government subsidies) or to use casual labor. Generation of productive employment through collectives will therefore be extremely limited.
- Since shares in collectives are not tradeable, members will have less incentive to exercise tight control of management and will support only investment that yields benefits during their remaining tenure. This results in under-investment and reduction of the capital stock.
- Tremendous supervision problems, continuous reduction of membership, and low rates of self-financed investment have indeed characterized state farms and collectives in many countries. Where technology, markets, and skills were available and where members have been legally allowed to distribute the collectively owned assets to families, old-style collectives usually disintegrated rapidly, with significant gains in productivity, as in Vietnam, China, and Peru.

The problem facing small farm units in many Eastern European countries is that technology is yet inappropriate and markets and skills are poorly developed, making the family-

based option unattractive. The alternative is the transfer of collectively managed land to highly mechanized large scale units under some form of corporate ownership. This also appears to be unattractive. The productivity and employment generation of large scale commercial farm sectors relative to appropriately supported small scale family farm sectors in Latin America and Africa suggest that this approach has been disappointing. These sectors have usually been highly subsidy-dependent. Wherever there is little prospect for rapid absorption of labor into a booming urban sector, the family-based option appears to be preferable, despite the initial obstacles.

For small scale family farms to be economically feasible, competitive input, output, and credit markets are necessary. Service cooperatives can play a useful role in this context and – in competition with the private sector – provide credit, marketing, and technical assistance but not engage in agricultural production. While still likely to be associated with some problems in the area of investment and control, service cooperatives often can more than compensate for this disadvantage by providing tangible benefits such as enhanced competitiveness in situations where markets are incomplete and farmers would be exploited by monopolists; utilization of economies of scale; and provision of member education.

Conclusion

Land policy issues will continue to be operationally significant issues under the following circumstances:

- Where agriculture has not yet been successfully decollectivized. In Russia, Cuba, El Salvador, Algeria and elsewhere, important collective or state farm sectors continue to exist.
- Situations characterized by a highly unequal land ownership distribution, low intensity of land use by a large scale sector, and at the same time large scale unemployment or underemployment of the rural population, such as in Zimbabwe, South Africa, and Brazil.
- Countries where land laws continue to contain constraints on land rental that, while designed to protect tenants, in fact, reduce tenure security of private owners and encourage large scale cultivation associated with low efficiency as in Bolivia, Ecuador, and Zambia.
- Areas where an inadequate legal framework for allocating frontier land makes it nearly impossible for small scale settlers to gain access to land, e.g., Bolivia, Uruguay, Paraguay, Mozambique and Brazil.

- Areas where issues concerning tradability and rights allocated to individual families under decollectivization are not yet fully resolved, such as in China, Vietnam, and Eastern Europe.

In the past, the political sensitivity of the land issues has led operational divisions interested in land questions to choose a technocratic approach in which they have emphasized technical issues associated with cadastres, land titling and registration. Some of these projects have achieved their narrow objectives very well (e.g., Thailand). However, the expectation in all these projects was that involvement with technical issues would eventually enable the Bank to enter into a more far-reaching dialogue on land policy questions such as those discussed above. This has not happened in a single one of the cases. Therefore, if policy issues are to be addressed, a clear up-front decision has to be taken that Bank assistance should concentrate on resolution of policy issues first, and on technical issues second, once the major policy issues have been resolved.

Recent experience shows that where the central policy questions were faced prior to support for titling, a fruitful dialogue has emerged. In Nicaragua, Mexico, and Honduras the conclusions reached in these dialogues have already led to legal changes that currently are being implemented in programs. In South Africa and Bolivia, the World Bank has taken a catalytic role in the preparation of new legal and institutional frameworks for land management and allocation. Similar efforts are currently underway in El Salvador, Mozambique, and Zambia. In the countries of the former Soviet Union and throughout Eastern Europe, the Bank is actively monitoring and analyzing the process of decollectivization and the allocation of land rights and assisting with the generation of the analytical underpinnings for policy decisions.

In three cases where major policy issues have been successfully resolved, a process of consensus-building that involves all relevant social groups – including those who were previously excluded – has proven a critical element of the process. Nowhere has it been possible for legal frameworks to be significantly altered without such consensus-building. Thus, in the more recent cases, the World Bank has insisted that its involvement include broad participation in the preparation and consensus-building processes. The case of South Africa, discussed in the paper by Christiansen and Cooper in this volume, is an illustration of how to open a fruitful policy dialogue and conduct significant analytical work in a participatory and broad-based consultative process, even where land issues are political mine fields. After the elections, this process will have to be further deepened to include local and regional levels and to involve the beneficiaries.

While several specific recommendations of the LRPP have not stood the test of time, the central thrust toward smallholder agriculture and land reform has been fully vindicated. The current situation offers a broad array of opportunities for the World Bank to contribute to structural changes that will reduce poverty through accelerated creation of productive employment in smallholder agriculture, encourage sustainable institutional change through a broad national process of consensus building, and thus to find again the abandoned path that started with the Bank's support for land reform in Kenya.

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Decentralization of Agricultural Support Services

Decentralization of Water Management: The Case of Water Users' Associations

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Introduction

What is water management? What is decentralization? What are water users' associations? These are the three questions to which this paper responds.

Water Management

Water management is a complex set of activities including, *inter alia*, research and assessment of resources; planning and regulation; allocation, development, distribution and use of water supplies; and their conservation, protection, recovery and reuse.

In the past, water management was primarily an engineering activity, usually focused on surface water, with a developmental emphasis. It was mainly local, or at least circumscribed to the reach of individual watersheds. Today, however, water management implies economic, social and environmental considerations, not necessarily limited even to the reach of a single national jurisdiction. For example:

- It is an important part of international financing and investing and takes a sizeable chunk of public investment.
- It has important connections with marketing and markets.
- It is no longer limited to developmental activities or to surface water.
- It has to take into account increased competition for the use of scarce (and scarcer) water resources, and
- It needs to consider increasing and graver externalities.

Water management is highly dependent on the institutional structure. In the past, it was largely functional and fragmented. At present, there is a trend to vest water management in independent bodies where stakeholders are given the opportunity to participate, or to be heard, or both, subject to complex rules for the assessment of policies, programs, projects, and activities.

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Decentralization

Decentralization usually indicates the arrangement by which some public activities are performed by entities or organizations other than the central government. It can have several meanings: functional decentralization, institutional decentralization, geographic decentralization, etc.

Water Users' Organizations

Water users' organizations are found worldwide. They are institutional arrangements through which water users are involved in water management activities. The origin of water users' organizations in Europe can, in many cases, be traced back to the Middle Ages. Cooperative and user-based water management in Asia also is deeply rooted in history and tradition.¹

The Spanish colonization brought the Iberian institutions for water management to the Americas, which were, in turn, strongly influenced by Arabic traditions. Thus, it is possible to find some similarities between the water organizations of the Arabian peninsula and the organizations existing in some areas of South America, such as Mendoza in Argentina. At present, there are water users' organizations in the Americas, Asia, Africa, and Europe.

Patterns of User Participation

A concise review of the main institutional topics associated to users' associations follows. The term "water users' associations" is used, interchangeably, with the term "users' organizations."

In fact, more appropriate than the term "users" would be "stakeholders," since not all stakeholders are necessarily users in the conventional sense of the term. Stakeholders and users can participate in, or influence, decision making through various institutional arrangements and procedural mechanisms.

Participation in Public Decision Making

Stakeholders and water users can participate in public hearings intended to discuss policies, programs, projects, or legislation.²

Representatives of the public and of consumers can integrate advisory bodies, such as the Water Board, which advises the Ministry of Agriculture in Israel.³ In Mendoza, Argentina, water users' representatives integrate the Tribunal and the Council of the Department of Irrigation, with important functions in relation to work plans, budgets, tariffs, and appeals.⁴ A representative of agricultural activities sits at the Directive Council of the National Institute of Water Resources of Ecuador.⁵ The Spanish Water Law of 1985 provides for users' participation in Basin Authorities and, through these authorities, in the National Water Resources Council.⁶

The River Basin Committees of France consist of representatives of users, local communities, and the central administration. These agencies are among the cornerstones of the French water policy.⁷

Such arrangements intend to promote immediacy and cooperation between the public and the private sectors at the highest decision-making level.

Participation in Operational Activities

For the most part, water users participate in field-based, operation-oriented, organizations. Pooling of resources, common problems and objectives, economies of scale, and the sharing of common water sources are strong incentives for association. The organizational arrangements, the forms of creation, the legal conditions, and the problems faced by these organizations vary according to the country.

Thus, in China "... the improvement of irrigation management is an imperative task, especially in the promotion of water users' positive participation in irrigation management to share the responsibilities of operation and maintenance with the government." Users' organizations are negatively affected by defective water measuring facilities, old-fashioned management methods, lack of training (technical, financial, economic, legal) and ineffective diagnostic instruments.⁸

In Pakistan, water users' associations have been created to overcome difficulties in water management. They are considered successful. However, they are adversely affected by factionalism, village problems unrelated to water management, lack of support by head watercourse farmers, limitation of activities to rehabilitation work, and lack of support in the areas of marketing, non-water services, and farming techniques.⁹

In the Province of Mendoza, in Argentina, user participation can be traced back to the beginning of the Spanish period. Users are organized around the canal they use and they elect a representative (Inspector) who is in charge of managing the affairs of the system. It is a simple system that has proved to be effective. It is supported by well-determined and stable water rights, strong government backing for agricultural activities, and a core administrative institution responsible for overall water management. Participation in the organization is mandatory (associated with the ownership of irrigated land), and cannot be waived or resigned, except with the transfer of land. Dues and assessments also are mandatory. Water rights are vested in the users and not in the organization. The present constitution guarantees the irrigators' rights to elect the authorities of each canal, and to administer their own budgets and revenues. They are organized under public law.

Associations that administer water resources are not just restricted to irrigation. The Belgian *Wateringues* are landowners' associations concerned with the implementation of waterworks. The Polders Associations were created to manage maritime flooding, and can be subsidized by the state. They are public administrative authorities.

Chile is another country with a strong tradition of associations that manage water resources. The Society of Maipo Canal was created in 1827. At present, participation alternatives are regulated by the Water Code.¹⁰ There are three basic alternatives: Water Communities and Canal Associations, which pertain to canals, or impoundments, or common waterworks, and Vigilance Boards which oversee river basins, or sections of natural watercourses. While communities, as the name implies, are the result of several users depending on the same source of supply (art. 186 Water Code), associations and boards are formally created (arts. 257 and 263, Water Code).

Water users' associations are characterized by their juridical nature. Although they can be organized under private or public law, most countries rely on public law organizations rather than private ones. In Europe, private associations and cooperative and contractual arrangements do not, in relative terms, play a prominent role in local water management. Furthermore, the requirements of water management (decisions binding on minorities, no right to secede, compulsory spreading of costs and assessment of dues and fees, rule making authority for water management, condemnation powers, etc.) call for some sort of public organizational device. This is the principle of the Spanish Water Law of 1985, and of the German and Taiwanese legislation.¹¹

In the United States the law permits the creation, or use, of private or public arrangements for cooperative water resources management. Yet, "... it is the public institution that has prevailed. ...by the need to raise up-front construction capital or by the need for some device to compel would-be beneficiaries to participate." Public Special Districts "... address the need for both political and economic feasibility." They assure economies of scale and mandatory dispute-resolution processes, essential where a large number of diverse water users are involved. However, "... the districts remain essentially business enterprises, created by, and chiefly benefiting a special group of landowners" (Ball v. James, 451 U.S. 355, 368 [1981]).¹²

In some countries, like Ecuador and Colombia, several types of organizations, both public and private, provide water-related services. There are, for example, Water Directories, Irrigation and Drainage Commissions, Associations of Rural Workers, Irrigation Cooperatives, Water Users' Associations, Users' Boards and General Users' Boards that handle water distribution and management for their members.¹³

A discussion of organizational alternatives would not be complete without a reference to the possibility of assigning water-related services to privately held stock corporations which provide services, for a reasonable profit, to the public at large. Privatization of state-owned enterprises has expanded the possibilities of private corporations providing water-related services to customers outside their membership. These are private corporations subject to public regulation to assure the quality of the services, reasonable rates, non-discrimination, adequate capitalization, financial viability, etc. They are particularly active in such areas as drinking water supply and sanitation and hydroelectric generation and distribution.¹⁴ However, some private organizations, including corporations organized under the Carey Act and the Carrier Ditch Companies in the United States, have faced some problems.¹⁵ These problems included, *inter*

alia, inability to finance, overestimation of available water resources, cost overruns, and engineering mistakes.

Membership

There are two main questions regarding membership of water users' associations. One is whether membership is to be voluntary or compulsory. The other is whether the membership will consist only of private users or also include representatives of the public sector. Some examples of different membership structures follow:

- In the provinces of Mendoza and San Juan, in Argentina, membership is compulsory. The ownership of land benefiting from water rights carries with it membership in the water association.
- In Austria, there are three types of local water cooperatives: voluntary formation and membership, voluntary formation with obligatory membership, and obligatory cooperatives. The latter are for flood and water pollution control. Membership is obligatory when, without the inclusion of additional land, a project would not be technically or economically feasible.¹⁶
- In Chile, the existence of a Water Community is declared by a judge, at the request of any interested party or of the General Direction of Waters (arts. 186, 187, 188, 189, and 190, Water Code of Chile). Canal associations are created by notarized agreement, signed by all the owners of water rights from a common source (art. 257 Water Code), upon approval of the President of Chile and previous reporting of the Direction of Waters. The legal principles regulating water communities appear to be of supplementary application to Canal Associations (art. 258 Water Code). Vigilance Boards are created through a similar procedure. However, while creation through notarized agreement requires the unanimous consent of the relevant water right owners, a Board can be created by a competent Judge, at the request of any interested party, or of the Water Direction (arts. 263 and 269 Water Code). Research carried out in the Aconcagua Valley found that the formalities of creating a water users' association were complicated and difficult to implement.¹⁷
- Membership in the Water Directories of Ecuador is compulsory.¹⁸ Other examples of compulsory membership are found in Greece, Germany, Italy ("Land Reclamation Consorzi"), and some states in India, Japan and Taiwan.
- Private interests and government officials are found in some arrangements like the Agricultural Committees of Ceylon and the French organizations.¹⁹
- Under the Spanish law of 1985 users' associations are mandatory (art. 73) and participation is an obligation (art. 74).

- In the United States, “The traditional form of the typical special water district pursued the purpose of enforced participation and cooperation.”²⁰

Purposes and Functions

Water users' associations are created to facilitate and promote certain economic activities of benefit to their membership. Governments have usually encouraged users' associations, due to their relevance to economic activities considered to be in the public interest. The following examples illustrate the multiplicity of purposes and functions of water users' associations in various countries throughout the world:

- The *Wateringue* of Belgium intended to promote agricultural interests by maintaining or creating water levels favorable to agriculture, e.g., draining excess water or bringing water in during times of drought.²¹
- The Cultivation Committees of Ceylon are responsible for the maintenance of waterworks at the user level.
- The primary objectives and functions of the Water Communities, the Canal Associations, and the Vigilance Boards of Chile, are to divert waters from the main canal and to distribute them among the membership; to construct, operate, improve, and conserve waterworks; and to arbitrate differences about water distribution and water rights among the membership (arts. 244, 200, 186, 266 Water Code). The Vigilance Boards also can declare that there is a situation of water scarcity and/or that a particular water source has been exhausted (arts. 282 and 274).
- The “Inspections” of Mendoza, in Argentina, are responsible for operation and maintenance of the canal under their jurisdiction, including water distribution, and adjudication of *de facto* conflicts among the membership.
- The societies of mixed economy of France construct waterworks, manage the areas, regulate and distribute waters, etc. The National Company for the Management of the *Bas-Rhone et du Languedoc* was created to promote irrigation. It operates as a concessionaire of waterworks and canals. Water distribution within the system corresponds to water users' associations.²²
- The German Water Users' Associations are responsible for water development, water-works, flood protection, control of waste water, procurement of water for consumption, soil improvement and surveillance.²³
- The objective of the Italian water users' associations is the better utilization of water. (Texto Unico, arts. 16.1, 59.1, 59.2.).

- The basic function of the water associations of Taiwan is to deliver water to their members, and to remove drainage water. However, their functions are wider, going from planning and construction to water distribution and operation and maintenance of water works. They can settle water disputes and must cooperate with government agencies. Their activities must be coordinated with government policies for agriculture, rural development, industry and land.²⁴
- In the United States there are a number of organizational alternatives for users' participation in water management, some of which are private organizations. A brief description follows.
 - The arrangements for the management of joint and common ditches endeavor to ensure the maintenance of common ditches, and the distribution of water according to the water rights of each beneficiary. Water rights are not normally held in common.
 - Mutual ditch or water corporations are more elaborate arrangements, where a non-profit corporation is formed for the benefit of the membership. Water rights can be held by the corporation or by the membership, usually being organized as stock corporations. The purpose is to oversee the distribution of water among the membership. The corporations have powers to borrow money, secured with mortgages on their assets; to levy special assessments on the membership; to condemn property; etc. They are subject to federal securities legislation.
 - Another arrangement was the Carey Act Corporations, which intended to promote the development of irrigation through private investment. They were "beset with problems."²⁵ Private investment was not enough for the massive development of irrigation in the Western United States.
 - The Reclamation Act of 1902 promoted the financing of irrigation by the Federal Government. The states authorized the creation of users' associations to contract with the Federal Government and gave the associations powers to levy assessments on the membership. However, the Department of Interior announced that "... [it] prefers to deal with public water districts having the power to tax land," and associations ceased to be an important factor in many states.²⁶
 - Carrier Ditch Companies were created to provide water to consumers for a profit. They were entitled to a decreed amount of water and subject to regulations and price approvals. Today, they are "virtually relics of the past."²⁷ Consumers dealing with carrier companies have a right of service and are protected from arbitrary actions.²⁸
 - Legislation in the United States also provides for public water users' organizations for water management. Special water districts control a dominant share of water rights in the Western states, focusing primarily on water for irrigation.²⁹ Special public districts have the following characteristics: they are separate corporate entities; they are entrusted with the performance of one or more governmental functions, or

proprietary services vested with a public interest; they have corporate powers as requested by the performance of their activities; they have a board of directors; their jurisdiction is usually territorially determined; they have revenue sources and financial powers found in conventional units of local government.³⁰ Traditionally related to water resources, special water districts are now undergoing a process of change, prompted by environmental concerns, changing conditions and conflicting demands.³¹

- Among the issues affecting water districts in the United States, one of growing importance is jurisdictional conflict with other water management entities and non-agricultural water uses. Concerns have switched from agriculture to domestic uses, and districts sometimes conflict with municipalities and other water supply entities. As a result, districts which in the early days were largely free of any form of supervision and regulation, are confronting ..."many for the first time, the command and control regulation."³²
- Another issue is the right to vote for district authorities. Traditionally, voting rights have been limited to land owners. However, this view is being challenged in court, on the basis that the system violates the principle of one person one vote and also on the fact that some districts are not sufficiently specialized, since they serve many and varied constituencies. New Mexico and Washington State have upheld the rights of non-landowners to vote in district related elections.³³
- In France, the Basin Committees and Basin Agencies are responsible for studying and financing works of common interest. They control pollution, utilizing users' fees to raise revenue to finance investment in treatment plans.³⁴ The agencies promulgated the view that water problems were special, that they should be managed on the principle of economic balance, decentralized and separated from traditional political struggles. Barraque, commenting on the performance of the French system says "...However, this efficiency-oriented and flexible arrangement is not suited to support the most ambitious goal put forward at the creation of the *agences de bassin*: they were supposed to derive their actions from resource planning at the basin level, starting from quality targets that their boards would choose for each river section." Instead, they seem to have used a "give and take approach [which] is quite removed from any planning approach".³⁵ A Direction of Water Resources has recently been created within the French Ministry for the Environment. The French agencies also dealt with quantity control. On the whole, a problem of the River Basin Agencies has been the scattering of police control powers, and their lack of enforcement powers. They have operated largely on the basis of incentives.³⁶

Economic Environment, Organization, Financing

Economic Environment

Water users' organizations do not operate in a vacuum. Their performance is affected, positively or negatively, by their economic environment. Organizations operating in economies with assured access to markets might face fewer problems than organizations facing marketing constraints. It is not by chance in this regard, that among the elements negatively affecting the performance of water users' organizations in Pakistan, marketing has been singled out.³⁷

The experiences of water users' associations in countries providing economic incentives to some activities, such as agriculture; or to some users, such as farmers; or directly to water users' associations, might not be adequately understood, or replicated, if such economic incentives are not taken into consideration when analyzing the performance of national examples of water users' associations.

Thus, in the Republic of Korea, "Since 1989, all project costs have been contributed by the Government. Rehabilitation projects of irrigation facilities and drainage improvement projects are carried out with government subsidies only. The cost for minor repairs of irrigation facilities is covered by the FLIA water charges."³⁸

The water districts of the Western United States have been closely related to the implementation of national policies for the development of the water resources of the country. According to these policies, in 1902 Congress adopted the first Reclamation Act whose purpose was "to encourage family farming on modest size parcels and to encourage agricultural output by subsidizing the irrigation of formerly arid and unproductive land.... Water was provided to farmers in the 17 Western states, at prices substantially below cost."³⁹

In other countries, subsidies and support were provided either by establishing minimum prices for some products, or by the state buying the produce of irrigated agriculture, or by providing long-term credit at low interest rates during times of high inflation, or by granting tax exemptions to investments in irrigation. Some countries have granted bonuses or credits against investments.

Financing

Water Users' organizations require revenue to finance their expenses and activities. In the most simple systems, expenses are usually related to operation and maintenance of existing facilities and are charged to the membership in proportion to their benefit, measured in either land or water rights. Some systems authorize payment in kind, money, or labor.

More sophisticated systems allow users' organizations to resort to public credit and to tax their members in order to collect revenues. Credits are secured with privileges on the assets of the organization or of the membership.

In the Chilean system, water users are obliged to pay for the construction and repairs of the main canal. They also pay for construction, exploitation, cleaning, conservation, improvements and other expenses benefiting the community. Payments are proportional to water rights. Unpaid expenses are a lien on the water rights of the users that did not contribute. New owners are jointly and severally liable for unpaid expenses. Expenses for the exclusive benefit of some owners are paid by the beneficiaries. Water supplies can be discontinued for lack of payment. Dues in arrears are subject to adjustment, fines and interests (Chilean Water Code arts. 212-216).

In the United States the maintenance of Joint Ditches is in proportion to the "share in the use or ownership of the water."⁴⁰ The Mutual Ditch and Water Companies have powers to borrow money secured by mortgages or trust deeds on their corporate assets and to levy special assessments on stockholders. Unpaid assessments are liens on the stock whose contribution has not been paid. Public irrigation districts can be financed from a variety of sources including issuance of construction bonds, assessments on district lands on the basis of full cash value, toll charges, loans etc.⁴¹ In some states, they are subject to strict control, including certification of construction bonds. Certification is based on analysis of the project to be financed, the availability of waters, the amount of water needed, the susceptibility of the land to irrigation, drainage problems, benefited lands, maturity dates, etc. The certification reports are, in fact, an analysis of economic viability. The Securities Commission also supervises the expenditure of the funds obtained through the issuance of a bond. District electors must approve the issuance of bonds.⁴² Lands within irrigation districts can be assessed according to three basic criteria: property values, uniform rates per acre and benefits received.⁴³

Organization

Water users' associations can be organized according to different models whose complexity varies. There are simple systems, like the "Inspections" in Mendoza, Argentina, where one organ, the "Inspector," performs all functions. More sophisticated systems have one organ per function. Thus, the users' associations of Spain have traditionally been organized on the basis of three organs : a deliberative body (the Assembly), an executive organ (the Governing Board) and an adjudicatory or judicial body (the Jury) (art. 76 Spanish Water Law of 1985).

User's organizations in Chile have an Assembly and a Directory of Administrators. The assembly is the organ of deliberation and the directory is the executive body. The directory also acts as an arbiter (arts. 218-244 Water Code of Chile).

One major question for many of the associations has been the allocation of voting powers. The traditional criteria are to confer voting rights on the basis of interest, or according to the

principle of one person one vote. However, some systems have tried more eclectic approaches by combining interest with sliding voting powers, or putting a ceiling on voting powers, once a maximum number of votes has been reached.

Organizations of Organizations

Water users' organizations face a dilemma: while small groups assure coherence and cooperation, hydrological units are not necessarily small. In addition it would be normal for larger organizations to enjoy advantages in economies of scale.

For these reasons some legal systems authorize "associations of associations" or organizations larger than the traditional ones. They exist in the Spanish law of 1985 (art. 73). In Mendoza, Argentina, there is a trend to allow the formation of larger users' associations.

Public Controls

Water users' organizations traditionally have been subject to government controls. Throughout this paper we have seen numerous examples of control. The most common controls are issuance and conditioning of water rights, imposition of minimum legal requirements, monitoring of elections, approval of work plans, approval of budgets, control of expenses, removal of authorities, review of decisions (either through administrative or judicial appeals) compulsory formation, etc.

Conclusions

Traditionally, water users' organizations have been formed to promote the interest of their members, relative to certain economic activities such as irrigation, or to protect the membership through appropriate drainage, or to cooperate in the implementation of public policies, (e.g., the development of irrigation in the Western United States).

Their main role has been water distribution, construction of waterworks, operation and maintenance of such waterworks, adjudication of conflicts among their members and control of water allocations for the membership.

The organizations have been successfully operated within environments where organizations for water management and development have been assigned high priority within government activities, where there is appropriate water legislation, stable and secure water rights systems and, in many cases, strong public incentives for water based activities. Examples of the latter include subsidies to the price of water, by delivering it below production costs, and subsidies to the production of water, by assuring minimum price and markets to the outputs.

Thus, water users' organizations seem to have been successful under certain conditions, especially when they are elements inserted into larger administrative frameworks, and when (as is the case in many of the examples) the users' associations are under some sort of public control or organizational arrangement. They seem to enjoy greater success when they operate under certain legal frameworks where water rights are stable and secure. Often, water related activities are preeminent in the societies where users' organizations exist. In some countries this preeminence has been translated into direct or indirect subsidies.

To what extent these organizations would perform appropriately under mandates broader than to serve the interests of the membership, is an open question that deserves careful study and scrutiny, including empirical, multidisciplinary research, before a policy suggestion is made.

In addition, the issues to be considered are not only decentralization, but also *integration*, *democratization* and *objectivation* of water management. The problem is too broad to be addressed only by decentralization, so the objective should be on how to assure effective and sustainable water management for long term. Then the issue is how best to integrate the stakeholders in the different stages of water management, according to economic, technical and environmental principles, all aimed toward long-term sustainability.

It is likely that water users' organizations will continue to perform an important role in water related activities of interest to their members, relieving governments of the day to day management and control of operational activities. It also seems that as conflicts in water allocation and externalities increase, there will be a need for appropriate public controls in the areas of planning, policing, and regulating the use of the resource and the transfer of externalities.

Systems of water administration might need to be reorganized, in order to allow broader and more diversified participation and representation of different types of stakeholders and users in water planning, development, allocation, regulation, and conservation.

Endnotes

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6. *Spanish Water Law of 1985*, arts. 17 and 19.
7. Nicolazo-Crach, J.L. *Les Agences Financieres de Bassin: D'Hier a Aujourd' Hui*, III World Conference on Water Law and Administration, Alicante, Espana, 1989.
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13. See *Colombia*: Decree 182/68, Law-Decree 2811/74, Decree 1541/78, Decree 2259/76, Decree 132/76; Agreement No 41/77 Himat Directive Board; Agreement 212/76 Water User's Association Rio Coello and Himat; and also the Charters of the Water Users' Association of the Irrigation District of the Recio River, Asorecio, Armero of July 12 1977; of the Water Users' Association of the Irrigation District of the Coello River of May 19, 1976; of the Water Users' Association of the Acequias Lagunillas y Rastrojos of May 20 1977, Armero; and Decree 755/67 ; also see *Ecuador*: Charter of the Water Directory of the Society of Agriculture and Co-owners of the Acequia Chimborazo, Amended; Agreement of the Ministry of Agriculture 814/69; Charter of the Association of Rural Workers Caserio San Vicente y Tigua; Charter of the Irrigation Cooperative Fray Mariano Benitez; arts. 64 y 65 Decree 40/73; Decree 1551/66; Law 369; and Decree 40/73.
14. See World Bank Technical Paper No 88, "Techniques of Privatization of State Owned Enterprises"
15. See Davidson p. 492-495.
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21. *FAO Water Laws in Europe*, Rome, 1975, p. 19
22. United Nations *Abstraction and Use of Water: A Comparison of Legal Regimes*, United Nations, New York, 1973 p. 109-110 and also Framji, p. 37.
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Centralization vs Decentralization: Reforms of the Chinese Agricultural Research and Extension System

Shenggen Fan and Philip Pardey*

Background

China's public agricultural research system is exceedingly large and dwarfs most other national agricultural research systems (NARSs), whether viewed in terms of research personnel or expenditures.¹ Moreover, the system is institutionally complex with multiple public-sector agencies that fund, administer, and conduct research (and extension) at each level of government. There is also a large degree of spatial diversity in production systems, agroecological zones, and market-related factors that give rise to important institutional design and resource deployment issues. The opportunities for economies of size and scope in the production of new knowledge and technologies point to some centralization of research operations while the location-specific nature of various agricultural technologies suggests that some decentralization is appropriate. An additional complicating factor is the rapid pace of institutional and economic change in China. In recent years, public sector research and extension agencies have struggled to secure sufficient funds to maintain their programs of research and to attract and retain qualified research staff. And, the rapid pace of change in commodity and factor markets induces correspondingly rapid changes in the derived demand for technology services.

Against this background there are ongoing policy and management concerns aimed at getting more effective coordination of the combined research efforts of the national and local agencies. Too much centralization may lead to overburdened decision-making processes, and to a loss of initiative, capability, and funding prospects at the operational level. Too much decentralization can lead to fragmented initiatives, unnecessary duplication of effort, missed opportunities regarding possible size and scope economies, and, perhaps, a loss of critical mass in some key areas. The purpose of this paper is to briefly review the quantitative and institutional structure of agricultural research (and extension) in China in light of the current and possibly future policy options aimed at restructuring and reorienting the country's technology generation and transfer system.

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Organizational Overview

Agricultural research and extension in China is highly decentralized, with research activities concentrated at the national, provincial and prefectural levels, and extension and demonstration activities implemented mainly below the prefectural level.

Research at the National Level

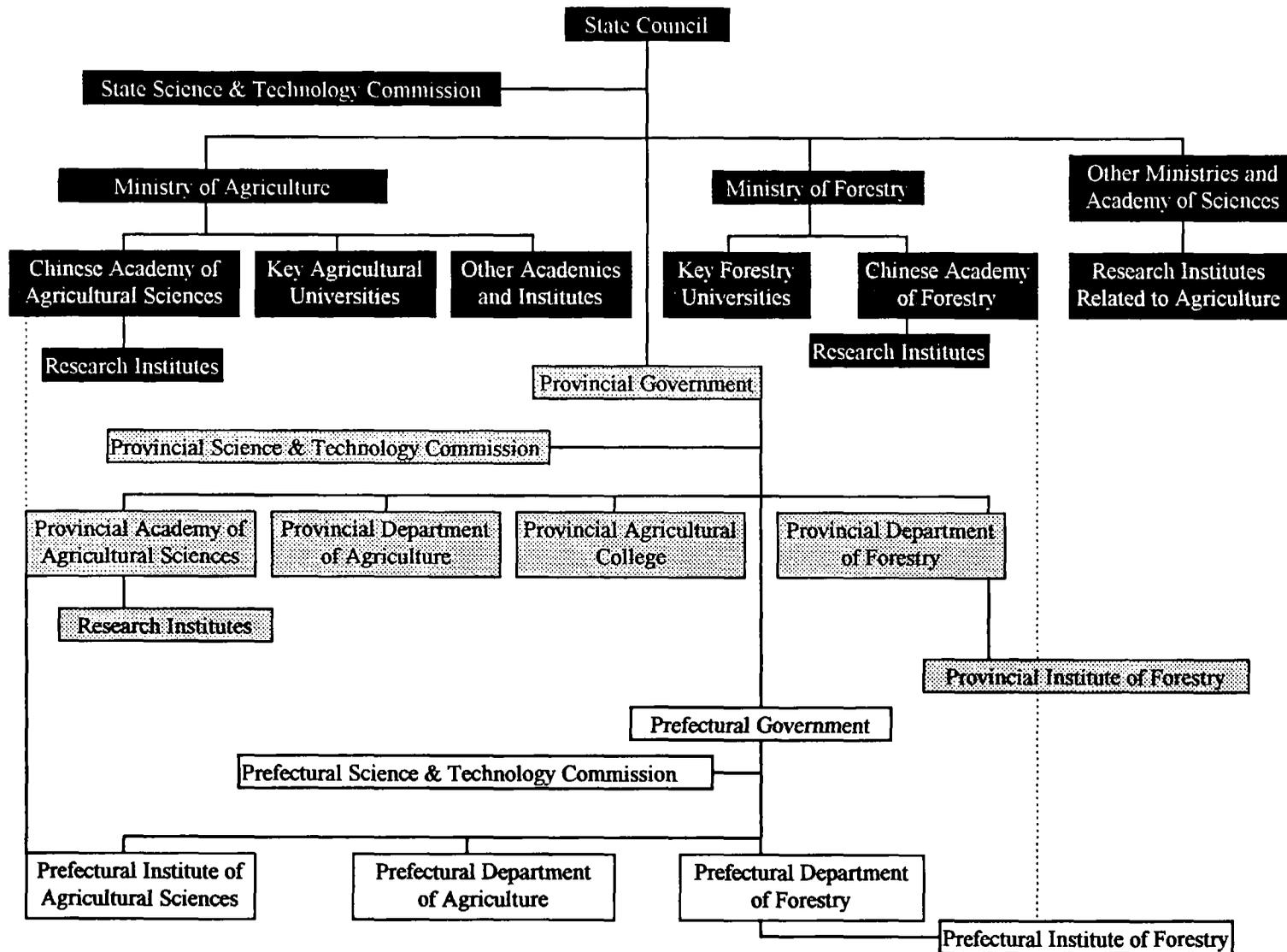
The State Science and Technology Commission (SSTC) continues to be the most comprehensive organization devoted to the coordination and management of civilian science. Functionally the commission is at the apex of the hierarchy of research institutes, although administratively it interfaces with them only indirectly via ministries. Below the commission are a number of ministries and special agencies (Figure 1). One such agency, the Chinese Academy of Sciences (CAS), is a national research complex that primarily does basic research, including biology, botany, genetics, physiology, entomology, virology, zoology, and soil science. There are also a series of research institutes or academies that are directly controlled by the respective ministries under the State Council. These institutes engage mainly in applied research and technology development. (See Figure 1, Annex A.)

Agricultural research at the national level is largely conducted within academies and institutes under the Ministry of Agriculture, complemented by the research efforts of the various institutes under the administrative control of other ministries (Figure 1). The Chinese Academy of Agricultural Sciences (CAAS) is administered by the Ministry of Agriculture and is the principal national research agency within the Chinese agricultural research system. It operates over 35 national commodity, resource, and disciplinary research institutes located throughout the country. In 1991 the academy had about 10,500 staff of whom 5,000 were classified as technical personnel (20 percent of whom are senior scientists) 800 as administrators, and 4,700 as support staff. Its research program takes a leadership role on issues of national significance, such as the development of hybrid rice varieties within China.

China has a separate ministry and academy for forestry. The Chinese Academy of Forestry (CAF) was established in 1958 and integrated into CAAS in 1970. When the Ministry of Forestry was separated from the Ministry of Agriculture in 1978, CAF was reconstituted as a separate entity. The academy has eight research units, four in Beijing and four located elsewhere in the country (CAF 1990). CAF supports 5,050 total staff, of whom 1,230 are technical staff. Research undertaken by the academy covers all issues of basic and applied research and development related to forestry.

The Chinese Academy of Fishery Sciences (CAFS), founded in 1978, is administered by the General Bureau of Fishery Production of the Ministry of Agriculture. In 1991 CAFS supported 18 of its own research units and had 3,400 total staff (of whom 1,847 were technical staff) involved in both basic and applied research as well as fishery technology development.

Figure 1. Organizational Structure of the Agricultural System, 1992



Legend: National Level ; provincial level ; prefectural level . — administrative linkage; professional linkages.
 Source: Fan & Pardey (1992a).

Research at the Provincial and Prefectural Levels

Upon their establishment around 1958, the provincial academies functioned as branches of CAAS. But since the Cultural Revolution, they have all operated under the jurisdiction of their respective provincial governments. The provincial agricultural academies conduct research that is targeted more to their provincial circumstances. They are linked to the national institutes through a series of collaborative programs, with the leadership, in rice breeding for example, located at the national centers.

At the prefectural level, the emphasis is more on applied and adaptive research and development. The principal research entity is the prefectural agricultural research institute, which is generally administrated by the prefectural government, although there are three provinces where prefectural institutes are under the provincial academies of agricultural sciences. Research at the prefectural level is important, given the relatively large size of a prefecture within China. The research performed at this level has been fruitful and led to the release of many new varieties.

Research Activities at Universities

A distinctive feature of the agricultural research system in China is that research is institutionally separate from education. Although the Chinese Academy of Agricultural Sciences and the key agricultural universities are both administered by the Ministry of Agriculture, there is no functional link between them. China's agricultural university system was adapted from the Soviet model in 1952. Under this system, *agricultural* universities and colleges were established as entities separate from the *comprehensive* universities. Traditionally the main task of the (agricultural) universities has been to teach, although their research functions have been reinforced somewhat in recent years.

There are seven key agricultural universities in China that are administered by the Ministry of Agriculture. They place more emphasis on research and have stronger contingents of research personnel than provincial agricultural colleges. Provincial colleges devote most of their research related efforts to applied research and technology extension.

While agricultural universities and colleges within China have relatively well-trained personnel, only 22 percent of the scientific and technical staff at the universities in 1986 were classified as full-time equivalent researchers (SSTC 1987). University research funds come almost entirely from project grants and contracts with the national, provincial, and lower levels of government. Research results have been substantial despite insufficient funds and the generally poor quality of equipment. However, the lack of research resources at universities and colleges affects not only the current research effort but also the quality of training received by students, and thereby the quality of the country's next generation of researchers.

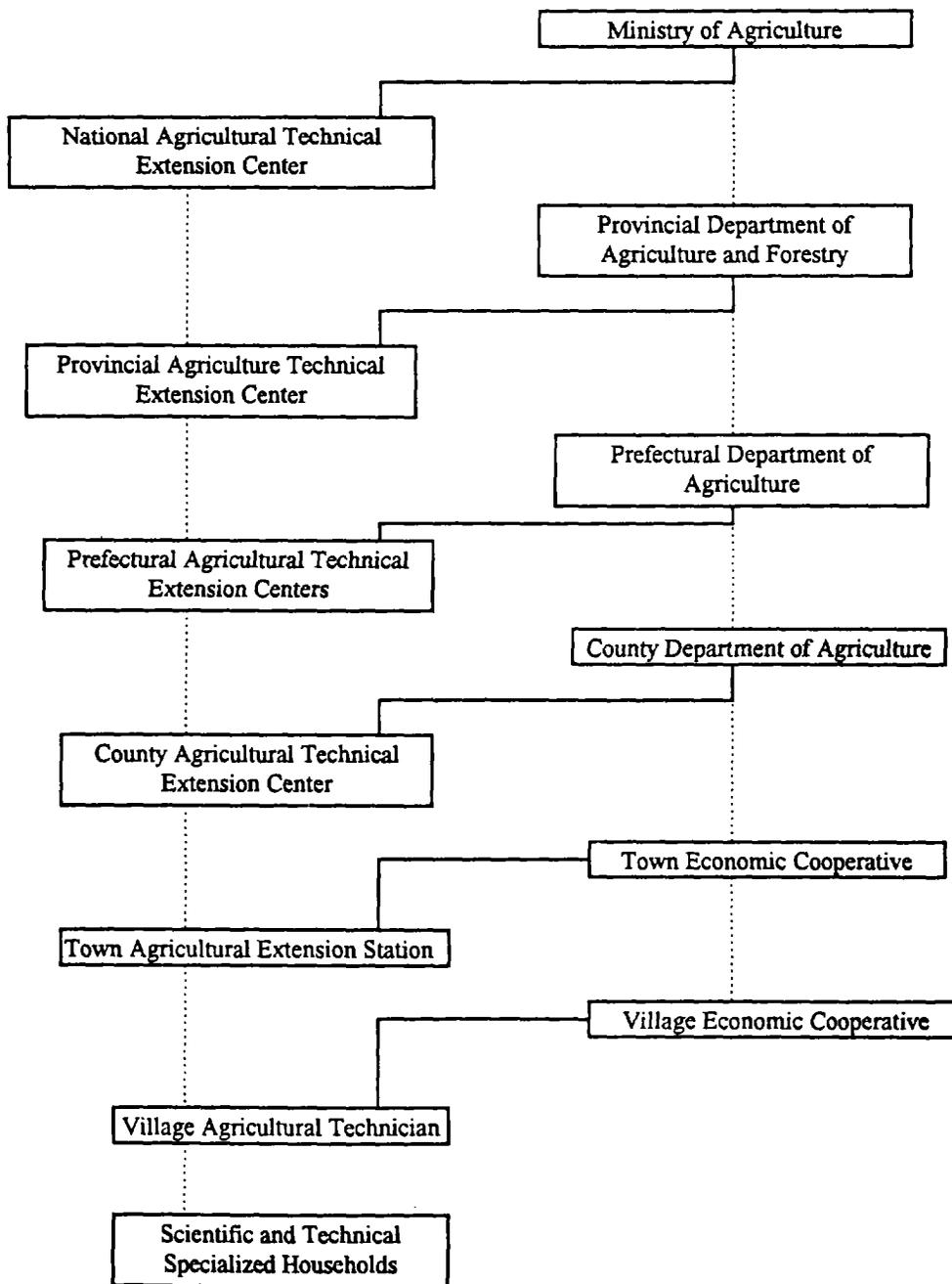
Extension Activities

The National Agricultural Technical Extension Center (NATEC), a parastatal established in 1982 under the Ministry of Agriculture, is the principal agricultural extension agency at the national level. It is concerned mainly with the formulation of government policies that relate to extension, as well as designing national extension programs and conducting nationwide information exchange and training activities. Although NATEC is the top governmental institution responsible for coordinating all extension activities at the national level, its work has focused on crop-production extension and its coordinating role with respect to forestry, fishery, and livestock extension is weak. The conduct of fishery and livestock extension rests with the Fishery Product Bureau and the Livestock and Veterinary Bureau, respectively, under the Ministry of Agriculture. Forestry extension is under the jurisdiction of the Ministry of Forestry. There is an office within the respective agricultural departments that performs duties at the provincial and prefectural levels that mirror those of the NATEC at the national level. Parallel to the situation at the national level, forestry, fishery, and livestock extension is conducted separately from the provincial agricultural extension center that focuses on crop production. However, there have been fairly widespread and ongoing efforts to merge these agencies into inter-departmental, semi-autonomous extension units. (See Figure 2, Annex B.)

In addition to the institutional fragmentation of the extension system itself, the horizontal linkages between research and extension are particularly weak, especially at the provincial and prefectural levels. At the provincial level, extension is mainly the responsibility of the extension centers under the provincial departments of agriculture and forestry, while research is conducted at the provincial academies of agricultural sciences and provincial agricultural colleges. The lack of coordination that stems from this institutional fragmentation often leads to unnecessary competition for resources and duplication of effort between research and extension. Fortunately, the importance of these linkages has been increasingly recognized and resulted in some projects to promote "Triple A" linkages, i.e., linkages among agricultural research, agricultural extension, and agricultural education. Such projects have been funded by national and local governments in Jiangsu, Sichuan, Liaoning, Beijing, Hunan, and Fujian, for example. Research institutes and universities are usually responsible for the research components of these projects, while extension organizations take the lead in technology demonstration and extension activities.

Extension effectively becomes operative at the county level, which has been designed as the focal point for developing China's agricultural technology-transfer system. County-level extension structures are similar to those at the national, provincial, and prefectural levels. Beginning in 1979 the Ministry of Agriculture, with the assistance of local governments, has made substantial efforts to integrate extension more effectively at the county level. County agricultural extension centers have been established in more than 1,000 (or one-third) of the counties in China. These agricultural extension centers include what had previously been cultivation stations, seed stations, plant protection stations, soil and fertilizer stations, and agricultural technical extension schools. Some 200 livestock extension centers have also been established, based on the previous veterinary stations, livestock improvement stations, and grassland stations.

Figure 2. Organizational Structure of Chinese Agricultural Extension



— indicates administrative linkages; indicates professional linkages
 Source: Fan & Pardey (1992a).

Prior to the market reforms of the late 1970s, the extension system at its most basic level was an operational entity within the commune system that served the production teams within each commune. Because production decisions were highly centralized, decisions regarding technology delivery and adoption could be effected by administrative order, and in some respects this was a very effective mode of operation. Following the market reforms, production has been increasingly decentralized, so the extension system must now service 170 million family farms rather than the 6.6 million production teams in the commune system. Efforts are underway to rebuild the extension system in a way that links the remuneration of extension staff to the effectiveness of the extension services they provide. (See below for more detail.)

Quantitative Overview

Research Personnel and Expenditures

In the decade following 1979, government agencies made fairly sustained efforts to strengthen the nation's agricultural research capacity, with the number of personnel increasing at a steady rate of 9.1 percent per annum and real expenditures at 4.8 percent per annum over the ensuing decade (Table 1). However, the available (and largely impressionistic) evidence suggests that real spending has declined in the past few years. These recent developments notwithstanding, by the mid-1980s, the latest year for which internationally comparable figures are available, the Chinese system alone accounted for 44 percent of the less-developed world's agricultural researchers and 39 percent of its research expenditures (Pardey, Roseboom and Anderson 1991).

In China, the research capacity vested in the universities, particularly in terms of funding, is quite limited. Certainly the universities' share of agricultural research resources has increased substantially since the educational reforms that were instigated some 15 years ago, but by the late 1980s, universities still accounted for only 15 percent of the system's full-time-equivalent researchers and 8 percent of its expenditures.

Research Expenditures per Scientist

Expenditures per scientist for those working in the research institutes declined by a third in real terms since the early 1960s and at a rate that has accelerated in more recent years (Table 1). By the late 1980s their levels of research support averaged just under 45,000 1980 PPP dollars per year, which, nevertheless, is about twice the level of support accorded scientists working in the universities. Moreover, this downward trend is consistent with that observed for other developing countries over the same period, although it runs counter to the widespread move toward more capital-intensive research systems in both human and physical terms among the more-developed countries. At 39,500 PPP dollars per year, the level of real spending per Chinese scientist is comparable to the support afforded researchers working in other Asian NARSs. However, the Chinese figure has been trending down since the early 1960s while the Asian figure has remained fairly stable, despite large increases in the number of scientists working in these systems.

Table 1. Quantitative Development of Agricultural Research

	1953-57	1958-60	1961-65	1966-76	1977-85	1986-88
Research personnel			<i>(full-time equivalents)</i>			
Research institutes	-	-	6,966	11,118	27,207	43,421
Universities	193	363	504	503	3,051	7,351
Total	-	-	7,469	11,621	30,257	50,772
Research expenditures^a			<i>(millions 1980 PPP dollars per year)</i>			
Research institutes	78.1	560.0	476.2	724.8	1,485.2	1,886.9
Universities	4.7	7.3	10.5	11.4	58.7	116.4
Total	82.8	567.3	586.7	736.2	1,543.9	2,003.3
Expenditure per researcher^a			<i>(1980 PPP dollars per year)</i>			
Research institutes	-	-	68,360	65,192	61,354	43,456
Universities	24,350	20,110	20,833	22,664	19,240	15,853
Total	-	-	65,163	63,351	51,026	39,457
Expenditure as a % of AgGDP^b			<i>(percentages)</i>			
China	-	-	0.42	0.36	0.44	0.39
Asia & Pacific, ex China	-	-	0.14	0.20	0.31	-
Developing Countries	-	-	0.24	0.32	0.41	-
Developed Countries	-	-	0.96	1.35	1.82	-

^a The purchasing power parity (PPP) index used to convert 1980 yuan to 1980 PPP dollars was taken from Summers and Heston (1991).

^b The 1966-76 figures represent an average of 1966-70 and 1971-75 data. The 1977-85 figures represent an average of 1976-80 and 1981-85 data.

Source: Fan and Pardey (1992a).

Degree Status of Researchers

Despite the overwhelming size of the Chinese agricultural research system the number of researchers with formal scientific qualifications is quite meager. Only 5-6 percent of its researchers hold a post-graduate degree, compared with 60-70 percent in other less-developed Asian NARSs. Even in Chinese terms, the agricultural scientific community fares badly in this regard. The share of scientists and engineers with PhDs across all sectors averaged 0.4 percent in 1988 (SSTC 1989), which is double the corresponding percentage for agriculture. Those holding MSc degrees were 5.1 percent for all sectors and 4.6 percent for agriculture. This state of affairs is no doubt a legacy of the industry-led development strategies of the 1950s and 1960s and the anti-intellectual climate of the Cultural Revolution years that meant there was virtually no formal, post-graduate education before the late 1970s. It could be expected that over the next few years this situation will redress itself with the expected influx of graduates into the research system from the surge of enrollments in China's agricultural universities during the late 1970s and early 1980s. And while it is also possible that some of the large number of post-graduates presently overseas could return, if China's economy continues to develop as it has over recent years, many of these local and repatriating graduates may pursue careers outside the public research sector.

Research Intensities

Agricultural research intensities (ARIs) that express expenditures on public-sector agricultural research as a proportion of agricultural product are commonly used to measure the support to NARSs. China's investment in agricultural research in relation to the agricultural GDP was relatively high in the early 1960s in comparison with other less-developed countries (Table 1). In line with the available cross-country empirical evidence on this topic (Alston and Pardey 1993), the rapid growth in per capita GDP since the late 1970s would be expected to lead to increased ARI ratios. But in China's case, this tendency has been offset by the exceptionally high rate of growth (6.5 percent per annum) in the agricultural GDP that occurred in the post-1980 period. Thus, the decline in ARIs over the past decade did not stem from a contracting or stagnating level of agricultural research expenditure; its principal origins are likely to be found in the high rate of growth in agricultural output during the 1980s, spurred by the institutional reforms within the agricultural sector.

Vertical and Regional Structure of Research

A distinguishing feature of the Chinese agricultural research system is that the size, quality, and orientation of its research institutes vary considerably across administrative and regional boundaries. Over half the country's agricultural research institutes and a third of its research personnel are administered at the prefectural level, while national research agencies account for just 5 percent of the country's institutes and 12 percent of its research personnel (Table 2). As a consequence, there is a marked disparity in the average size of the institutes—ranging from 101 scientists per institute at the national level, through provincial institutes with half this number, to prefectural institutes averaging just 16 scientists per institute. These trends are paralleled by differences in the financial and technical support given to scientists working at these various administrative levels. Scientists at national

institutes are each provided with an average of 0.28 technical support staff each. There are 0.48 technical staff per provincial scientist and 0.77 technical support staff per prefectural scientist. At 30,451 yuan per scientist per year, the national average spending per scientist for 1989 is in line with the time-series data in Table 1. But, largely in accord with the ratios of support staff per scientist, spending per scientist for those working in national institutes is 16 percent below the country-wide average and 9 percent above the national average for those scientists working at the prefectural level. (See Table 2, next page.)

These data are generally consistent with the notion of larger, more scientist-intensive institutes at the national level focusing on pre-technology and less site-specific research. They are complemented by the provincial and prefectural institutes, which are generally smaller, less scientist-intensive and involved in more localized, adaptive kinds of research.

Much the same can be said concerning what is known about the regional development of research resources throughout China. It is evident that the research institute, personnel, and expenditure shares for each region are roughly congruent with the corresponding agricultural output, population, and arable land (Table 3). In terms of their congruency with gross agricultural production value, for instance, the Northeast and Northwest regions appear to substantially overinvest in agricultural research, while the North and, to a lesser degree, the Southwest regions, underinvest in research. However, to do justice to a consideration of spatial congruence requires a more thorough assessment of issues such as the site-specificity of each region's program of research and the degree to which new technologies and knowledge developed in one region can potentially spill over to another.

Extension

Complementing the nation's agricultural research is a national extension system that in 1987 had just over 300,000 employees, of whom 193,300 were classified as professional and technical support staff (Table 4). The available data suggest that the number of professional extension workers declined markedly in recent years as the institutional reforms of the system took hold. And spending per extension worker is only 40 percent of the amount spent per researcher.

A good many of the professional extension staff working at the national, provincial, and prefectural levels spend most of their time in administrative, policy formulation, and management activities. It is at or below the county level, where 93 percent of the professional staff are located, that most of the technology demonstration and training activities are carried out. As with research, an overwhelming majority of extension activities are oriented to crop production. In 1987, 75 percent of the state-employed extension professionals working in agriculture (i.e., excluding forestry and fisheries) focused on agronomic, plant protection, and soil management issues, 6.3 percent on horticultural problems, and only 2.5 percent on livestock-related matters (Fan and Pardey, 1992).

Funding and Coordinating Research

Funding Mechanisms

The State Planning Commission finalizes the annual budgets for all ministerial spending at the national level. It also authorizes the disbursement of central government funds to the various ministries as well as to the SSTC. The SSTC is in turn responsible for allocating the science and technology funds at its disposal to the various agricultural and nonagricultural ministries and national research agencies such as CAS and (to a limited extent) CAAS. At these upper levels of government, the allocation procedures are largely driven by precedent and political considerations. Within the respective ministries and agricultural research agencies (e.g., CAAS), there are presently no formally established or especially transparent mechanisms for setting research priorities and allocating funds accordingly. As a practical matter, a good portion of the financial resources are allocated in line with the number of research personnel, while in many cases, project-based funds are allocated on the basis of informal, subjective criteria, with precedent and personal relations also playing a role.

Public funding mechanisms at the provincial and prefectural levels parallel those at the national (or, in Chinese parlance, state) level. Some national funds flow to local government agencies, in some instances from the national to provincial institutes in support of collaborative research activities. But government financing within China is highly decentralized so the funds available to provincial and prefectural planning commissions are principally generated through locally administered public financing instruments such as taxes on industry and commerce, as well as agricultural (land) taxes, and resource extraction taxes.

Funding support for most research institutes consists of both core and project funds. Core funds are mainly used for salaries and are allocated by central and local finance departments at the various levels of government on the recommendations of their counterpart Science and Technology Commissions. Project funds are allocated in accordance with the research program specified in the five-year plan. Every year the state also allocates a certain share of project funds for new, emerging issues. These project funds are not disbursed on the basis of any formula. When the preliminary planning document becomes available, different national and provincial institutes submit research proposals to the Science and Technology Commission and their counterpart agricultural department. Budgetary allocations are then made following a conference in which the budget, the quality of the proposals, and the capacity of the organization proposing the research are assessed.

In recent years, governments at various levels have reduced the amount of core funds made available to the research institutes. They have encouraged the institutes to apply for funds from various domestic and international donor agencies and foundations and to undertake joint research projects with international research centers and foreign countries (SSTC 1989). One of these domestic funding agencies is the National Natural Science Foundation. It was established in 1986 and provides funds for basic research, including the agricultural sciences.

Table 2. Vertical Structure of Agricultural Research Institutes, 1989

	Administrative level			
	National	Provincial	Prefectural	Total
Number of institutes	56	423	620	1,099
Total staff engaged in S&T ^v	10,720	45,899	32,302	88,924
Scientists and engineers	5,676	17,827	10,161	33,664
Technical support staff	1,603	8,575	7,793	17,971
Other support staff	3,444	19,497	14,342	37,289
Research expenditures (current million yuan)	144.9	528.8	351.2	1,025.1
Scientists and engineers per institute	101	42	16	31
Research expenditure per staff engaged in S&T (current yuan per year)	13,513	11,521	10,872	11,528
Research expenditure per scientists or engineer (current yuan per year)	25,543	29,665	33,088	30,451

^v Total staff engaged in S&T includes research personnel (i.e. scientists and engineers plus technical support staff) as well as other support staff such as laboratory workers, and workers directly involved in implementing field trials and the like. Ancillary staff such as drivers, security guards, cafeteria staff, plus affiliated hospital and school staff that provide health and education services for institute personnel and their children, and explicitly excluded. The total number of research and ancillary staff employed by the Ministry of Agriculture research system in 1989 was 125,276.

Note: These data only pertain to the (nonuniversity) institutes within the Ministry of Agriculture research system (including national, provincial and prefectural levels) and thereby exclude research activities under the ministries of forestry, water conservation and power, and machine building.

Source: Fan and Pardey (1992a).

Table 3. Regional Distribution of Agricultural Research Capacity, 1989

	Region ^{a/}						
	Northeast	North	Northwest	Central	Southeast	Southwest	South
Number of research institutes	135	208	167	128	114	145	146
Research personnel (scientists & engineers)	5,011	7,149	4,279	2,669	3,883	3,402	3,336
Research expenditure (millions current yuan)	84.0	97.2	68.5	79.7	96.7	57.7	82.6
AgGPV ^{b/} (billions current yuan)	29.6	92.1	21.9	47.5	61.5	46.4	42.2
Rural population (millions)	55.3	246.2	48.1	121.8	138.7	152.3	115.8
Arable land (millions hectares)	16.2	28.5	13.1	9.2	11.0	11.0	6.8
	(Share of national total)						
	%	%	%	%	%	%	%
Number of research institutes	12.9	19.9	16.0	12.3	10.9	13.9	14.0
Research personnel	16.8	24.0	14.4	9.0	13.1	11.4	11.2
Research expenditure ^{c/}	14.8	17.5	12.3	14.1	17.1	10.2	14.6
AgGPV	8.7	27.0	6.4	13.9	18.0	13.6	12.4
Rural Population	6.3	28.0	5.5	13.9	15.8	17.3	13.2
Arable land ^{d/}	17.0	29.8	13.6	19.6	11.5	11.5	7.1

^{a/} China currently has 30 provincial-level units (of which 22 are classed as provinces, five as autonomous regions, and three as municipalities), 336 prefectural-level units (including both prefectures and prefectural-level cities or municipalities) and 2,182 county-level units. For our purposes, the country is divided into seven regions according to agricultural characteristics: *northeast* - Heilongjiang, Liaoning, and Jilin provinces; *north* - municipalities of Beijing and Tianjin, and Hebei, Henan, Shandong, Shanxi, and Shaanxi provinces; *northwest* - autonomous regions of Nei Monggol, Ningxia, Zinjiang, and Tibet, and Qinghai and Gansu provinces; *central* - Jiangxi, Hunan, and Hubei provinces; *southeast* - Shanghai municipality, and Jiangsu, Zhejiang, and Anhui provinces; *southwest* - Sichuan, Guizhou, and Yunnan provinces; *south* - Guangxi autonomous region, and Fujian, Hainan, and Guangdong provinces.

^{b/} Agricultural gross production value.

^{c/} 1987 data.

^{d/} Arable land refers to land under temporary crops (multiple cropped areas counted only once), temporary meadows for mowing to pasture, land under market and kitchen gardens, and land temporarily fallow or lying idle. It includes land under permanent crops.

Source: Fan and Pardey (1992a).

Table 4. Quantitative Comparison of Agricultural Research and Extension, 1975-88

Year	Research			Extension		
	Staff ^{a/}	Expenditure ^{b/}	Expenditure per staff	Staff ^{a/}	Expenditure ^{b/}	Expenditure per staff
		(1980 million yuan)	(1980 yuan)		(1980 million yuan)	(1980 yuan)
1975	26,491	455.1	16,800	-	931.2	-
1980	44,290	667.5	15,070	174,950	719.7	4,290
1985	65,408	909.1	13,900	190,740	836.5	3,770
1986	76,325	912.5	11,960	-	735.4	-
1987	82,716	847.7	10,250	193,300	786.5	4,070
1988	85,068	945.0	11,110	150,390	-	-

^{a/}Includes all professional and technical support staff. Extension staff other than for 1987 were derived from data reported in Swanson et al. (1919).

^{b/}The current yuan data reported in Swanson et al. (1991) were deflated using the same procedure as used for deflating research expenditures.

Source: Fan and Pardey (1992a) for research data, and Swanson et al. (1991) and *China's Agricultural Statistical Materials, 1988* (1989) for extension data.

As the value-added in agriculture increasingly moves off-farm, it will open up the possibility of privatizing or commercializing hitherto publicly funded aspects of the country's NARS, particularly those aspects concerned with post-harvest and purchased-input technologies. Indeed this commercialization process has gathered momentum within the public-sector research agencies over the past several years. There has been a series of increasingly radical changes in government regulations that have affected the level, sources, and mechanisms of support for public agricultural research agencies. These changes have enabled research agencies and their staff to move toward more commercial types of research and even engage in commercial activities with little or no research content.² Part of these earnings may be retained for use as science and technology research funds by the research units that generate them (SSTC 1989). The source of funds and their relative importance in an institution's funding base varies depending on the particular institution and region involved.

These quite recent developments are largely a response to the higher financial rewards to be had elsewhere. While this has no doubt serves to ameliorate the financial burden on all levels of government in terms of their budgetary commitments to research, it raises serious concerns about the continued development of the scientific and technological basis of Chinese agriculture. Not least among these concerns is the apparently increasing tendency for research personnel to spend significant amounts of their time engaged in activities other than research.³

A similar trend toward commercializing the provision of extension services is also underway. Agricultural technical service companies (semi-official, governmental agencies) have been created based on the previous agricultural technical stations at the township level. A system for agricultural technology responsibility that parallels the household responsibility system has also been introduced (STCMA and STDMA 1989). Extension staff sign contracts with farmers, or local governments, that tie remuneration to results and define the economic rights and responsibilities of all parties to the contract. This technology responsibility system is widespread. Virtually every county, township (commune), and village (production brigade) has entered into technology responsibility contracts between agro-technicians and farmers or between agrotech stations and local governments (MOA 1991).

Under this new, and still evolving, system, several farming households within each village are designated as being scientifically and technically specialized households. They may, in fact, be among the households who contract for extension services or they may carry out simple trials and demonstrations in conjunction with local agricultural technicians. Through these channels, these households can gain special access to resources such as training, technical guidance, and new seeds, and in so doing provide locally accessible information about the on-farm performance of new agricultural technologies.

As the research and extension systems respond to the rapidly changing demand for technology generation and transfer services, so too will the linkages between these two systems. The increased commercialization of the research system raises the prospect of the direct provision of new technologies and knowledge to the clients with whom they contracted to provide such services. While these developments tend to by-pass the extension system, they are generally limited to provision of

those technologies that get embodied in new or improved agricultural inputs which have private-good, not public-good characteristics.

Coordination

Much of the agricultural research designed for generating new technologies to increase agricultural production calls for a multidisciplinary approach. This is particularly true of commodity research programs where plant breeders, agronomists, pathologists, entomologists, and others often must be brought together in a highly complementary relationship. Countries that are characterized by a great deal of agroecological diversity may find it cost effective to mobilize their limited scientific and other resources by establishing a small number of national stations to do the more advanced research and a chain of regional stations located in different parts of the country that are involved mainly in adaptive research working in close collaboration with the extension service. An important function of the national research system is to coordinate the work of those two types of stations and to forge functioning institutional links.

The SSTC has a primary role in coordinating civilian research and development activities across the science and technology units operating throughout all government agencies. Given this broad mandate, its impact on agricultural research per se is relatively indirect, with its influence felt primarily through the priorities that are established in the process of formulating the country's five-year plans.

Within the Ministry of Agriculture is a Science and Technology Department. Its mandate is focused more on issues related solely to research and development within the Ministry of Agriculture, which enables it to play a more effective role in efforts to coordinate research at the national level. But it has a less direct role as a coordinating mechanism at the subnational level. Its coordinating role is realized principally through the five-year planning cycle for science and technology developments related to crop production, fisheries, and animal husbandry. The Ministry of Forestry also has a department for science and technology that coordinates all research activities within the ministry.

At present, however, research institutes under the various ministries and research programs operate somewhat independently. As a result, the linkages among institutes under different ministries are generally weak. At the provincial level, ties between provincial departments of agriculture, provincial research academies, and colleges and universities are also often weak or nonexistent. Where close cooperation exists, it is often fortuitous or stems from personal contacts. While the vertical structure from the local to the national level is relatively effective, institutional cooperation along horizontal lines needs strengthening if China is to make the best use of its limited finances, equipment, and trained personnel. To cite an example, in Nanjing, the Nanjing Agricultural University, Jiangsu Academy of Agricultural Sciences, and Nanjing Agricultural Mechanization Research Institute operate separate facilities within a short distance of each other but with little coordination of effort. The result of this institutional isolation is an excessive duplication of research effort. Coordination of research projects and communication of research results among entities working on similar problems would contribute to more focused, better-quality research.

Concluding Remarks

Public-sector agricultural research in China is clearly big business but "business as usual" no longer appears adequate. The shift from communal to farmer-based production systems, the accelerating trend toward part-time farming, and changing government price, quantity control, and trade policies⁴ have induced (and will continue to induce) fundamental changes in the sources of support and structure of demand for agricultural technology services.

Some broad trends are fairly self evident. Presently a high proportion of the agricultural research carried out by the Ministry of Agriculture agencies is directed toward production agriculture. Certainly there are research-induced gains still to be had in this sector, and a continuing need for investments in maintenance research. But, if China continues to develop as it has over the past decade, then the demand for agriculturally related technologies will increasingly move off-farm. Further increases in the use of off-farm inputs in agriculture, such as fertilizers, pesticides, and machinery, will stimulate increased demand for new technologies and knowledge aimed at the input supply sector. Rising per capita incomes are changing the structure of demand for agricultural products. Part of these changes are reflected in a rapid increase in the demand for processed agricultural products, that will in turn stimulate the demand for post-harvest technologies related to the storage, processing, packaging, and marketing of agricultural produce. At present China's research capacity in input supply and, particularly, post-harvest technology is embryonic.

In recent years, constraints on public research and extension spending at all levels of government have meant that real salaries (and spending per scientist more generally) in these public agencies apparently have failed to keep pace with inflation and the rapidly expanding prospects for qualified personnel in areas other than government research and extension. The institutional response has been to commercialize hitherto publicly funded research and extension activities and to enable research agencies to diversify their sources of support into commercial activities that may have little if anything to do with agricultural research. While the up-side of these developments is a research system that is more demand-driven and potentially more accountable, it also raises important questions about the appropriate amount of government support for agricultural research, the optimal division of labor and the focus of research problems between different levels of government and the public and private sector, and so on.

Questions concerning the appropriate degree of centralization and decentralization of research go well beyond a consideration of who conducts the research to also (and relatedly) consider how it is funded, and how best to monitor and coordinate the nation's research effort so that informed research policy and resource allocation decisions can be made. Certainly there is a clear need to improve coordination and to "harmonize" research agendas across the various levels of government. While complete harmonization is neither possible or even desirable (given the necessarily different objectives of the national, provincial, and prefectural governments), there may be substantial economies of scope and scale to be realized through improvements in this area.⁵

With one in seven of the world's farmers living in China, public-policy decisions about agricultural research and extension have important long-run growth and productivity consequences that directly influence world agriculture. But there is a paucity of information on which to base these public-policy decisions. The social payoff to moving beyond aggregate statistical indicators of research inputs to also consider the past, present and possible future consequences of alternative research investment decisions—including decisions to rationalize as well as commercialize aspects of the present system—are likely to be high.

Endnotes

1. In fact the Chinese system has four-fold more researchers than its nearest developing-country rival, India.
2. For example, Taihui Agricultural Research Institute engages in several commercial operations that have no research content. They distribute automobile parts for the Shanghai Volkswagen Factory and operate a spring water factory that generates more than half the institute's total income.
3. One of the other consequences of commercializing public-sector research is that more short-term research and various types of non-research activities are being carried out at the apparent expense of the longer-term, basic research. For example, for 10 provincial research institutes in Hunan province, there was a 40 percent decline in the number of "basic" research projects and a 20 percent decline in the number of applied projects between 1986 and 1988, with a corresponding increase in commercial activities.
4. This includes interregional trade policies regarding both factors of production (e.g. labor, purchased inputs) and agricultural output as well as international trade policies.
5. For a discussion of the practical and methodological issues surrounding attempts to evaluate research and set priorities at a regional level, with particular reference to research spillover effects, see Wood and Pardey (1993).

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Transaction Costs in Decentralized Rural Financial Markets

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Introduction

Those of us who work on rural finance face the dual challenge of dealing with nagging problems in low-income countries and also helping to reconstruct financial markets in economies that formerly were centrally planned. The lessons learned during the past four decades in low-income countries provide valuable guidelines for meeting both challenges. Although disagreement lingers, there is growing consensus about what did and did not work over the past four decades.¹ This includes diminished expectations about what can be accomplished through financial markets and a recognition that the provision of formal financial services in rural areas is expensive and accident prone. We also more clearly understand the importance of overall economic growth, law and order, and inflation control in creating an environment conducive for financial market development (McKinnon 1991). In addition, using market rates of interest and mobilizing deposits in rural areas are generally accepted practices now.

There has been less discussion, however, of three other important issues that strongly influence the development of rural financial markets: the incentives problems involved in principal-agent relationships, the prudential regulation problem, and transaction costs. It is becoming increasingly clear that flawed principal-agent rules and lack of prudential regulation contributed to the disintegration of many rural finance programs. It is also apparent that excessive transaction costs are a major explanation for the lack of outreach in many rural financial systems. Because they are often strongly influenced by donor activities, I here focus on the costs involved in financial transactions. First, the paper defines these costs, then discusses their role in rationing financial services, provides suggestions on how these costs might be reduced, offers a few comments on why they are important issues in financial markets that are being reformed, and concludes by proposing ways for donors to better deal with these costs.

Transaction Costs Defined

Transaction costs are to the functioning of financial markets what friction is to a machine. A carefully crafted and well lubricated automobile engine, for example, will create less friction and thus operate more efficiently than engines without these qualities--it will go farther on a tank of gasoline. Engines with excessive friction clatter along, generate heat, and eventually grind to a stop. Excessive transaction costs have a similar effect on the operation of finance projects and institutions--they shorten their lives and lessen their outreach.

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Transaction costs are the implicit and explicit expenses incurred by participants in financial markets to effect financial transactions--excluding interest payments, the costs of funds, and loan losses. These costs fall into two broad categories: the opportunity cost of time spent by borrowers and depositors as they negotiate financial contracts, and the explicit expenses incurred by all participants to form, to fulfill, and to enforce these obligations. Total transaction costs (t) can be subdivided into the costs incurred by the five major categories of participants in financial markets: borrowers (b), depositors (d), lenders (l), deposit mobilizers (dm), and regulators (r):

$$t = b + d + l + dm + r. \quad (1)$$

Borrowers' costs include the value of time spent soliciting, negotiating, withdrawing, and repaying the loan. It also includes costs for trips to meet with the lender, costs of providing suitable collateral, out-of-pocket costs for preparing loan documents, gratuities for co-signers, possible bribes or broker's fees to influence loan decisions, the opportunity costs involved in compensatory balances, and other expenses incurred in sustaining and enhancing their creditworthiness. A borrower's cost (bc) to secure a loan--the perceived price of the loan--is the sum of these transaction costs (b) plus the nominal interest payment made for the loan (il):

$$bc = b + il. \quad (2)$$

Depositors' costs largely involve the opportunity cost of time spent in searching for savings alternatives, in making deposits and withdrawals, along with any associated transportation expense (Guerrero 1988). The net return that savers realize on their deposits is equal to the interest received on deposits less the transaction costs incurred by depositors.

Lenders' transaction costs primarily stem from gathering and processing information required to screen potential borrowers, process loans and associated collateral, costs of monitoring loans, expenses generated by loan collection or collateral seizure, and costs incurred in meeting regulatory requirements. A significant part of these costs are engendered by the lender managing the risks involved in credit. The net returns from lending equals interest paid on the loan less the lender's loan transaction costs, less the cost of funds lent, less loan losses, less the lender's costs of submitting to prudential regulation.

Deposit mobilization also imposes transaction costs on the mobilizer; deposit documents must be issued, transactions handled, records kept, and reserve requirements met. For a financial intermediary that relies only on deposits and equity capital for lending, the cost of funds equals the interest paid on deposits, the dividend paid on equity, the transaction costs of sustaining this activity, and the costs of submitting to any prudential regulation or insurance.

Especially in financial institutions that mobilize deposits, there is often a public interest in guarding these funds from theft and malfeasance. This leads to the formation of deposit guarantees and prudential regulation, both of which typically impose transaction costs on financial institutions.² Intermediaries may be forced to pay insurance premiums and also to incur additional costs because of

examination and regulation. The expenses involved in setting up and running these insurance or regulatory agencies can be significant. Furthermore, to stabilize liquidity or to insert additional funds into a rural financial system, a second-story financial facility may be created to dispense or to receive funds. Examples of this are a specialized office in a central bank, a national federation for cooperatives, or a second-story bank for non-governmental organizations. The total regulatory costs are equal to the regulatory costs imposed on the lender, the regulatory costs imposed on the deposit mobilizer, plus the costs of operating the regulatory organizations.

Where the purchasing power of money declines due to inflation, the nominal values represented in financial transactions must be converted to real values. Other things equal, inflation benefits debtors (borrowers and deposit mobilizers) to the detriment of the creditors in the system (depositors and lenders).

An additional distinction between transaction costs is worth making. These costs are normally high in non-urban areas because of problems with providing suitable collateral, because incomes are often modest and irregular, and because transactions are typically small. Even under the best of circumstances transaction costs in rural finance are higher than in urban centers because of the distances involved. In addition to normal transaction costs, additional costs may be imposed on participants by other donor or government intrusions that I label loan targeting.

Transaction Costs and Rationing

Transaction costs are not allocated in fixed proportions among participants (Cuevas and Graham 1986). New and non-preferred clients usually incur higher transaction costs for a given financial product than do previous or preferred clients. These costs per unit of transaction for both the financial intermediary and the client generally decline as their working relationship matures, as the size of the financial transaction increases, and as the financial system becomes more efficient (Saito and Villanueva 1981).

Rationing

Research has shown that the allocation of these costs among the four categories of participants, among individuals in each category, and the sum total of all transaction costs is strongly influenced by financial market policies and by other government and donor actions (Cuevas and Graham 1984; Ladman 1984). In many cases reallocated transaction costs partially substitute for price (interest rates) in the rationing of financial services. In analyzing this it is useful to separate these costs into those that are "naturally" associated with financial intermediation and those that are imposed on participants by regulation or by loan targeting. Several examples may clarify this reallocation.

A number of governments have imposed interest rate ceilings on agricultural loans. These rates were often below commercial rates and sometimes below the expected rates of inflation. This generated excess demand for loans and forced lenders to devise substitutes for interest rates to perform

the rationing function. One common alternative was for lenders to shift part of their normal loan transaction cost to non-preferred clients, or to create additional hurdles that non-preferred clients must overcome to access subsidized funds. Forcing new borrowers and borrowers of small amounts to stand in line, to make numerous trips to the bank to transact a loan, forcing them to pay for a bank technician to visit their farms, and requiring them to pay for loan application forms are all signs of this reallocation.

I remember visiting a small branch of a bank in Belize a few years ago that was extending cheap credit and seeing long lines of poor farmers waiting in the hot sun in the front of the bank to negotiate their loans for the next cropping season. On average these farmers visited the bank 6 or 7 times to negotiate, to withdraw, and to repay loans.³ This often involved sacrificing a half day or more of work to effect each transaction. While interviewing the harried branch manager I overheard him quickly negotiate loans on the phone with preferred clients who were only required to visit the bank twice: to sign and receive their loan and then later to repay.

Also during the interview, several preferred clients entered the branch by the back door, were given cold drinks, and then quickly negotiated new loans with the manager. These individuals had been bank clients for many years and also borrowed sizable amounts. In relative and also in absolute terms the bank was imposing higher transaction costs on the farmers waiting in front of the bank than it imposed on preferred, "back door" clients. This resulted in the borrowing costs per unit of money borrowed for non-preferred borrowers being substantially higher than that incurred by preferred clients.

Under these circumstances it was not surprising to find a large portion of the operators of small farms in the area using informal sources of credit that charged higher interest rates on loans than did the bank, but that also employed procedures which imposed few transaction costs on borrowers.

Why did the bank do this? Rather than being a nefarious plot to exclude poor people from formal loans, it was the normal reaction of any firm that is trying to maximize its returns by limiting its costs. At least some of the transaction costs for the non-preferred borrowers would have been absorbed by the bank through hiring more loan officers, by expanding the size of the branch, and by simplifying its procedures for non-preferred clients if interest rates had been allowed to play a larger role in loan rationing.

Loan Targeting

Cuevas and Graham (1984) provide a Honduran example of how loan targeting affects overall transaction costs. Targeting occurs when donors or governments provide funds to lenders that must be lent for specified purposes: for example, for fertilizer purchase, for rice production, for purchase of machinery, for operators of small farms, for women, or for operators of microenterprises. To assure compliance with lending targets the providers of funds usually require detailed reports on borrowers and loans and then later require credit-impact studies. In some cases this might involve a bank maintaining separate records on dozens of targeted lending programs.⁴ In Honduras the banks that managed these targeted programs incurred sharply higher loan transaction costs per unit of money lent than did banks that avoided these programs. Borrowers also incurred additional transaction costs in

complying with provisions attached to the targeted funds. An extreme example of this occurred in Tunisia a few years ago when farmers were forced to complete seven sets of loan application forms that were then sent to various donor and government offices in order to qualify for "cheap" targeted loans.

Several years ago I stood in a large room in the Central Bank of Bolivia that was filled with forms and reports generated by several dozen targeted lending programs. I later saw file cabinets full of duplicate reports on these programs in several donor and government offices in La Paz. Very little of this avalanche of paper was analyzed and none of it contributed materially to any significant decision--few of the reports were ever read by a decision maker. The transaction costs of assembling, processing, reporting, and storing this data were a dead-weight loss on the financial system. Even worse, this useless targeting information crowded out data that would have been useful to managers of financial institutions--and likewise to donors--such as status of loan recovery, number of people served, documentation of lender transaction costs, and viability of financial institutions.

I have seen targeted fertilizer/credit programs in Ghana, the Philippines, and Bangladesh that also imposed additional transaction costs on borrowers. In each case, formula loans were given in-kind to borrowers. This involved farmers receiving a predetermined number of sacks of fertilizer for each hectare of targeted crop. Because of expected low marginal returns from fertilizer use, however, many of the borrowers decided to use fewer sacks than they borrowed for and to sell the remainder at a discount in the informal market, thus adding to their transaction costs of obtaining the type of loan they desired.

Loan quotas, loan size ceilings, and loan guarantee funds are other techniques that governments use to force lenders to allocate loans in politically determined ways. These programs likewise increase transaction costs. In the early 1960s the Colombian government required commercial banks to allocate a minimum of 15 percent of the value of their loans to agricultural credit. Most banks evaded the intent of this regulation by sifting through their existing portfolios and relabeling loans. A loan for the purchase of a truck was relabeled to be an agricultural transportation loan, a loan to a manufacturer who also had a farm was relabeled to be a farm loan and so on.

In this same vein, about 15 years ago, the government imposed a loan size ceiling on the agricultural development bank in the Dominican Republic with the aim of forcing it to make more loans to poor people. This resulted in the bank making multiple loans to preferred individuals. Each of these loans were below the loan size ceiling, thereby increasing loan transaction costs for both borrower and lender. About the same time the Philippines government established a loan/crop insurance program to encourage banks to lend more to farmers. This resulted in the formation of a large agency to handle the loan/crop insurance, an increase in the amount of paperwork associated with making a loan, and substantial additional transaction costs for everyone involved in loss claims.

Deposits

Although less dynamic than their loan cousins, transaction costs also influence deposits. Substantial reserve requirements may induce banks to limit the size of deposit accounts they will accept to relatively large amounts, such as was done in Kenya during the late 1970s and early 1980s. Changes in banking laws in Mexico during the late 1980s and early 1990s also caused banks to eliminate a large number of savings accounts by raising minimum deposit requirements. These reactions in Kenya and in Mexico reduced the transaction costs of banks but also increased the transaction costs of depositors who were forced to use various techniques to marshal the requisite deposit amounts or to seek alternative forms of saving.

The reverse of this happened in Bangladesh and in India during the 1970s when governments induced banks to open rural branches by tying the provision of an urban branch license to a bank opening several rural branches. This increased the transaction costs of the bank but also reduced the transaction costs of clients in rural areas, particularly depositors. Several countries including the Philippines and Pakistan have experimented with using mobile banks in rural areas which had the same effect on the distribution of transaction costs.

Relative Importance

It is noteworthy that the relative importance of transaction costs in influencing behavior among participants varies substantially. Because the normal costs for a lender to negotiate a loan is relatively fixed, many prefer to deal mostly with large loans that involve a small ratio of lender-transaction-costs to total-value-of-loan. These considerations tilt intermediaries in favor of handling large transactions, both loans and deposits. For both borrowers and depositors the importance of transaction costs varies inversely with the size of the loan or deposit. The transaction cost component of borrower's costs and of the net benefit for depositors usually decrease as the size of the transaction increases. Borrowers and depositors of small amounts will, therefore, be quite sensitive to changes in transaction costs, while borrowers and depositors of large amounts will be more strongly influenced by changes in interest rates.

The behavior of the lender and deposit mobilizer is strongly influenced by both interest rates and transaction costs (Untalan and Cuevas 1989). Under the best of circumstances a financial intermediary has weak incentives to provide financial services to new rural clients who are poor because of the naturally high transaction costs the intermediary incurs in dealing with these clients. Enforcing low interest rates on credit transactions along with extensive loan targeting that increases the lender's costs exacerbates this tendency. The low interest rates generate an excess demand that typically causes the lender to off-load additional transaction costs on non-preferred borrowers. Under these circumstances borrowers who are relatively well-to-do receive the bulk of the cheap loans while the effective borrowing costs for poor people may be increased because of the imposition on them of sharply higher transaction costs.⁵ "Cheap credit" ends up not being cheap for poor people under these circumstances because of the reallocation of transaction costs.

Reducing Total Transaction Costs

Other things being equal, total transaction costs per unit of funds handled decrease as the size of the transaction increases, as the distance from urban areas decreases, and as the amount of regulation or targeting decreases. Transaction costs are a major reason why it is so difficult to provide small loans that are targeted to clients in rural areas. It is also a major explanation for the tendency of formal financial systems to concentrate their activities in urban areas, among individuals who are relatively well-to-do, and to avoid serving non-target groups. This tendency can only be changed if significant reductions are made in total transaction costs, especially those costs incurred by the financial intermediary. This reduction will allow the financial engine to run more smoothly and enhance the outreach of the system to embrace additional clients.

Transaction costs can be reduced through four means. One important way is through scale economies when the staff and facilities of the intermediary are used more efficiently by handling a larger volume of business. Overall economic growth facilitated this in countries such as Taiwan and the Republic of Korea. People who have more economic opportunities and higher incomes tend to rely more on formal finance than they did earlier.

Another way of reducing transaction costs is through scope economies where an intermediary uses staff and facilities more efficiently by providing multiple financial services. An agricultural development bank in the Dominican Republic realized scope economies during the 1980s and early 1990s by expanding its services from just providing loans to about 30 thousand borrowers, to also managing about 150 thousand deposit accounts without increasing the size of its staff.

Because financial contracts depend heavily on information, the associated transaction costs are sensitive to technologies that alter the efficiency of collecting and processing information. Computers play a key role in reducing these costs. It would have been impossible for the agricultural bank in the Dominican Republic to handle 150 thousand additional accounts with the same number of staff, for example, without employing modern data processing (Gonzalez-Vega 1992). Computers also allowed the installation of automatic teller machines in Japan that enabled all members of farmers' associations to withdraw or deposit funds 24-hours-a-day, seven-days-a-week, at thousands of locations throughout the country with obvious implications for the transaction costs of clients and for the associations.

Working with groups is still another technique for reducing transaction cost, both in lending and deposit mobilization.⁶ Ideally, transaction costs for both lender and borrower are less if the intermediary makes one relatively large loan to a group of individuals rather a number of smaller loans to individuals (Huppi and Feder 1990). If a loan is negotiated by only a few representatives of the group, the average borrower under a group loan incurs less borrower transaction costs than they would if they negotiated an individual loan. Likewise, programs that mobilize deposits from groups may also lessen transaction costs of both mobilizer and depositor. A pygmy deposit mobilization program in India, for example, used commission agents who collected small deposits daily from a group of savers that were then deposited in a commercial bank (Bhatt 1988). This arrangement clearly reduced

depositors' transaction costs and may also have eliminated some of the costs the bank would have incurred in dealing directly with a large number of savers. Several NGO's in the Philippines also have experimented with using informal groups to mobilize deposits for banks.⁷

Financial Innovations

In recent years many innovations in grain production were developed in specialized research centers in Mexico and in the Philippines and parallel breakthroughs in fertilizer emanated from a specialized research center in the United States. New financial technology has no similar focal point; new financial ideas can sprout virtually anywhere. Financial innovations are also unique in that they are not always cost reducing (Kane 1984). Formal financial intermediaries are especially creative in designing ways to mitigate the impact of policy restrictions when it is in their own best interest to do so. These innovation, however, may increase the total costs of financial intermediation. The example cited earlier of a bank that evaded the intent of loan size limits by issuing multiple loans to the same firm or individual is an example of this. Unfortunately, in financial systems that are heavily regulated and in which extensive loan targeting occurs, much of the innovative energy in formal finance is spent in mining the loopholes in rules and regulations, rather than in searching for new procedures that reduce overall transaction costs.

Despite its undeserved, unsavory reputation, informal finance is a major hatchery for cost-reducing financial technologies. In large part, informal finance succeeds in providing sustained financial services to large numbers of poor people in rural areas because of the cost-reducing innovations that are spawned by competition among informal agents. Much of the success of the Grameen Bank in Bangladesh and ACCION International in Latin America in reaching large numbers of poor people is explained by their creative adaptation of techniques commonly used in informal finance (Getubig and others 1993, Christen 1992). Group lending, a hallmark of the Grameen Bank approach, is a common feature in informal finance and informal self-help financial groups are common not only in Bangladesh but also in most other low-income countries. Another distinctive feature of the Grameen Bank as well as a highly successful village banking program in Indonesia is requiring loan repayments each week (Patten and Rosengard). Again, this is a common feature in informal lending.

Informal finance also is more attuned to creating and providing the types of financial services that poor people prefer than is formal finance. In most cases, centrally planned financial systems are not designed to provide the types of financial services that poor people desire. Recent research in a large agricultural bank in Egypt, for example, showed that most of the bank's employees were members of self-help financial groups in which they placed the majority of their deposits (Baydas and other 1993). In addition, many of the employees also bought consumer durables on time from other employees who were moonlighting as part-time merchants. Clearly, the bank was not producing the types of financial services that its own employees found to be most desirable and this forced them into informal arrangements.

Informal finance is likewise more nimble in devising techniques that adjust to changing economic conditions than is formal finance. In the mid-1980s when Bolivia was suffering

hyperinflation, most informal self-help financial groups denominated their obligations to the group in dollars instead of pesos to protect the contractual obligations from capital erosion. In contrast the Bolivian agricultural development bank persisted in charging negative real rates of interest on their loans and, as a result, saw the purchasing power of its portfolio essentially evaporate by the late 1980s.

Most of the credit unions in the country, along with a number of previously successful savings and loan associations, also were gutted by inflation and inflexible policies. It is paradoxical that self-help financial groups comprised of employees of these semi-formal financial institutions were among the first to adjust practices to protect their informal savings. At the same time, these employees were unable (or unwilling) to protect their institutions from the onslaughts of inflation through the application of similar innovations.

Expanding the Formal Financial Frontier

Von Pischke used the metaphor of a formal financial frontier in his analysis of development finance (1991). People inside the frontier have access to formal financial services while individuals and firms outside this frontier are forced to do without or to rely on self-finance or informal finance. He goes on to argue that expanding this frontier is the primary challenge in developmental finance. One of the major factors that limits the expansion of this concept is the friction caused by transaction costs. Formal financial institutions refuse to provide financial services to poor people and to rural people because the costs of doing so under existing circumstances are excessive. Many potential clients also are discouraged from using formal finance because of the excessive transaction costs imposed on them.

A complementary way of thinking about this problem is to apply the metaphor of lubricants and viscosity. One of the major functions of financial instruments is to lubricate transactions, thereby reducing the costs of effecting exchanges. Ideally, a financial system should be highly viscous, its financial services should cover a major part of the economy, including rural areas. If a financial system is severely repressed it resembles heavy-weight oil that only covers a small portion of the economy and provides only partial lubrication.⁸ A healthy and vibrant financial system, on the other hand, resembles light-weight oil that spreads and seeps into cracks and crevices in the economy and provides extensive lubrication for transactions. Although not the only explanation, transaction costs are a major determinant of financial viscosity and are a primary explanation for the excessive amount of friction that exists in formal financial markets in rural areas. A financial system that loads excessive transaction costs on participants will reach relatively few people compared to a financial system that reduces these costs.

Transaction Costs in Centrally Planned Economies

In extreme cases, centrally planned economies operate essentially without financial intermediation. In the former Soviet Union, for example, deposit mobilization and loan allocation were bifurcated and the financial system was often used as a fiscal tool. Deposits were mobilized by one arm of the system and these funds then flowed into a governmental labyrinth. At the same time, targeted

funds for lending were dispensed by the government through bank channels in accord with central plans. This included lending to enterprises to sustain production and forgiving loans to enterprises that encountered economic hardship. The fiscal nature of the system was accentuated by inflation during the late 1980s and early 1990s. During that period, most of the purchasing power of deposits was effectively captured by government through an inflation tax while borrowers received hefty subsidies through negative real rates of interest on loans and loan write-offs.

Transaction costs are largely ignored in these pseudo-financial systems. State-controlled enterprises receive large loans that are automatically approved, lenders are little concerned with creditworthiness, and government may build a dense network of savings deposit branches to provide employment opportunities. The switch to a market economy quickly magnifies the importance of transaction costs. Employees of the financial system must quickly learn how to assess creditworthiness of a large number of new production and marketing units that typically request relatively small loans. Many of these firms may have no track record with the lender and be unable to provide suitable loan collateral. Building these new working relationships between clients and financial institutions will involve substantial transaction costs for both lenders and borrowers. Attempts to force existing financial institutions to implement these new functions can founder on excessive transaction costs in the form of bloated bank employment, inefficient work habits, and antiquated data processing procedures.⁹

Excessive transaction costs will severely limit, for a number of years, the outreach of any new financial institutions that are expected to provide rural financial services in these reforming countries. This may force the new institutions to focus their lending initially on the new firms that operate in product and input markets. Because of transaction costs, it will be easier for the struggling financial system to deal with these types of clients, who, in turn, may extend informal loans to at least some of their clients.

Transaction Costs and Donors

In part, transaction costs in a financial system are a function of overall development. Modern communication facilities, efficient transportation networks, expeditious judicial systems, and a thriving economy are vital ingredients in lowering these costs. Beyond this, nevertheless, donors and governments have several options for decreasing transaction costs (Meyer and Cuevas 1990).

Avoid Loan Targeting

Government and donor funding can have a major impact on transaction costs in financial markets. Inevitably, targeted loans impose additional transaction costs on both lender and borrower. The political force that spawns targeting in the first place brings with it the requirement for accountability—showing that the objectives of targeting were met. Supplying information that describes who received credit, what uses were supposedly made of loans, and attempting to measure the social and economic impact of targeted lending generates additional transaction costs for both borrower and lender. In addition, if the targeted lending is also done on concessionary terms,

intermediaries are induced to shift or impose transaction costs on non-preferred borrowers and depositors as ways of rationing services. Forcing intermediaries to do otherwise results in regulation avoidance, subsidy dependence, and debilitation of financial institutions, all of which reduce the outreach of the system.

Instead of targeting lending, donor and government programs should be aimed at enhancing the efficiency of financial intermediation and reducing overall transaction costs, thereby increasing outreach. In large part, the new World Bank guidelines provided by the *Handbook on Financial Sector Operations* (1993) promote this change.¹⁰ Financial contracts are ill suited instruments to either address poverty directly, or to prod production or investments. Any subsidy attached to a loan contract is inevitably proportional to the size of the loan and thereby distributes subsidies regressively. Although subsidies on loans may induce individuals to borrow, there is no close relationship between the credit subsidy and the incentives borrowers have to produce or invest because of the fungibility of funds.

Regulation

Donors and governments must also walk a fine line regarding supervision and regulation of financial markets. Prudential regulation is an imperative when a financial system mobilizes private deposits. A similar prudential justification exists when the financial system is lending funds provided by governments or donors. A society, be it domestic or foreign, should not be asked to fund a credit project that lacks prudential safeguards. Trying to force the financial system to do something that is not in its best interest through excessive regulation and supervision, however, generally achieves little more than increasing transaction costs. Loan quotas, interest rate restrictions, loan insurance, and reserve requirements are common policies that influence transaction costs and the distribution of these costs among financial market participants.

Donors should support and promote prudential regulation. Attempting to alter the normal behavior of financial markets through other regulations, however, should be avoided because of undesirable effects on transaction costs.

Encouraging Innovations

Governments and donors should avoid distracting managers of financial systems from seeking cost-reducing innovations. This includes avoiding conditions that promote rent seeking in financial markets and avoiding the imposition of rules that promote regulation avoidance. Extensive loan targeting and associated subsidies can turn financial intermediation into a feeding frenzy for rent seekers.¹¹ Many targeted borrowers may decide unilaterally to expand the size of subsidy they receive by failing to repay their loans.¹² Seeing this, loan officers feel justified in sharing part of the largess by soliciting bribes for favorable lending decisions. The creative energy spent in colonizing and exploiting these subsidies comes at the expense of creative energy that might have been channeled to designing innovations that make the financial system more efficient and thereby extend its outreach.

A similar diversion of creative energy occurs when financial markets are overly regulated by attempts to distort their activities in ways that are politically desirable: for example, loans for operators of small businesses, for women, for rice farmers, or for a minority group. These types of regulations typically force creative managers to mine loopholes in the regulations in ways that are beneficial to managers of the institution, but which also result in more friction in the form of transaction costs being inserted into financial intermediation.

In addition to avoiding the misdirection of creative energy, donors and governments should encourage incentives that stimulate employees in financial institutions to seek cost-reducing innovations that benefit both clients and intermediaries. Fostering a competitive environment should be a vital part of this, including competition among formal financial intermediaries and competition with informal finance. In many low-income countries the formal financial system does not compete with informal finance. Banks may only be able to enhance this competition by adapting some of the innovations used by informal finance to minimize transaction costs.

Yaron (1992a) has suggested that future World Bank projects with major credit components should include a measure of subsidy dependency. He implies that the degree of dependency is a proxy for the durability of the activity. A parallel measure of the extent to which a donor's credit projects increases or decreases in transaction costs, and an evaluation of who is likely to bear these costs might likewise be a useful supplementary indicator of the durability of a financial program.

Conclusions

There is no blueprint for building durable and equitable rural financial systems; they are difficult to form, often achieve less than expected, and can be easily debilitated. Financial friction in the form of transaction costs is a major explanation for this. The extent to which these costs are moderated will importantly influence the performance of rural financial markets in both low-income countries and in countries that are experiencing massive economic reforms. Governments and donors that wish to provide sustained formal financial services to new clients, to poor people, and to rural people in general will be unable to do so unless transaction costs are reduced, thereby enhancing the outreach of financial systems. Less loan targeting, more reliance on interest rates to ration financial services, and more emphasis on stimulating cost-reducing innovations must be major parts of this.

Endnotes

1. Continued disagreement is illustrated by two World Bank publications in 1993. One publication issued by the Operations Evaluation Department argued that the Bank should continue traditional agricultural credit projects. Another publication prepared by the Operations Policy Department argued for a cessation of these programs.
2. Agricultural lenders may also be involved in loan guarantee schemes. In some cases it is difficult to distinguish between loan guarantee programs and crop or enterprise insurance. A crop insurance program may be essentially loan insurance when lenders have first claim on damage payments. Typically, governments promote loan insurance and sometimes crop insurance to alter lender behavior in favor of the activity that is insured. This is beyond the prudential regulation interests that governments have in financial markets.
3. See Ahmed 1980, Ahmed 1989, Ladman 1984, and Nehman 1973 for similar cases in Sudan, in Bangladesh, in Bolivia, and in Brazil.
4. In the early 1980s the Central Bank of Indonesia funded nearly 200 targeted lending programs. Most agricultural development banks in low-income countries were forced during the 1970s and 1980s to manage at least several dozen targeted programs.
5. Poor depositors are also adversely affected by cheap credit. Low interest rates on loans force even lower rates on deposits; poor people have less latitude than well-to-do individuals to avoid these low rates. The provision of cheap targeted funds from outside reinforces the decisions of intermediaries to discourage depositors of small amounts by raising associated transaction costs. This blocks one of the natural avenues that poor people use to enhance creditworthiness by demonstrating their savings abilities to lenders.
6. Several well known examples of group lending are the Grameen Bank's model in Bangladesh (Getubig and others 1993), the Lilongwe Project in Malawi (Schaefer-Kehnert 1982), and the Bank for Agriculture and Agricultural Cooperatives in Thailand (Yaron 1992b).
7. Personal communication with Virginia Abiad.
8. McKinnon (1973) and Shaw (1973) introduced the useful notion of financial repression. I am less comfortable with their application of the notion of fragmentation to financial markets. They define a market to be fragmented if interest rates vary across markets. Their analysis ignores borrower transaction costs as being part of the loan rationing mechanism and also ignores that the financial system may be producing a variety of products, many of which are called loans, but which might be more correctly thought of as distinct products and services.
9. Several years ago I visited a sizable bank branch in a rural area of Russia. When I asked the manager to see her record-keeping system she pulled a small spiral-bound notebook from her purse.

One page listed a handful of deposits made by her employees in the bank for safekeeping and another dozen pages listed loans extended, repaid, and written-off.

10. The World Bank's *World Development Report 1989* supported a similar change in approach.

11. Extremes in real interest rates, either high or low, attract rent seekers: high rates attract the moral hazard people who are seeking the delinquency subsidy (Stiglitz and Weiss 1981), while low rates are embraced by people seeking the interest rate subsidy (Gonzalez-Vega 1977).

12. If a loan is justified on the basis of a person being poor and needing assistance it is easy for lenders and for policy makers to rationalize augmenting the subsidy through tolerating loan delinquency.

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**Developing Agricultural Markets in Liberalizing
Economies**

Food Marketing under Price Liberalization in the Former USSR: Marx is Dead but Adam Smith Has Not Yet Risen

Bruce Gardner*

Introduction

Events following the political and economic transformation of Eastern Europe and the former Soviet Union (FSU) force us to think carefully about the idea of "liberalization" of an economy. In the area of food marketing, the last two years have provided an especially notable experiment in the FSU. By the end of 1991, years of highly specific regulation of processing, distribution, and retailing of food products through state committees and state-owned monopoly enterprises had reached the limit of its endurance. In January, 1992, the Russian government initiated a sweeping liberalization of food prices and removal of subsidies that had kept prices artificially low (and goods unavailable at those prices).

Two years later, in January, 1994, much has changed. Food prices are much higher, not only in nominal terms because of inflation, but also in real terms, relative to wages. But the economic and social benefits that market liberalization might have been expected to generate have not arrived. Most food products are still purchased from the same mix of collective farm markets and state-owned retail stores as before 1992. There has not been significant entry of new firms, domestic or foreign, in food processing, wholesaling, or retail sales. The types and qualities of goods are essentially unchanged. Of course, it is only to be expected that the process would take time. More disturbing than the failure to achieve well functioning, competitive food markets in two years is the lack of evidence that the reforms have placed food marketing on the path toward genuine liberalization — encouraging the suggestion that two years of painful adjustment have been for naught.

This paper briefly reviews the evidence on events in FSU food markets since January, 1992, and discusses reasons why food price "liberalization" has so far produced such limited results. I consider geographical differences in food prices in Russia in some detail, and review more wide-ranging but less data-intensive evidence on other FSU republics. One overall conclusion is that successful liberalization must involve not only removal of the prior regime but, equally important, development of appropriate new institutions and human capital. The analytical task then is to become more specific about what institutional developments, and investments in human capital, are most important to pursue.

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Food Prices in Russia

Before the reforms of 1992, Russian food prices were centrally regulated and administered by government committees and agencies, but that does not mean an economically rational spatial price schedule was maintained. By the end of 1991, food commodities, when available in state retail outlets, had widely varying prices from city to city. Table 1 shows a sample of prices from December, 1991. The cities shown, in the Moscow/St. Petersburg area, are not separated by more than a few hundred kilometers and have good transportation linkages among them. Yet the price of beef, for example, varied from a low of 7 rubles per kilo in Bryansk to a high of 34.4 rubles in Ivanova, about 400 miles away. Vegetable oil, which is more readily transportable in bulk and does not need refrigeration, had as great a range of prices, from 2.70 rubles per liter in Yaroslav to 13.23 rubles in Smolensk (again about 400 miles apart). Moreover, there was little consistency in geographical relative prices across commodities. For example, Tver has relatively cheap vegetable oil but relatively expensive beef and sausage. And these Table 1 data cover a comparatively compact geographic area, on the Russian scale. Some distant cities had prices far outside the ranges shown in Table 1.

Thus, the situation was ripe for rapid and substantial rationalization of food marketing and pricing when the first major steps toward national deregulation were implemented in January, 1992. In order to accompany the large overall price increases with a more rational geographical allocation of goods, all that was necessary was to move goods from low-price to high-price cities; and to reallocate shipments from rural areas toward high-price cities.

It is clear from piecemeal (non-statistical, anecdotal) evidence that such arbitrage did take place and continues. But it never occurred in a volume sufficient to create the kind of geographical price pattern that is typical of market economies. Table 2 shows data comparable to those of Table 1 for April, 1993, 16 months after the liberalization of January, 1992. As the summary statistics at the bottom of Tables 1 and 2 indicate, the mean commodity prices for these cities rose by 40 times (beef) up to 117 times (sugar), reflecting an immediate rise of about four-fold with liberalization in January, 1992, followed by a high rate of general inflation. The standard deviation of prices between cities in deflated rubles, and the (own-price deflated) coefficient of variation are substantially lower in 1993 than in 1991. This suggests progress in market-oriented pricing.

However, the progress was almost entirely realized immediately upon the price reforms, in January, 1992, and it is not clear whether the December, 1991, situation is a meaningful basis for comparison. The 1991 prices are only for state stores (not city markets) and, as mentioned earlier, goods were very often not available. The data after January 1992 are more meaningful and it is upon these data that subsequent analysis focuses. Table 3 shows monthly coefficients of variation during 1992 across the Central (Moscow) region and across all of Russia for a few key commodities.¹ Vegetable oil and sugar in state stores have declining geographical price variations over time, but the other four commodities show no improvement in either state stores or city markets.

**Table 1. Food Prices Moscow/St. Petersburg Area,
State Stores, Dec. 1991**

	Beef	Sausage	Veg. Oil	Potatoes	Sugar
St. Petersburg	11.33	8.00	2.80	3.03	2.28
Novgorod	14.50	15.49	2.90	2.94	2.16
Pskov	11.39	10.50	8.12		2.09
Bryansk	7.00	8.00	2.70	1.40	2.40
Vladimir	25.88	9.00	11.43	1.65	7.00
Ivanova	34.43	27.00		2.10	2.10
Kaluga	18.00		9.77	1.55	2.00
Kostroma	7.08	8.00	2.90	1.50	2.20
Moscow	7.50	12.49	4.60	2.64	2.50
Orekhova	24.15	34.54	2.70	1.60	
Electrostal	25.00	9.00	11.70	1.75	2.05
Orel	9.80	15.70	3.21	1.29	2.13
Smolensk	15.54	0.00	13.23	2.02	2.40
Tver	19.74	22.76	2.76	2.60	
Yaroslav			2.70	1.57	
Ribinsk	19.54	8.20	3.01	2.30	2.25
Mean Price	16.72	13.48	5.63	2.00	2.58
Std. Dev.	7.85	8.75	3.85	0.56	1.58
C.V.	0.47	0.65	0.68	0.28	0.50

Prices in rubles per kg. (no price reported in some cases).

Source: Godkomstat

Table 2. Food Prices in Russia, April 13, 1993
State Retail Stores (rubles per kg.)

City	Beef	Sausage	Veg. Oil	Sugar
St. Petersburg	760.90	925.14	401.10	376.01
Novgorod	811.00	1020.00	310.00	355.71
Pskov	520.00	786.00	385.00	*
Bryansk	*	844.0	306.00	284.00
Vladimir	681.62	954.00	286.15	303.93
Ivanova	703.08	1131.33	338.48	355.00
Kaluga	628.50	788.86	300.17	273.67
Kostroma	665.00	882.00	346.00	308.00
Moscow	665.01	938.25	345.61	309.00
Orekhova	*	1013.00	325.00	306.00
Electrostal	710.00	920.00	300.00	305.00
Orel	479.74	685.77	280.19	120.40
Smolensk	*	525.00	212.33	321.00
Tver	715.50	834.00	369.00	287.60
Yaroslav	*	840.00	325.00	275.00
Ribinsk	687.33	859.50	361.11	362.50
Mean Price	669	872	324	303
Standard Deviation	88	137	45	58
Coef. of Variation	0.13	0.16	0.14	0.19
Deflated (Dec. 91 rubles)				
Mean	14.45	18.8	7.00	6.54
Std. Dev.	1.90	2.96	0.97	1.25

*No price recorded.

Source: Goskomstat

Table 3. Coefficients of Variation (x100) of Commodity Prices from City to City

State Stores, All Russia (132 Cities)							City Markets, All Russia				
Month	Beef	Veg Oil	Eggs	Sugar	Potato	Apples	Month	Beef	Veg Oil	Potato	Apples
Feb 1992	21	70	27	81	39	38	Feb 1992	44	59	44	23
Mar 1992	18	72	21	95	36	41	Mar 1992	36	44	31	24
Apr 1992	17	58	25	80	43	37	Apr 1992	37	39	35	27
May 1992	17	57	24	64	43	47	May 1992	36	45	45	28
Jun 1992	21	47	25	49	40	34	Jun 1992	38	48	67	28
Jun 1992	20	41	26	47	45	45	Jul 1992	37	53	57	42
Aug 1992	22	39	23	35	38	54	Aug 1992	32	46	48	69
Sep 1992	25	37	30	29	42	75	Sep 1992	32	42	46	88
Oct 1992	29	34	33	27	48	69	Oct 1992	36	32	46	83
Nov 1992	24	33	33	29	42	51	Nov 1992	39	35	48	61
Dec 1992	27	37	29	26	42	44	Dec 1992	46	39	45	42
Jan 1993	33	33	30	28	40	41	Jan 1993	65	41	43	31
Feb 1993	33	33	26	28	39	33	Feb 1993	67	45	47	31
Mar 1993	31	36	25	29	42	31	Mar 1993	60	49	44	35
Apr 1993	26	36	28	25	39	33	Apr 1993	54	51	48	39
Month	Beef	Veg Oil	Eggs	Sugar	Potato	Apples	Month	Beef	Veg Oil	Potato	Apples
Feb 1992	5	51	6	50	27	9	Feb 1992	45	27	25	18
Mar 1992	4	36	7	68	18	19	Mar 1992	40	26	17	11
Apr 1992	5	27	13	38	23	8	Apr 1992	44	22	16	21
May 1992	8	27	13	25	26	12	May 1992	43	34	28	27
Jun 1992	10	16	10	22	16	11	Jun 1992	51	35	65	22
Jul 1992	8	13	6	18	41	21	Jul 1992	51	37	44	32
Aug 1992	5	14	6	12	11	36	Aug 1992	42	38	28	49
Sep 1992	10	15	14	13	11	23	Sep 1992	48	38	28	50
Oct 1992	9	24	13	15	14	26	Oct 1992	53	19	28	38
Nov 1992	10	19	9	19	14	33	Nov 1992	52	19	32	29
Dec 1992	15	19	19	10	18	31	Dec 1992	53	26	33	26
Jan 1993	23	12	18	12	20	17	Jan 1993	66	28	34	26
Feb 1993	25	10	15	17	27	16	Feb 1993	66	34	39	34
Mar 1993	8	10	10	14	18	10	Mar 1993	53	37	38	39
Apr 1993	6	11	23	18	16	9	Apr 1993	51	39	40	34

Source: Gardner and Brooks (1994).

The amount of price dispersion across cities is not in itself conclusive evidence of a failure of liberalization. One needs to know the costs of moving goods. Many of these costs are not known with precision. And, especially when large distances and culturally different populations are involved, qualities of goods and marketing services provided can differ widely. The Russia food price data are analyzed in detail in Gardner and Brooks (1993 and 1994). In addition to the econometric investigations reported in those papers, this paper considers the causes of persistent price differences between cities in the Central region, by explaining statistically each city's deviation from the Moscow price at a given time by means of supply/ demand variables.² The Russian Center for Economic Analysis and Forecasting provided data on: distances between cities, a proxy for transportation costs; income per worker in each month in each province; whether each province was a net exporter of each commodity; presence or absence of provincial price regulation after January 1992.

These data were used to estimate the following equation for each commodity in the Central region:

$$(1) \quad D_{it} = \gamma_0 + \gamma_1 T_i + \gamma_2 Y_{it} + \gamma_3 E_i + \gamma_4 R_{it} + \gamma_5 I_t + \gamma_6 t + \gamma_7 t^* + \varepsilon_{it}$$

where D_{it} is the difference between city i 's price the Moscow price in week t , T_i is the distance between each city and Moscow, Y_{it} is income in the province of city i minus income in Moscow in the month containing week t , $E_i = 1$ if the province produced more of the commodity than it consumed (otherwise zero), I_t is the all-Russia CPI for week t , and $R_{it} = 1$ if the city maintained regulation in week t . The variable t , measured in days from January 1, 1992, should indicate whether unexplained residuals are decreasing over time; and t^* , which is 1 in August-November and otherwise zero, indicates harvest-season effects on the price difference. The γ 's are parameters to be estimated and the ε_{it} are random errors assumed to be independently and identically distributed.

The results of fitting this equation to the 61 weeks of price data for selected commodities in the Central region are shown in Table 4. The results generally confirm what the coefficients of variation in Table 3 suggest: there is no overall tendency for spatial price differences to decline over time. Price differences are larger the greater the distance from Moscow, tend to be larger in the harvest season, and tend to be larger between net exporting oblasts and Moscow. But the low R^2 and variable signs and significance of the variables indicate that regional price differences are largely unexplained by the variables available. Together, the results indicate that, with the exceptions of vegetable oil (and cigarettes from regressions not shown), there was no significant progress toward market integration during the January, 1992 to April, 1993 period.

In addition, the following findings in Gardner and Brooks (1993 and 1994) provide indications that the markets are not eliminating arbitrage opportunities as competitive markets would: (a) prices in different cities, even nearby cities, do not move together over time as would be expected in an integrated market; (b) price differences between cities within fairly small regions, e.g., the Volga and Central (Moscow) regions, are often much larger than can be explained by transportation costs that have been measured;³ (c) price difference are much smaller within oblasts than between oblasts, ceteris

Table 4. Regression Coefficients (standard errors) Explaining City Price Deviations from Moscow Price: State Stores

Variable	Beef	Potatoes	Sugar	Vegetable Oil	Apples	Eggs
Intercept	-59.8 (9.9)	-2.9 (1.0)	-19.7 (4.9)	-21.2 (9.0)	23.8 (3.7)	-19.9 (2.4)
Distance	.141 (.026)	.008 (.003)	.104 (.014)	.038 (.014)	.015 (.010)	.050 (.006)
Income	-.005 (.002)	.0005 (.0002)	.003 (.001)	-.003 (.001)	.000 (.001)	.002 (.001)
CPI	-.021 (.006)	.001 (.006)	.003 (.003)	.009 (.003)	-.022 (.002)	.004 (.002)
Export	-8.48 (4.9)	-1.47 (.71)	-24.1 (2.3)	3.41 (7.3)	-20.4 (2.7)	*
Regulation	6.15 (7.2)	-2.90 (.90)	-5.81 (2.7)	-.85 (7.3)	-11.0 (2.6)	(-6.6) (1.6)
t*	-55.5 (6.7)	1.32 (.74)	-3.24 (2.7)	-21.6 (3.7)	-31.4 (2.7)	-5.5 (1.8)
t	.44 (.06)	.01 (0.1)	.02 (0.3)	- .05 (.03)	.21 (.024)	.02 (.02)
R-Square	.267	.150	.350	.254	.268	.379
Obs.	723	813	702	724	721	812

*None of the oblasts export eggs.

paribus; and (d) price differences are not decreasing over time for most commodities. Econometric tests on these points are presented in Gardner and Brooks (1993 and 1994).

Price Liberalization Outside Russia

Estonia, Latvia, and Lithuania initiated price liberalization reforms during July-December, 1991, and most other former republics announced changes similar to Russia's in the first half of 1992. We do not have as much detailed price information for these countries as for Russia. The statistical evidence is virtually nil for Azerbaijan, Georgia, and Armenia. But it is clear that similar trends have been occurring generally in the former USSR. Table 5 summarizes information on food price increases and food costs relative to income. Many of these estimates are rough and of questionable reliability, but they indicate how large the price increases are, and how high food costs are relative to income. The food basket whose cost is calculated is a little below average per capita consumption figures, and excludes many items.

With respect to geographical price differences, the data are sparser than for within-Russia comparisons. But the Russian State Committee for Statistics has published some cross-country comparisons, and the comparable institution in Kazakhstan has published prices in several cities in Asian former republics (Tables 6 and 7). These show even larger price deviations than the within-Russia data, as might be expected. Table 8 shows prices in various cities within two countries for which such data are available, Estonia and Kazakhstan. Kazakhstan has price differences as great as those of Russia, while Estonian markets appear much more integrated. But of course Estonia is a smaller place in addition to having liberalized more fully.

Although retail price data generally has not been available in these countries with the temporal frequency or geographical detail of the Russian data, World Bank Agriculture Review teams have made assessments of the functioning of retail, wholesale, and farm-level commodity marketing. Some key findings are as follows.

- *Moldova.* "Beginning in January 1992, food prices were nominally deregulated from direct government control, except for bread and dairy products. However, the nominal liberalization leaves much less scope for market-determined pricing than might, on its face, be expected. First, the state enterprises still set the prices for products purchased under state orders for distribution through state channels, and this is a large enough fraction of market volume to establish the state as price-maker rather than price-taker. Second, while prices are not officially fixed, margins between farm and retail still are for all foods. Because of these remaining problems, it is unlikely that the reforms implemented to date will result in a significant improvement in the performance of the food marketing system" (Moldova Agriculture Sector Review, Draft, September 19, 1993, p. 75).

Table 5. Estimates of Price Increase and the Cost of Food

	Annual Rate of Increase in Food Prices ^{a/} (Jan-Jun 1993/ Jan-Jun 1992)	Monthly Income per Capita Mid-1993 (rubles)	Cost of Arbitrary Monthly Food Basket ^{b/} (rubles)	Percent of Income to Buy Basket
Belarus	920	28907	4850	0.17
Kazakhstan	932	15785	6206	0.39
Kyrgyzstan	940	7238	6380	0.88
Moldova	865	10140	8076	0.80
Russia	920	28549	10175	0.36
Tadzikistan	1099	3716	2161	0.58
Turkmenistan	871	15516	3012.5	0.19
Uzbekistan	624	6665	3820	0.57
Ukraine	1179 ^{c/}	12000	6417	0.53

^{a/} "Annual rate" meaning 1993 as a ratio to 1992. E.g., if the price index averaged 200 in Jan-Jun 1992 and 1000 in Jan-Jun 1993, the "annual rate of increase in food prices" is 500. The value of 920 for Belarus means that prices increased 9 times.

^{b/} Cost of 3 kg beef, 0.5 kg butter, 4 liters of milk, 10 eggs, and 10 kg of potatoes at prices of July 1993.

^{c/} Jan-Jun, 1992. Rates of increase in 1993, after adoption of karbonetz as national currency appear to be much higher - 50-80 percent monthly - although official data are not available.

Source: Statistical Bulletins 13 and 16, July and August, 1993, Goskomstat of Russian.

Table 6. Retail Food Prices in Former USSR Republics, July 1993

State Stores

City	Country	Beef	Butter	Veg. Oil	Milk	Eggs	Potatoes
Everan	Armenia	2000	1900	850	150	560	250
Minsk	Belarus	657	1190	463	36	180	196
Almaty	Kazakhstan	1091	1250	1100	105	258	163
Bishkek	Kyrgistan	680	1480		100	200	300
Chisinau	Moldova	1350	3602	384	10	385	180
Moscow	Russia	1346	1496	472	145	229	458
Dushanbe	Tadzikistan		1700		36	267	90
Ashgabat	Turkistan	250	301	70	8	280	180
Tashkent	Uzbekistan	400	1200	100	80	300	140
Kiev	Ukraine	1389	1644		141	194	67
Mean Price		1018	1576	491	81	285	202
Std. Dev.		531	792	347	53	108	107
Coef. Dev.		0.52	0.50	0.71	0.65	0.38	0.53

City Markets

City	Country	Beef	Butter	Veg. Oil	Milk	Eggs	Potatoes
Everan	Armenia	1800				560	250
Minsk	Belarus		1900	700	88	275	131
Almaty	Kazakhstan	1642	2400	1050	148	302	330
Bishkek	Kyrgistan	800	1324	730	160	194	400
Chisinau	Moldova	1600	3000			370	200
Moscow	Russia	4992	7333	967	575	517	923
Dushanbe	Tadzikistan	675				259	112
Ashgabat	Turkistan	1500				300	275
Tashkent	Uzbekistan	1150			78	313	162
Kiev	Ukraine	1389	1644	667	141	194	67
Mean Price		1728	2934	823	198	328	285
Std. Dev.		1209	2040	155	171	117	234
Coef. Dev.		0.70	0.70	0.19	0.86	0.36	0.82

Prices in rubles per kilo (liter for milk).

Sources: Statistical Bulletins 13 and 16, July and August, 1993, Goskomstat.

**Table 7. Food Prices in Russian Federation and Asian Republics,
March 1993**

State Stores							
	<u>Beef</u>	<u>Pork</u>	<u>Butter</u>	<u>Milk</u>	<u>Eggs</u>	<u>Bread</u>	<u>Potatoes</u>
Moscow	627	665	1244	98	150	59	42
Almaty	474	521	674	64	180	12	48
Ashgabat	120		150	8		6	30
Bishkek	450	442	963	62	153	20	39
Astrakhan	507		1200	12	156	23	45
Samara	500	500	863	12	140	21	36
Orenburg	413	378	938	38	70	20	33
Metropolovsk	502	404	934	59	121	13	44
Kurgan	406	412	1094	58	161	34	46
Novysibirsk	338	411	1184	65	131	65	49
Oralsk	339	314	1154	48	170	12	22
Belgograd	713	592	1108		144	22	35
Saratov	480	467	1160		148	60	34
Dushanbe			547	16	19	15	60
Chimkent	566		1073	58	167	14	40
Tashkent	150			10	180	11	25
Basnaul	369	505	925	42	150	48	48
Kustanya	427		880	54	100	32	32
Mean Price	434.18	467.58	946.53	44.00	137.65	27.06	39.33
Std. Dev.	144.26	92.36	270.32	25.17	40.19	18.11	9.20
Coef. Var.	0.33	0.20	0.29	0.57	0.29	0.67	0.23

City Markets

	<u>Beef</u>	<u>Pork</u>	<u>Butter</u>	<u>Milk</u>	<u>Eggs</u>	<u>Potatoes</u>
Moscow	2231	2381	2133	350	332	120
Almaty	850	875	1050	120	250	98
Ashgabat	500	500			180	90
Bishkek	550	575	1000	80	140	50
Astrakhan	600	550		80	150	60
Samara	550	600	850	100	160	70
Orenburg	550	550	800	70	140	45
Metropolovsk	450	450	900	50	160	55
Kurgan	320	350	1000	70	110	85
Novisibirsk	445	480		150	130	80
Oralsk	370	400	1100		180	60
Belgograd	800	900	1500		150	80
Saratov	550	600	1000		160	50
Dushanbe	390			25		80
Chimkent	450	500	1100	60	180	75
Tashkent	425				170	58
Basnaul	665	655	1200			60
Kustanya	450	450	800		130	60
Mean Price	619.22	676.00	1110.23	105.00	170.13	70.89
Std. Dev.	413.51	463.39	345.38	83.91	51.63	18.88
Coef. Var.	0.67	0.69	0.31	0.80	0.30	0.27

Source: Statistical Price Bulletin No. 2, Kazakhstan Republic.

Table 8. Food Prices in Estonia and Kazakhstan

Estonia City Markets, May 18, 1993

	Beef	Milk	Eggs	Potatoes	Pork
Talinn	23	2.35	0.44	0.85	21
Tartu	16	2.5	0.5	0.65	18
Parnu	20	2.15	0.45	0.65	20
Rakvere		2	0.45	0.75	14.5
Narva	18		0.48	1	18
Viljandi		2.5	0.6	0.7	14.5
Valga	14	2	0.5	0.65	15
Mean	18.20	2.25	0.49	0.75	17.29
S.D.	3.12	0.21	0.05	0.12	2.48
C.V.	0.17	0.09	0.10	0.16	0.14

Source: Hinnainfo. No. 5 (May 1993), Eesti Konjunkturiinstituut.

Kazakhstan, City Markets, December, 1992

	Beef	Pork	Veg. Oil	Eggs	Potatoes
Akmola	200	200	400	60	20
Actubisk	180	200	370	70	25
Almaty	350	400	500	120	60
Atirai	180	220	260		25
Ust-Kamenogorsk	350	150	300	60	20
Djambul	250	270	450	85	25
Zhekazgan	338	296		70	35
Uralisk	170	160	550	70	25
Karaganda	290	310	450	70	20
Kzil-Orda	180	170			18
Kokchetav	200	200	300	50	6
Kuzstanai	280	200	500	50	25
Aktai		220			50
Pavpodar	207	240	450	60	20
Petropavlovsk	240	220	450	65	15
Seminalatinsk	280	300	500	75	15
Talli-kurgan	190	250	450	100	20
Arkalik	190	170		80	30
Shimkent	260	270	300	120	40
Leninsk	180	500		50	45
Mean	238	247	415	74	27
S.D.	60	83	86	21	13
C.V.	0.25	0.34	0.21	0.29	0.47

Source: Statistical Bulletin No. 1, Statistical Research Institute, Republic of Kazakhstan.

- *Ukraine.* "Retail price liberalization has not been comprehensive in the food sector. Most food product prices were freed from direct state control starting July 1, 1992.... However, the state still regulates price formation through the control of profit markups ..." (Ukraine Agriculture Sector Review, May 1993, Volume II, Annex B, p. 6).
- *Belarus.* "Price ceilings on most food prices were phased out over 1992 and 1993, but the prices of bread and milk are still fixed by the Government....While bread and milk retail prices are subsidized directly, the rest of food retail prices carry indirect subsidies....Belarus' agricultural prices currently reflect a wide range of interventions, subsidies, and controls, generally designed to assist or protect the finances of state and collective enterprises, or to shore up consumer income" (Belarus Agriculture and Food Sector Review, Nov. 30, 1993, pp. 37-39).
- *Latvia.* "Although agricultural output and input prices are no longer formally determined by the Government, the Government continues to set reference prices, particularly for grain. These indicative prices are based on formulas that estimate average production costs plus profit margin. Ultimate prices are determined by demand and supply, i.e., market forces, but since the majority of distributors and middlemen are state owned, the present situation does not necessarily represent real liberalization" (Latvia Agriculture Sector Review, Draft, August 19, 1993, p. 23).
- *Lithuania.* "While farmers' prices have been largely liberalized, departures from an open, competitive market in the sector are introduced by the market power of the highly concentrated processing and distribution system and by measures aimed at limiting the exercise of that power. The Minister of Economics fixes the profit margin for the state-owned processors. The pricing law limits the retail mark-up to 10 percent for milk and 20 percent for basic meat products" (Lithuania Country Study, 1993, p. 184).
- *Estonia.* "Even with notable progress in the area of price liberalization [since 1991], there are still significant departures from open, competitive markets in the sector. Some of these are due to the market power of the highly concentrated processing and distribution system, and to government measures to limit the exercise of that power; some are due to government export restrictions aimed at preventing price increases and protecting domestic supplies from excess demand in the very large ruble zone in the East.... After the prices of many food products had increased by 100 percent or more in January 1992, the political pressure on the government to moderate such increases was especially strong" (Estonia, Country Study, 1993, pp. 103-104).
- *Eastern Europe.* Progress toward genuine food price liberalization is expected to be more evident in Eastern Europe. Economic reforms began sooner than in the USSR, and the socialist system had not been so long established. Entrepreneurship is evident in restaurants and, in Poland, Hungary, and the Czech Republic, in food retailing. Nonetheless, big obstacles to establishing well integrated markets exist, and have not been

overcome. In Romania, the World Bank findings are similar to the FSU situation: "Under current policies, the relationship between farmgate and retail prices is a clear manifestation of governmental interference rather than a reflection of market forces. In addition to the premia,⁴ subsidies are paid directly to agroprocessors and regulations determine the costs which can be charged by agents in the marketing chain. ... Assessing and controlling the individual cost items is a difficult task carried out by the Food Department of MAF (Ministry of Agriculture) and by MEF (Ministry of Economy and Finance)" (Agriculture Transition Report, October, 1993, p. 21).

These assessments of food price liberalization all across the FSU are consistent, and consistently pessimistic. Liberalization has been proclaimed everywhere, yet the signs of results are slim to none. The main success is that the enervating waiting lines and food shortages of 1991 have disappeared. But the real cost of food to consumers has increased sharply. Most disappointingly, the quality of goods, consumer services provided, efficiency of marketing, and other benefits that a competitive food industry should bring are not in evidence. The "liberalization" has effectively been equivalent to an administered rise in real food prices, the levels of prices depending not on competitive supply and demand but on government's ability and willingness to subsidize consumers through budget outlays and squeezing agricultural and food enterprise through price and margin controls.

Evidence on these developments is much more difficult to quantify than the geographical price differences. A quantitative analysis could not be done with the time and resources at the disposal of the World Bank review teams. This is why their assessments quoted are impressionistic and non-quantitative. Other analysts, Russian and foreign, have been even less well equipped to investigate these issues thoroughly.

Obstacles to Reform

Indications exist that progress has been made toward competitive liberalization of food prices: A reduction over time in city-to-city price differences in Russia for some commodities (vegetable oil and sugar, for example), a general decline in state subsidies on foods, and evidence of overall marketing improvement in Estonia (and in Central Europe). Nonetheless, most of the available evidence points to a lack of true liberalization. Few of the benefits that could have been expected in the first two years of competitive pricing and marketing have been realized. Why?

The following obstacles to price liberalization have been identified:

- Lack of enterprise reforms and privatization in the food sector
- Remaining price regulation, particularly of marketing margins
- Continuing subsidies to state food enterprises
- Continuing monopoly power of food marketing enterprises
- Lack of managerial skills and market mentality in the enterprises
- Lack of market information
- Local regulation of and restrictions upon private marketing activities (formal and informal)

The World Bank's Sector Reviews uniformly point to problems in the first four items. The enterprises, even if labeled joint stock companies no longer controlled by a state committee or Ministry, are typically organized internally in the same way, with the same managers, and the same local monopoly as before the reforms. New entrants are discouraged by margin and other regulations, subsidies continuing for existing enterprises, and uncertainties which discourage the substantial investment required. Unfortunately, the notable examples of private restaurants in Moscow and some cities of the Baltics, and investments of foreign food firms in some areas, have not penetrated very far, even in the capital cities of Ukraine, Moldova, and Belarus, for example.

But these factors cannot be the whole story. Consider the simple marketing activity of an individual in a rural area buying or accepting on consignment the neighborhood's potatoes (or tomatoes, other vegetables, or eggs) and transporting them to the most favorable market for sale. This activity alone should go a long way toward establishing an efficient geographical pattern of prices for these commodities, constrained by the costs of small-scale transportation, storage, and quality control. Waiting for reform and de-monopolization of the large state processing and retailing enterprises is not necessary because these traders can go around them through city markets for unprocessed goods. Even if international trade restrictions keep domestic prices far from world levels, these middlemen could achieve a more efficient within-country allocation of goods.

The chief candidates for hindering small-scale trading activity are those of the last three items listed: managerial skills and mentality, information, and local regulations and restrictions. With respect to skills and mentality, savvy traders unquestionably exist, in varying numbers in the different republics. There should be more of them. It would likely be a worthwhile endeavor to provide technical assistance and training for people who want to go into small-scale food marketing. (The main attitude readjustment needed appears to be a greater appreciation for the economic role of middlemen among the general public.)

With respect to information, reporting and publication of prices occurs widely in the FSU. While the timeliness, reliability and availability of published data could be improved, the price differences that exist are so wide and persistent that it is not plausible to place the burden of FSU marketing failures on a lack of information.

This leaves local regulations and restrictions. These are difficult to pin down — not typically a matter of explicit legislation — but it seems clear restrictions are pervasive. Local authorities in low-price areas have usually created the low prices by means of subsidies, together with price or margin ceilings in some cases. Goriacheva (1993) reports about half of all food prices surveyed being locally regulated in mid-1993. The authorities do not want the subsidized products to be shipped elsewhere rather than being consumed locally. Because the farms and food enterprises are still largely dependent on state support even if no longer actively managed through state committees or agencies, their managers have an incentive to cooperate by not shipping to higher-priced cities. Independent middlemen are more difficult to control. Anecdotal evidence says they do move goods out of low-price areas. But the volume appears to be low.

The high-price areas with potential for importing appear to restrict access to their markets for different purposes. In the low-price areas, local political authorities keep goods at home to win favor with consumer constituents. In the high-price areas, the objective is rather to protect local sellers by restraining outside competition. It is not clear in these cases whether the regulatory hammer is wielded by local political authorities or local thugs. Anecdotal evidence is abundant that new entrants to city markets can expect threats of arrest or violence; or that market access will be costly enough to eliminate profits from interregional commodity movement. "Mafias" are said to control these markets and to keep competitors out even by intercepting trucks en route to compete.

Remedies

The remedies for this situation can only come from local and national governments in the FSU. First, elementary property rights have to be protected by controlling the mafias. Second, local governments have to be persuaded that the pursuit of regional self-sufficiency is counter-productive, and that they should desist from mafia-equivalent behavior. Presumably this will require action by the national government; after all, U.S. state/regional protectionism has been kept in check only by the commerce clause of the constitution, and then not fully thwarted.⁵

Further development of food marketing in the FSU — improved quality of products, efficiency in processing and distribution, and more consumer-oriented service — will require another order of reforms. Here the other items on the list of obstacles become important. The existing state enterprises must be reformed and their subsidies ended to create space for investment in competitive, market-oriented enterprises. The first steps in this direction have been taken in Russia, the Baltics and Eastern Europe, but virtually nothing has been done in Ukraine and Moldova. Overall, progress has been painfully slow, and interrupted periodically by regress, as is the case at present in Ukraine.

The World Bank's recommendations are uniform in pointing to the necessity of making a fundamental political choice to let go of the regulatory reins. This has proved a most difficult choice to make. The difficulty is usually seen as a matter of apprehension about economic pain and constituents' rejection of the perceived instigators — exemplified by recent elections in Russia and Poland. But observers have also detected a basic misperception or lack of understanding of market economics.

The problem was put well in a report on recent price policy in Mongolia: "The essence of the Mongolian understanding evidently is that free prices are simply ones that are not subject to the old system of regulations and that therefore can reflect changes in economic conditions. This does not mean that free prices can be freely set by demand and supply. Thus, the Order implementing the liberalizing resolution delineated pricing procedures to be followed by all sellers, including private entities" (Murrell, Dunn, and Korsun, 1993, p. 13).

The same mentality is prominent in two detailed papers on agricultural price reform in Ukraine (Ministry of Agriculture, 1993; Academy of Agrarian Science, 1993). Their approach is not to develop a plan for deregulation of prices, but rather for better or more scientific regulation of prices.

The most straightforward, and perhaps only, remedy for the problem is economic education of a substantial number of professionals in these countries. I believe this cannot be done through a "retread" job on existing officials; it has to be a full graduate-level economics program for the most capable people now in their 20s and still intellectually flexible. The problem with this is it takes years to obtain even the first results. However, I see no alternative.

A second area of remedies is more purely political — the establishment of personal security and property rights in commercial activity. This includes not only controlling "mafias," but also local governments refraining from harassing tactics and unpredictable licensing and other requirements that strangle entrepreneurial activity. This is not to say that all crime and local regulation must be stopped, which is an impossibility. But the costs imposed upon economic activity must be reduced from what they are now. Only when this is done can privatization, enterprise restructuring, subsidy phaseouts, and de-monopolization yield major economic gains.

Third, the political and economic reorganization necessary is so interconnected that no sequencing of reforms can be specified for a successful stepwise approach.⁶ If resources cannot be mobilized for broad-front reforms everywhere, then the effort should be focused on particular areas. For example, the British Know-How Fund's approach of placing a permanent advisor in the Ministry of Agriculture in Ukraine, and then working relentlessly and in detail on efforts to reform grain and vegetable marketing in one oblast (the Kiev Oblast) seems to me promising (as much as anything in Ukraine can be promising at present). The needs for retraining, information, and advice among grain elevator managers, for example, are so extensive as to require a major effort even for a relatively modest reform package.

Endnotes

1. The data are from a weekly survey of state stores and city markets that has been published since January, 1992, by Goskomstat of the Russian Federation. The survey is taken on Wednesday of each week, typically with one enumerator for each 3 or 4 state stores in a city, and one enumerator for each private central market. Not all outlets are sampled, but the sample size appears adequate — about 70 enumerators in Moscow, for example, covering about 100 state stores and 10 private markets. The enumerators record posted prices in state stores and ask the manager for volume data. In private markets the enumerators ask a sample of sellers for price quotes, and ask the market's administrator for an estimate of volume sold.
2. The Central region consists of Moscow and 17 of the larger surrounding cities in 13 provinces ("oblasts"). Their distance from Moscow ranges from 54 to 419 kilometers.
3. It has been suggested that in well established market economies one sees similarly substantial geographical price variation. A comparison with U.S. food commodity prices across states and cities, however, indicates that markets are significantly less well integrated in the former Soviet Union. For example, the coefficient of variation of the food CPI across 15 U.S. cities from coast to coast in December, 1992, was .06. For individual commodities, the coefficient of variation across U.S. regions in December, 1992 ranged from .04 (hamburger) to .16 (eggs). Most telling of all is a study of Mills (1927) in which he investigated retail food price variation over 51 U.S. cities for 43 commodities in 1924. He estimated mean absolute deviation as a percentage of mean price for each commodity — roughly the same magnitude as the coefficient of variation — and found values from .03 (wheat cereal) to .16 (round steak). All of these estimates of spatial price variability are much lower — by a factor of 3 to 5 times — than the estimates for Russia in 1992-93 in table 2.
4. "Premia" are recently introduced subsidies to assist procurement agencies in buying agricultural commodities from producers.
5. For example, in the last few years several U.S. states have begun effectively taxing out of state milk in order to protect local dairy producers, and about half these have found ways to do this that have so far survived judicial challenge.
6. On this point I cannot accept the emphasis on the ordering of reforms that characterizes some discussion of reform in the FSU, for example, the idea that macroeconomic stabilization was necessary before price liberalization could work. It was striking in Ukraine that the few independent middlemen appear able to cope even with inflation rates over 50 percent per month, but are clearly hindered by regulatory restraints. It would be a big mistake to give up on sectoral price liberalization until macroeconomic stabilization is achieved.

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Appendix A. Russian Food Price Data

With 69 commodities in 132 cities for 64 weeks there are 582,912 potential price observations for both state stores and city markets. Missing data for many commodities in some weeks and cities reduces the actual number of observations to about 200,000. The data are too numerous to examine other than through summary statistics, but the main story can be seen from the raw data for relatively small samples of prices.

The cities of the Volga region are all within a few hundred kilometers and easily accessible to one another (many along the Volga River). In January-February 1992 the price of sugar was 7 to 8.5 rubles per kilo in all the cities except Volgograd. The rise in the sugar price in later months is clearly a regulated rise in most of the cities. In Penza the price was constant at 7.7 rubles per kilo until March 17. It then jumped to 25-26 rubles for a 5-month (high inflation) period until it jumped to 51 rubles on September 1. In Astrakhan the price jumped to 52 rubles almost immediately, on February 25, and held at about that level until October 20. In Ulyanovsk the price was generally kept low, and in April, 1993, was being held at 100 rubles per kilo, about one-third the price elsewhere in the region. In general, the behavior of price movements is characteristic of a set of autarkic regulated markets as opposed to a set of competitive markets integrated by arbitrage. The econometric work on bigger sets of prices in Gardner and Brooks (1994) formalizes this finding.

Privatization of the Sugar Market in Mexico

Luis Téllez Kuezler*

During the administration of President Carlos Salinas de Gortari, Mexico has undertaken a profound reform program which has included the agricultural sector. This process has consequently brought about the culmination of the former economic model, characterized by strong governmental intervention which limited foreign investment, and the state's capacity to finance from external savings.

The state participated in series of production activities before the reforms, lacking however, sufficient resources to sustain their development. This situation generated an enlargement of the fiscal deficit and of inflationary financing. Moreover, the existence of excessive regulation and subsidiary policies inhibited competition, and restricted the government's ability to use external resources, thus resulting in a deficient production process.

This document attempts to give a general overview of the characteristics of the sugar sector in Mexico, its development, as well as the reasons concerning its privatization. It is structured in four sections: The first section, explains the features of the sugar industry in Mexico and its participation in the economy. It also describes the peculiar nature of the commercialization and distribution process of sugar through a State-owned enterprise.

The second section, analyzes the stages and steps taken towards the privatization of the sector, as well as the terms followed for its valuation.

In Industry Deregulation, the third section, gives a brief explanation of the deregulation process, and the new economic policies developed by the government. In order to correct the deficiencies in which the sector was submerged.

The concluding remarks state the facts found throughout the analysis of the privatization and highlight the advantages and possibilities pertaining the sugar sector as a whole.

Background

During the privatization period, the Mexican sugar industry was the largest agro-industry in the country. Its share in the GDP had grown considerably since 1979, reaching about 0.9 percent in 1990. The sugar sector is one of the largest sources of employment in the country and in some states the main one. Moreover, sugar is one of the principal components in the daily diet of the population, representing on average about 18% of the total calories consumed.

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At an international level, Mexico is the eighth largest producer of sugar in the world and the fourth in the Western hemisphere. In terms of consumption, it ranks third in the same hemisphere and has one of the highest per capita consumption in the world with 45 kilograms (kg) per year, while the world average is just above 20 kg.

Over the years, the development of the sugar industry helped to increase the living standards of the population in the rural areas because the unions (sugar cane growers associations and the mill workers union), the owners of the mills, and the public sector have been active in providing schools, hospitals and other public health and welfare services.

Internally, the relationship between the production factors of the industry has been strictly regulated due to the special characteristics of the production process. The grower's only customer is the nearest sugar mill to their plantation and the mills is in a similar situation since it must depend on local growers to stay in business. At the same time, Governments have historically protected domestic producers by imposing import controls, heavy duties on foreign sugar or a combination of both. One way of determining the degree of this Government Intervention is the 'sugar producer equivalent subsidy' which is the difference between the income actually received by producers and the value of their production at world prices.

**Producer Equivalent Subsidy
(Millions of US Dollars)**

Country	1985	1986	1987	1988
Australia	16.00	86.93	89.20	67.28
Austria	102.68	62.83	41.52	12.66
Canada	5.83	19.16	4.99	4.99
EEC	3,269.02	3,885.20	3,706.70	3,383.50
Finland	80.62	94.48	69.79	111.62
Japan	743.05	694.44	673.61	52.77
Sweden	84.75	83.11	98.52	52.95
US	1,216.00	1,191.00	1,384.00	1,029.00

Source: Agricultural Policies, Markets and Trade; Monitoring and Outlook 1989. Organization for Economic Cooperation and Development (OECD), Paris, France, 1989.

Protectionism and subsidies throughout the world as well as the fact that International trade through commodities exchanges is only a marginal proportion of total world production, are main factors in the great volatility of international sugar prices. In June 1985, the price of raw sugar in the New York Coffee, Sugar, and Cocoa Exchange Inc. was quoted at 2.8 cents of US

dollar per pound, while a decade before the price was almost 120 cents. The distortions created in the world sugar industry, make it unlikely that countries will be motivated by comparative advantages in their production decisions of sugar based solely on international price comparisons and domestic cost structures.

As in the rest of the world, in the last decade the Mexican sugar industry has been one of extreme Government intervention. This overbearing regulation had its peak when the public sector owned 75 percent of the sugar mills in the country through a state-owned enterprise (SOE): Azucar, S.A. de C.V. (AZUCAR) created to meet distributional as well as commercial objectives. This led to a conflict of interests among its goals and this in turn generated pressure from groups representing those interests.

It is worth mentioning that the regulation in the sugar industry took place all across the production and marketing chain. The government policies that have shaped the sugar sector in Mexico have included subsidies for sugar cane growers, agricultural insurance premiums, subsidies to guarantee support prices for sugar and sugar cane producers and control of the domestic and foreign trade through AZUCAR. In addition, final consumption of sugar was also affected by price controls and subsidized prices.

AZUCAR was created in order to coordinate the development of the sugar industry, control the operation of the state sugar mills and trade all the products of the industry. AZUCAR was in itself a monopoly and monopsony, buying all the sugar production of the sugar mills - Government owned and private- at a "liquidation price", and distributing it for industrial and retail consumption. In order for AZUCAR to trade all the sugar production in the country, there was a 50 percent tax on sugar sales applied to those mills selling their production in the market. With this restriction, AZUCAR practically controlled 100 percent of the sugar production in the country. AZUCAR absorbed all the storage and financial costs associated with holding production during harvest and distributing it regularly for consumption throughout the year. In addition, AZUCAR was the only agent in the market allowed to import sugar to satisfy national demand.

The excessive regulation and constraints in the sugar sector tended to create inefficient market structures. In particular, the government prohibited vertical integration, causing the impossibility for sugar mills to ensure the opportune supply of raw sugar cane for their production. (Sugar cane has to be processed in the mill shortly after it has been harvested). This market structure did not provide any incentives for the sugar mills to create their own marketing channels and therefore it inhibited competition. The government also set a minimum support price received by cane growers which discouraged quality over quantity.

Like other SOEs, AZUCAR was insulated from competitive pressures and, in effect, its shares were held by taxpayers whose asset ownership was diffuse, nontransferable and compulsory. They were therefore unable to direct the way in which it operated and this led to an inappropriate management.

Another disadvantages concerning SOEs is the way in which it is managed. Private enterprises face agency costs when shareholders have no incentive to verify the actions taken by the manager. This cost becomes even more acute for SOEs, because the diffuses of shareholding, the nontransferability of ownership and the absence of a share price do not reflect the right incentives to monitor managers and the performance of the firm.

On the other side, SOE management has less incentives to use its discretion to favor taxpayer shareholders over other groups like suppliers or employees, because the link between shareholders' interests and those of management is much weaker. While in the private sector even though shareholding is highly diffuse, there is monitoring to ensure that the share price reflects informant current opinion about value. Private firms are likely to distribute surpluses to shareholders, AZUCAR was structured so that the subsidies that it received were distributed among groups who had a concentrated interest on the operation of the firm.

Considering the deficiencies generated by the policies mentioned above, it was evident that the direction of the SOEs required urgent improvements and structural reforms capable of correcting the failures generated by public management. Being AZUCAR a State-owned Enterprise (SOE), it could be sold or privatized by collective action. SOEs are distinguished from other parts of the public sector by their business character, they can depend on revenues from the sale of goods or services rather than rely solely on budgetary grants. Nevertheless the monopoly of sugar was not profitable. By 1991 AZUCAR had excessive losses. (500 MD).

Mexico's Position in the World Sugar Industry, 1990

Principal Indicators	Mexico	World	%
Tons of refined sugar/hectare/year	5.85	5.35	109
Pol in the sugacane	12.25	12.70	96
Extraction from milling	91.75	94.00	98
Total recovery (%)	72.50	82.50	96
Factory output (%)	9.74	10.48	93
Tons refined sugar/employment position	32	25	128
Field	92	77	119
Factory	23	19	121

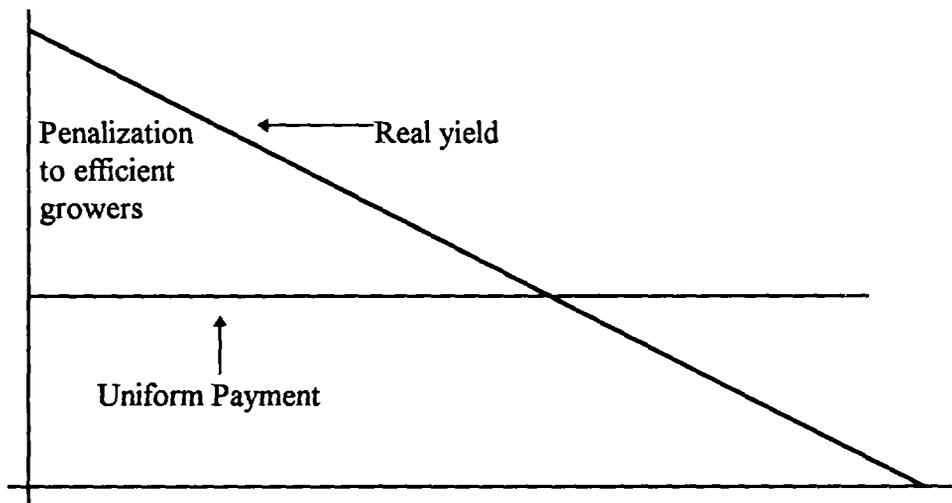
Source: Etudes et Recherches Sucreries (ERSUC), rance, May 1990.

Moreover, in 1980 a sugar cane degree was issued regulating the relationship between sugar cane growers and sugar mills establishing a price and payments system for sugar cane that: i) guarantee the cane grower a minimum support price equivalent to 83 kg of sugar per ton of cane; ii) allowed the manufacturer to have factory losses of up to an equivalent of 26.4 kg of

sugar per ton of cane; iii) paid the cane grower a uniform price equivalent to the saccharose average obtained by the mill (factory output) throughout the harvest period; and, iv) indexed the price of sugar cane to the yearly increase in the Mexico City Wholesale Price Index.

The regulation over the price system described above caused serious inefficiencies. In the field, the minimum support price and the uniformity in the price received by growers discouraged the production of sugar cane of better quality and represented a cross subsidy from growers with saccharose yields above average (uniform payment) and growers with yields below the average.

CROSS SUBSIDY BETWEEN CANE GROWERS



For the manufacturer, allowing the mill to deduct up to 2.64 percent of factory losses from its payment to growers did nothing to stimulate greater productivity and investment in technological improvements. Moreover, it also inhibited the delivery of sugar cane with higher contents of saccharose since the payment to the cane grower was based on factory output and not on the real yield of their crop.

Contrary to the situation in most of the world, the prices of both sugar and sugar cane were completely unrelated. While the price of the latest was indexed every year according to the increase in the Mexico City Wholesale Price Index, the price of the former was adjusted in a discretionary way. Over time, this policy had severe effects over the operational margins of the sugar mills, as well as in the uncertainty created for sugar manufacturers to plan for long term investment.

The result of this policy was the obsolescence of the sugar cane plantations and, consequently, a decline in productivity in terms of both tons of cane per hectare and the sugar content per ton of cane. All this was translated in a low volume of sugar cane to be milled and the under utilization of the mills installed capacity.

As described above, the international prices in the New York, London or Paris, sugar exchanges can not be used as references to establish domestic prices, since they are markets highly intervened, where most of the time the prices quoted not even reflect the average production c costs of the exporters and, in the last years, had fluctuated more than 470 percent in two periods.

Price Relationship Between Sugar and Sugar Cane

No Relationship	Eastern European Countries Mexico (till 91/92)
Sugar Cane Price=Sugar Price	E.E.C U.S.A. Brazil African Countries.
Sugar Price=Sugar Cane Price	Australia Thailand South Africa

Source: *Etudes et Recherche Sucreres (ERSUC)*. France, May, 1990

In terms of the subsidies channeled by the Mexican Government to the production and distribution of sugar, they represented in 1989 around 70.5 thousands of pesos annually per family (assuming an average family size of 5.5 and 45 kg of annual per capita consumption). This represented an annualized expense of about a trillion pesos.

As far as indirect subsidies are concerned, one of them significantly affected the field structure: the payment of social security for cane growers and their families. The social security contributions were determined as a function of the total sugar production of each grower. The total number of tons delivered to the mill, were then multiplied by an amount determined arbitrarily every two years, without any regard for the price of sugar. In addition, there were no upper or lower limits to these contributions. The social security system described above had an important impact over the total production of sugar cane and the yields per hectare in the field, since it did not encourage looking for ways to increase productivity through scale increases.

The international situation of the sugar industry and the overbearing regulation of the domestic market described above, gave rise to radical changes in the ownership of the sugar mills during the last 20 years. While in the 1970's the private sector owned approximately 75 per cent of the sugar mills in Mexico, ten years later most of the mills were owned by the Federal Government.

Starting in October 1987, when the Government decided the privatization of the sugar industry, a new era of deep changes in the industry was initiated and still continues today.

Privatization Process

As time went by, the government could not overlook certain deficiencies due to public ownership, which were reaching far beyond the sugar sector, affecting other sectors. Considering the mechanism prevalent in private firms, which assure that managers earn the most of the firm's assets¹ and the advantage constituted by the ability of the private sector to tie management compensation with the performance of the firm², privatization was found to be the most adequate solution for the sugar deficiencies, and the only process capable of improving the production and commercialization of sugar.

Current trend in government policies towards continuity and stability has eliminated the risk of expropriation, which was by far more probable in the past. This caused, an understandable distrust on behalf of private investors, who did not want to risk their stock on projects which could be expropriated any day, as was the case of sugar. At present, the efficiency private production has increased due to the government's compromise, and the private sector in general will not be threatened by government opportunism, so there are now more incentives to invest in the sugar sector. Aware of these facts, the Federal Government decided to reduce its intervention in the sugar industry in 1987, starting with the privatization of sugar mills equivalent to 50 percent of its participation in sugar production. This first stage of mills divestiture was based on three main objectives: i) not to create regional monopolies; ii) not to harm the financial situation of AZUCAR; and, iii) significantly reduce the subsidies channeled to those mills.

A year later, the Government decided to privatize the rest of the mills and undertake a profound process of deregulation geared towards the liberalization of the market. One of the most important aspects of the mills privatization process, was the fact that it was made on several stages as a result of the uncertainty for private investors over a future deregulation process.

FINASA, Financiera Nacional Azucarera, S.N.C. was the agent bank in charge of the process of privatization. The mills were valued in 4 different ways, according to i) the replacement value for a typical mill; ii) the index of the remaining useful life of the equipment; iii) the mortgage value, which took into account operational and cost structure elements, excluding financial expenses; and iv) the technical value or value as a going concern, which included the physical value of the assets, the productivity of the industrial units, the excessive costs of labor given by the contract with the workers union and financial projections.

It is important to mention that the first 3 valuation methods failed to take into accounts such basic aspects of the mills as their proximity to the field and its conditions, the under utilization of their installed capacity and the overbearing labor costs. In valuing the mills as going concerns, consideration was given to these factors.

In April 1988, the first call for bids was published in the country's newspaper for the sale of 100 percent of the Federal Government share holding interest in 20 sugar mills. Seven mills were sold to the private sector. The main problem in this stage was the fact that vertical integration was not allowed and the privatized mills would still have to sell their product to AZUCAR.

In September 1988 a second public call for bids was issued for the sale of 27 more mills, including those not sold in the first bidding. The mills were being sold in packages of two or more, with a maximum amount of sugar production per package, in order to avoid the creation of regional monopolies. Only one of what was considered an "efficient" mills could be included in each package, so that the package would be financially balanced. Also required in the bidding process was an investment plan for rehabilitation and modernization of the company's productive plant and sugar cane field around them.

Even though an 80 percent vertical integration was allowed in this stage, only six mills were sold in two packages. At this point in time, the deregulation process was starting and the underlying uncertainty affected the interest of private investors.

In the third and fourth stage the Government has already decided to withdraw completely from sugar production and commercialization. Total vertical integration was permitted and new financial instruments were made available to potential buyers. A public call for bids on all the state owned mills was announced. The strategy to sell in balanced packages was maintained and all mills are now in private hands.

The main criteria to decide the sell of the mills were the price offered by the bidders, the percentage of vertical integration (the higher the integration, the lower the reserves for the Government to regulate the market) and the modernization and diversification programs offered.

One of the main lessons learned in the privatization of the sugar mills, was that a parallel process of privatization and deregulation of the industry may not create the right incentives for the private sector to purchase the companies being sold. The uncertainty created by the deregulation process discouraged in many occasions the private sector to be more aggressive in their bids for acquiring the mills. Moreover, the process of selling several companies and not only one, created the need for a different selling strategy in order to avoid the creation of monopolies and the rise of shortages in marginal consumption locations.

Industry Deregulation

As part of the deregulation process, the Government decided to abolish the 50 percent tax over sugar sales and therefore allow vertical integration with industrial consumers, trying also to push the creation of private marketing channels for each mill. With these changes and the privatization of all the mills, the existence of AZUCAR was not any more required, and a liquidation process was planned for the company. In the transition period AZUCAR was only going to support retail commercialization of sugar in some consumption sites.

Given the liquidation of AZUCAR a new long term marketing strategy was needed, coherent with the new economy policy of open economy and deregulation. This strategy was to be supported with changes in the flow of information containing the regional requirements of sugar; the encouragement for the establishment of infrastructure to support the commercialization of the product on a national basis; the need for new financial schemes that take into account the inventory accumulation during the first months of the year; and, a new tariff structure for foreign trade.

The experience of the Mexican sugar industry has shown us that the intervention of AZUCAR was so strong in the market and that the industry was so regulated, that the process of the private sector taking charge of it has been slow and expensive for them. Today, every mill has extra storage and financial costs that in the past were absorbed by AZUCAR.

As part of the new economic policy to the sugar industry, the Federal Government enacted a new sugar cane Decree. The modifications to the Decree consisted in the elimination of the minimum support price to the growers and the allowance of factory losses to the manufacturer. The new Decree establishes that the payment to cane growers is based on the amount of sugar contained in each delivery of sugar cane, that is on recoverable sugar. The most efficient and fair system of each individual delivery. As a result, improvements in the quality of sugar cane were encouraged and the cross subsidies among producers were eliminated.

Today, the grower has an incentive to improve the yield of its crop, since the payment he (she) will receive will not depend on the rest of the growers or on the mill efficiency to transform the sugar cane. The grower's income is based now on recoverable sugar and not on the factory output.

Concerning the price policy, an agreement was reached to establish a variable duty for imported sugar, based on a reference price. In case the import prices are below this reference price, the importer will pay tariff equal to the difference between them. Otherwise, the tariff would be zero. Although in theory the system was established to isolate sugar manufacturers and sugar cane growers from the distortions in the international markets, in practice the system proved to be more difficult to implement. The first problem was the definition of import prices. Defining it as the invoice price had the inherent risk of artificially making an operation too risky or too attractive depending on the behavior of international prices. It was decided that to calculate the variable tariff, the international price to be used was going to be the average of the spot prices in international markets, 30 days before the operation. In practice, this proved to be a long period. If the international price changes drastically the days before the operation, this will have a minor impact on the 30 day average, but the importer will have to pay a higher or lower tariff than on a normal case. In light of this problem, the average was reduced to 15 days. In addition, the reference price for imported sugar was indexed to the national Price Producer Index in the United States to establish a clear long-term horizon for cane growers and sugar producers about the evolution of domestic prices.

In terms of the domestic price policy, it was decided to link the price of sugar and the price of sugar cane, in a way that the price of sugar cane will be a fixed proportion of the FOB mill price of sugar. Additionally, wholesale prices (FOB mill) would equal the reference price plus transportation costs.

In practice, the problem with this system is that some times the market price is below the FOB mill price and the manufacturer has to pay cane growers according to the later one. Today, an FOB mill price is announced regularly depending on the conditions of the market. This situation will change when the new commodity exchange board is launched (Fideicomiso para el ordenamiento del Mercado Azucarero, FORMA) providing the stabilization of prices in a highly volatile market through forward contracts.

In regard to the social security system, the Government changed the basis for calculating contributions from a system based on tons produced to one related to the acreage involved, with a lower and an upper limit in order to avoid excessive payments.

Conclusions

The AZUCAR monopoly originated excessive costs to the public sector, prevented the vertical integration between sugar cane growers and sugar producers. It did not develop the necessary incentives in order for the mills to generate their own commercialization channels, and therefore, it inhibited competition amongst them. This gave way to a series of problems which made the process quite inefficient. The need to privatize was eminent, thus, the decision to disincorporate was taken.

The disincorporation of AZUCAR allowed an active participation on behalf of the private sector in every area of the sugar industry. The elimination of subsidies on sugar, distributed through the SOE structure, marked the beginning of a new era of government policies encouraging productivity, efficiency and the possibility of a reorientation of public expenditure towards State priority activities such as: Poverty, social development, health and education.

The reform of the sugar sector as a whole, has laid the foundation for its growth throughout the following years, and has permitted the rationalization of the sector's structure and legal frame. It has also taken the necessary steps to improve the activities of this sector and benefit every participant. Moreover, NAFTA has opened new opportunities for this industry due to the potential exportation of production surpluses to the U.S.: market.

The modifications to the land tenure system in Mexico have opened new possibilities of association for mill owners and cane growers. The establishment of a new price policy is providing a clear horizon for both to plan for long term investments and it has eliminated the variability in operational margins to the manufacturer. In this sense, it is expected that new agro-associations between them can be developed in the future.

Endnotes

1. One example is the takeover that prevents managers from skirling, while in the public sector takeover cannot be possible because the ownership of shares is nontransferable.
2. This is not possible in the public sector because managers cannot be given stock options nor can they appropriate benefits from high-risk investments.

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Public Regulatory Roles in Developing Markets: The Case of Pesticides

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Introduction

The public regulation of input or product markets is warranted when one or more of the following market imperfections exist: 1) use of the product creates negative externalities; 2) end users face serious occupational hazards; 3) product quality is variable since standards are hard to enforce; 4) information about product efficacy is less than perfect; and 5) questions about ethics in marketing and trade arise since producers/exporters are more knowledgeable on each of the above issues than the importers or end-users.

The pesticide industry qualifies for public regulation by each of the above criteria. The human health and environmental consequences of indiscriminate and injudicious pesticide use are well documented both for the developed and developing countries. The public policy question with respect to pesticides in the developing world is not *if regulations are appropriate*, but rather, *what types of regulations are appropriate?*

Discussions of pesticide regulation in developing countries center around three broad sets of questions: i) should poor countries divert resources towards environmental protection; ii) do countries face a trade-off between productivity growth and environmental protection; and iii) are developed country regulatory policies appropriate for and transferable to developing countries?

This paper reviews the current scenario in developing countries with respect to pesticide use, trade and regulation, and assesses potential regulatory options for reducing the social costs of pesticide use. Regulatory policies are discussed relative to the above three questions and viable regulatory options are determined.

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Current Scenario for Pesticides: Markets, Use, Effects and Regulations

Structure of the International Pesticide Market

The international pesticides industry is characterized by vertical integration, a high degree of export orientation, product diversity, and a variety of important connections with national economies. It is also a capital-intensive and research-intensive industry, involving dominant market positions by relatively few large companies and by a leading role on the part of relatively few countries (Boardman, 1986). World market growth has remained steady in the 1970s and 1980s at around 5 percent a year. Before the 1960s, pesticides were mostly consumed in industrialized nations. With agricultural modernization in developing countries in the mid 1960s, third world exports became an important part of the international pesticide industry. Traditional exporters of agro-chemicals are Britain (where chemicals constitute the third largest export), the United States, West Germany, France, Switzerland, Italy and Japan. In the 1960s and 1970s, these countries accounted for about 75 percent of world chemicals production (Boardman, 1986). Approximately 85 percent of all agro-chemicals used in Asia are imported from the above countries (UN, World Trade Statistics).

A large proportion of the pesticides exported to the developing countries are products that are not used in the developed world on environmental and health grounds. Weir and Schapiro (1981), for instance, pointed out that at least 25 percent of U.S. pesticide exports are products that are banned, heavily restricted or have never been registered for use in the United States. However, U.S. law (The Federal Insecticide, Fungicide and Rodenticide Act) explicitly states that banned or unregistered pesticides are legal for export. Table 1 provides an example of the registration status in the U.S. of chemicals popularly used in the Philippines. Importing countries routinely recommend the use of these products, either due to ignorance or due to their being cheaper than the less toxic products.

Agricultural Modernization and the Demand for Agro-Chemicals

In the developing world, agricultural modernization, which is meant to include agricultural intensification and increased market orientation, has led to a rapid growth in the demand for agro-chemicals. The rapid spread of the Green Revolution for cereal crops, in Asia during the late 1960s and the 1970s, led to an upward shift in the demand for modern agricultural inputs, including pesticides. Although pesticides as a whole experienced a rapid growth in demand, an examination of the trends for chemical sub-groups, such as insecticides, herbicides and fungicides, indicates that there was substantial variation by country/region and by crop. The following is a stylized representation of the factors leading to these differences.

Table 1. Registration Status in the United States of Pesticides Commonly Used by Filipino Farmers (U.S. Environmental Protection Agency, 1992)

PESTICIDE	REGISTRATION STATUS IN THE UNITED STATES
INSECTICIDES	
Organochlorine	
Endrin	No longer registered
Endosulfan	Registered for general use
Organophosphates	
Methyl parathion	For restricted use
Monocrotophos	No longer registered
Azinphos ethyl	Not registered
Diazinon	For general use
Malathion	For general use
Carbamates	
Isoprocarb	Not registered
Carbofuran	For restricted use
Methomyl	For restricted use
Carbaryl	For general use
BPMC + chlorpyrifos	Not registered
Pyrethroids	
Cypermethrin	For restricted use
Deltamethrin	Not registered
HERBICIDES	
Phenoxy	
2,4-D	Registered for general use
Acetamide	
Butachlor	Not registered

Table 2 shows the differential effects of increasing land scarcity and increasing market orientation on the demand for chemicals. Consider first, a sparsely populated subsistence society with limited access to markets. Agriculture in such societies is characterized by extensive land use and an almost complete reliance on non-traded inputs, such as farmyard manure. Pest pressure is low in such cultivation systems and is kept that way through a variety of management practices, such as crop rotations and the use of traditional cultivars with known resistance to chronic pest problems.

Increasing land scarcity due to population growth in subsistence societies leads to agricultural intensification, i.e., increased intensity of land use (Boserup, 1965 ;Pingali and Binswanger, 1987). Where the opportunity costs of family labor are low, food production continues to rely predominantly on non-traded inputs. Pest pressure increases with intensification due to increased carryover of pests spatially and temporally. While increased weed pressure is handled by family labor, increased insect pressure is no longer amenable to traditional management practices and small amounts of insecticides begin to be used for cereal crops, even in subsistence societies. Low to moderate amounts of fungicides also tend to be used for crops such as cotton, tobacco, and horticultural products, especially fruit and vegetables (Table 3).

The contrasting scenario is one of a sparsely populated area that has excellent market access. In this case, agricultural intensification will be high due to high land values, but unlike the subsistence case, the opportunity cost of labor will also be high, hence the high levels of traded input use. While increasing insect pressures can be controlled through appropriate crop rotations and seasonal fallows, the dominant constraint is weeds. High levels of herbicide use are the norm in such societies. High fungicide use can also be observed for horticulture crops, especially fruits and vegetables (Table 3). Where market access and land scarcity are both high, high opportunity cost of land and labor result in agricultural intensification with high use of traded inputs. The demand for all chemicals is high in such societies.

While cereals command the highest share of the insecticide market, per-hectare application levels are the lowest. Fruits and vegetables have the highest per-hectare application rates of insecticides and fungicides. For high value crops such as fruits and vegetables, the price premium for an unblemished physical appearance is substantial. Risk averse farmers tend to apply pesticides heavily to capture this price differential. In the case of rice, the most important cereal crop in Asia, pesticides do not enhance physical quality in any way, and there is no price differential to capture (Rola and Pingali, 1993). Given the positive income elasticity of demand for fruits and vegetables, the long term prognosis for developing economies is one of increasing areas under these crops and, in the absence of alternative pest control strategies, an increasing share of the agro-chemical market.

Table 2. Intensification, Market Orientation & Demand for Agro-Chemicals

LAND/LABOR RATIO	MARKET ORIENTATION	
	LOW	HIGH
HIGH	Low Demand for All Chemicals	Herbicides Predominate
LOW	Insecticides Predominate	High Demand for All Chemicals

Table 3. Agro-Chemical Use by Stage of Agriculture and Cropping

Farm Characteristics	Cropping System		
	Cereals (eg. Rice)	Other Field Crops (eg. Cotton, Tobacco)	Horticulture (eg. Fruit, Vegetable)
Land abundant Subsistence	All chemicals None	All chemicals None - Low	All chemicals None - Low
Land scarce Subsistence	Insecticides Low - Moderate Low - Moderate	Insecticides Fungicides	Fungicides Low - Moderate
Land abundant Market oriented	Herbicides Moderate - High Moderate - High	Herbicides Fungicides Moderate - High	Fungicides Herbicides
Land scarce Market oriented	Insecticides Herbicides High	All chemicals High	All chemicals High

Market shares of agro-chemicals are broadly consistent with the above typology of countries and cropping systems.

Perceptions of Pest Problems and Pesticide Use Practices

In an extensive review of case studies from across Asia, Rola and Pingali provide documentation that policy-maker perceptions of yield losses are higher than farmer perceptions of yield losses which, in turn, are higher than actual yield losses. Both farmer and policy-maker perceptions of pest related yield losses are anchored around exceptionally high losses during major infestations, even when the probability of such infestation is low. Improved farmer experience and education, especially through targeted training courses, could help farmers evaluate pest related yield losses more realistically, and reduce pesticide use (Pingali and Carlson, 1985). Similar efforts to improve policy-maker perceptions could help reduce the reliance on pesticides as the only viable method of pest control.

Even where perceptions on yield losses and on the efficacy of pesticide use are relatively accurate, farmer knowledge on appropriate safety practices and the adverse consequences of pesticide use tends to be limited.

The literature abounds with evidences of third world farmers using pesticides unsafely and injudiciously (see for instance Bull (1982), Boardman (1986), Rola and Pingali, (1993), Warbuton, et. al., (1993)). Acute poisoning in Philippine rice farm households can be traced to unsafe practices in handling, storing, and disposing of pesticides for several reasons. First, even if farmers are aware of the hazards, they cannot afford appropriate clothing, adequate storage and disposal systems. Most farmers, however, do not know about the consequences of mishandling chemicals. Hence farmer training on proper pesticide handling could minimize unnecessary exposure to chemicals.

The two other causes of pesticide exposure leading to poisoning are farmers' ignorance of re-entry intervals and the use of defective sprayers. A re-entry interval is the time needed to allow a chemical to dissipate in the environment. Most organophosphates (OPs) and organochlorines (OCs) used in the tropics, have a re-entry interval of at least 72 hours, but farmers usually go back the same day to see if the spray has worked (Rola and Pingali 1993). It is also suspected that few manual weeders (traditionally women) know about the re-entry interval requirement. In any case, no danger signs are posted on newly sprayed fields. Thus, weeders as well as children and other household members in or nearby newly sprayed fields are directly exposed to pesticides. The knapsack sprayer is notorious for its mechanical defects and leakages, yet it is the most popular means of spraying pesticides in the developing world. Little has been done to improve the safety of this equipment.

Productivity Benefits of Pesticide Use

Discussion of the productivity benefits of pesticides revolves around the presumption that pesticides are a risk reducing input, i.e, the variability of yields are reduced. One needs to

question this presumption, both for insecticides and for herbicides. In the case of insecticides, Rola and Pingali (1993) provide empirical evidence for rice production that shows insecticide applications increase yield variability. Applying insecticides routinely, early in the crop season or on a schedule during the growing season (prophylactic application), disrupts the pest-predator balance. Predominant reliance on chemical control often leads to pest resurgence and frequent large scale infestations. Rola and Pingali found, for rice, that "natural control", (not applying any insecticides), in association with varietal resistance to be consistently more profitable than prophylactic treatments and economic thresholds. This result holds for both the risk neutral and the risk averse farmer.

In the case of herbicides, Pandey and Medd (1991) challenge the generalization of risk reduction made in the literature. They argue that an assessment of the source of risk is essential in determining whether herbicides are risk reducing or not. Where the efficacy of herbicides is certain and the weed-free yield distribution is stochastic, increased herbicide applications can increase variability in profits.

Environmental and Health Impacts of Pesticides

Careful measurement and documentation of the environmental and human health consequences of pesticide use is rare for agriculture in developing countries. In the case of rice, the International Rice Research Institute recently completed a detailed farm-level assessment in the Philippines of the long term impacts of pesticides (see Pingali and Roger, 1993, for the detailed results). A similar assessment is being done for potatoes at CIP in Equador (Crissman and Cole, 1994).

In the case of rice, Philippine evidence indicates that indiscriminate pesticide use can have serious environmental and health consequences. The environmental effects are primarily in terms of ground water pollution, reduction of vertebrate populations in surface water systems, and the disruption of the long term species equilibrium in the paddy eco-system. At current levels of pesticide use and given that the chemicals used degrade rapidly in the humid tropical climate, the environmental effects are small, but one should not discount the potential for larger future effects.

The health effects of pesticide use in the Philippines are, however, quite substantial (Pingali, et. al., 1994, Rola and Pingali, 1993 and Antle and Pingali, 1994). Eye, skin, pulmonary and neurologic problems are significantly associated with long term pesticide exposure. A majority of the pesticides which might be linked to these impairments are the highly hazardous Category I and II chemicals. While commonly available in the Philippines, they are banned or severely restricted in the developed world. Rola and Pingali (1993) found that the net benefits of pesticide use are negative when health effects are explicitly accounted for. Antle and Pingali (1994) found that pesticide related health impairments cuts farm

household productivity. When pesticide use is reduced, the value of the positive health benefit of reduced pesticide exposure is invariably greater than the value of the crop lost to pests.

Status of Technological Alternatives To Pesticides

In the short term, the use of pesticides may still be necessary, especially in non-rice crops where some quality enhancing effects bring higher profits. In rice however, the development of host plant resistance and integrated pest management (IPM) strategies would minimize, if not totally eradicate the use of pesticides in the longer term.

Technology for IPM that recognizes the receptivity of different farmer groups has been developed but is not widely available. More constraining than the availability of technology is the lack of facilities and support services for extension personnel to do their work. Many countries do not have functional IPM extension programs because the people who would participate in them have no means of travel to farms or demonstration sites.

In a related problem, few national programs have scientists who can generate the IPM technology themselves. Few scientists have been exposed to contemporary knowledge on IPM, and few guidelines exist on the extrapolation domain of IPM technology generated at one locality for use in another (Teng 1990).

The use of IPM strategies in developed countries such as the United States has been made possible by a wide variety of public initiatives, i.e., land grant universities have been responsible for developing IPM strategies, for evaluating alternative strategies and for popularizing the "best" strategies in the farm community. Continued use of IPM in some areas depends on public provision of advising services and the supply of pest control advisors is similarly dependent on the training capacity of land grant universities (Lichtenberg, et al 1991). At this time the IPM research and extension infrastructures are lacking in developing economies like the Philippines.

International and National Regulatory Mechanisms and Institutions

International Regulatory Mechanisms

In his discussion on the political economy of pesticides, Boardman (1986) noted that the regulatory environment has become an increasingly important factor in the development or production of pesticides by companies. In turn, industry structures have both set limits to and provided opportunities for regulatory innovations by governments.

In the 1980s and 1990s, growing environmental movements in developing economies have led to a growth in regulatory agencies and increasing pesticide restrictions. There are at least three general groups involved in regulating the international pesticide industry. These are: 1) the self-regulatory body of the industry itself called the GIFAP; 2) inter-governmental organizations such as the UN; and 3) the interest groups such as the Pesticide Action Network (PAN).

1) THE GROUPMENT INTERNATIONAL DES ASSOCIATION NATIONALS DE FABRICANTS DE PRODUCTS AGROCHIMIQUES (GIFAP)

The general objective of this organization is to protect the interests of the world pesticide industry. GIFAP lobbies against excessive regulation of the industry and projects the industry perspective in public debates. It has also been very effective in protecting industrial patents and property rights and in monitoring product quality. For instance, in the early 1980s, GIFAP pressed for withdrawal of most-favored nation status for Hungary because of an alleged lack of respect for chemical patents by that country (Boardman, 1986).

2) INTER-GOVERNMENTAL ORGANIZATIONS

Among the inter-governmental organizations, the United Nations Food and Agriculture Organization (FAO) and the World Health Organization (WHO), have taken active roles in international pesticide regulations since the 1950s. The two were joint founders of the Codex Alimentarius Commission, designed in the early 1960s as a body to oversee and promote improvements in food standards in their various member states. The Codex Committee on Pesticide Residues has set standard values for maximum residue levels in food and the environment that could be used as a guide by national agencies as regulatory measures. However, there is a lackluster response to the Codex by national agencies, basically because of the high cost of residue monitoring. Also, national regulatory priorities are weighed more heavily towards occupational safety rather than monitoring food quality.

In addition, the WHO has designed hazard classifications for different classes of compounds, where Category I is considered extremely hazardous, while Category IV is the least hazardous. Most organochlorines (OCs) and organophosphates (OPs) are in the Category I classification (with oral and dermal 50 values). This hazard classification could potentially help countries determine the types of chemicals they would like to import and register.

The FAO, on the other hand drafted the International Code of Conduct on the distribution and use of pesticides (FAO, 1986). The code calls on the pesticide industry at all levels, as well as exporting nations, international agencies, and public sector organizations, to assume a share of responsibility for ensuring safety in the use of pesticides. The codes' provisions are entirely voluntary and there has been considerable controversy over the extent to which they are respected in practice (Loevinsohn 1993). Loevinsohn (1993) also reports widespread infringements of the code as evidence is presented regarding misleading advertising, inappropriate packaging, poor quality control, and marketing of banned and dangerous products.

Together with the United Nations Environmental Program (UNEP), FAO has adopted another regulatory scheme based on the principle of "prior informed consent" (PIC). In this scheme, a designated authority in the importing country must explicitly agree to the import before it can take place. In the PIC scheme, the importing country will be given the information about the registration status of chemicals in other countries. Pesticides banned or severely restricted in five or more countries will be included in the PIC list; and importing countries will be informed of such.

This scheme hinges on the importing government's ability to evaluate and act on the notices it receives. But this capacity is deficient in many developing countries. And as Loevinsohn (1993) has stressed, PIC begins with the decisions industrialized countries have taken to protect health and the environment within their own jurisdictions. However, industry has often claimed that a different balance of risks and benefits may lead developing countries to judge acceptable a number of pesticides strictly controlled in industrialized countries (Willis 1986). The ultimate goal of the PIC is to provide information to national agencies regarding the chemicals being traded so that they can make rational choices.

3) NON-GOVERNMENT ORGANIZATIONS

Several multi-purpose environmental non-governmental organizations have also been concerned with pesticide issues. Among these are the International Union for Conservation of Nature and Natural Resources (IUCN), and some regionally organized transgroupings such as the European Environmental Bureau (EEB), or the Pesticide Action Network (PAN) of the International Organization of Consumers Unions (IOCU). With support from many developing countries, these NGOs have mounted lobbying efforts in regulatory bodies. For instance, they have worked with governing councils of

FAO and UNEP to push the PIC process in developing economies. However, certain realities have to be contended with.

The United States, the United Kingdom and the European Community have instituted programs to notify importing countries of shipments of unregistered or severely restricted pesticides. In practice, however, notifications are often received well after the pesticides have arrived and do little to enable importing countries to control hazardous imports (Pallenaerts, 1988). The future state of communications technology and governments' stringent regulations could improve upon this situation and move forward to the preferred state of safe chemical use.

Developing Countries' Regulatory Capabilities

In most developing countries, increasing use of pesticides can be directly attributed to agricultural modernization programs. In the Philippines, the spread of irrigated rice agriculture in the 1960s triggered the development of a full blown pesticide industry. Pesticides in most developing countries are imported, as it is very expensive to develop raw materials.

Pesticide regulations in developing countries lack uniformity of approaches, as observed by Boardman (1986). It was only during the 1970s that many countries began to think about regulatory requirements. In the Philippines for instance, the regulatory body instituted in 1978 was originally given the control of the importation, manufacture, formulation, distribution, sale, transport, storage, labeling, use, and disposal of pesticides and fertilizer. Today, this agency is mandated to register new pesticides, regulate pesticide availability and use, license handlers, set residue limits on food and feed, monitor compliance of regulatory policies, supervise imports, and design pesticide training programs. In the Philippines, as in most developing economies, enforcement capabilities more often lag behind laws and regulations, or in the extreme, could be non-existent. Complexity of the regulations and the high resource requirements for enforcement have jointly contributed to the failure of past regulatory efforts.

Preferred Scenario for Pesticide Use

An optimal pesticide policy revolves around possible ways of ensuring its effective use, that is, of promoting agricultural productivity while minimizing the health and environmental effects. Following are the elements of a preferred scenario for pesticide use.

JUDICIOUS AND SAFE USE OF CHEMICALS:

The movement away from prophylactic pesticide applications to a holistic management of the plant, pest, predator system will reduce pesticide requirements, even for intensively cultivated systems. However, while integrated controls are knowledge-intensive and location-specific, they require substantial allocations of technical and administrative resources in farmer training and extension programs. Farmer training ought to also include safety procedures in handling, storage and disposal of chemicals.

THE SUBSTITUTION OF THE LESS HAZARDOUS CATEGORY III AND IV CHEMICALS FOR THE MORE HAZARDOUS CATEGORY I AND II CHEMICALS:

Evidence from the developed world and more recently from the developing world indicates that there is no productivity loss in substituting Category I and II chemicals with Category III and IV chemicals. In fact, if the health gain associated with reduced exposure to the highly hazardous chemicals is accounted for, then there could actually be a net productivity gain in the switch to Category III and IV chemicals. The opportunities for selective banning or taxation are discussed below.

IMPROVED UNDERSTANDING OF THE PRODUCTIVITY, HEALTH AND ENVIRONMENTAL IMPACTS OF AGRO-CHEMICALS:

In registering or re-registering pesticides for use in a country, the regulatory agency ought to have an improved understanding of the productivity benefits as well as the risks of pesticide use. Risk-benefit assessment is the appropriate analytical tool for making such decisions. While country-specific measurements of impacts would give the most accurate technical coefficients for risk assessment, the value of similar information collected elsewhere should not be discounted, at least in a prior probability sense. An improved understanding of the trade-offs would allow the regulatory agency to be more discriminatory in its choice of chemicals to import and/or register. Farmers with improved knowledge of the consequences of pesticide use could be equally discriminating in their choice of pest control strategies.

IMPROVED AND STANDARDIZED SPRAY EQUIPMENT:

Factors leading to the continued production of inferior sprayers include the lack of incentives for local manufacturers to produce good quality sprayers, farmers' poor appreciation of quality and safety features and the lack of national

minimum product standards (Mamat et al 1993). To overcome these problems would require the establishment of research programs in national agricultural research institutes to design safer and more efficient knapsack sprayers that can be produced locally; to upgrade farmers' knowledge and improving their appreciation of good quality sprayers and safer spraying practices, and to urge regulatory agencies to establish minimum standards for knapsack sprayers.

INDUSTRY'S CORPORATE RESPONSIBILITY:

There are at least two critical areas that industry could target with regard to enhancing safety. One is the promotion of safer pesticides, and second is the safe packaging and proper labeling of products for farmers' use.

The corporate sector ought to expect that as incomes grow in the developing world, the demand for safer pesticides will increase just as it did in the developed world. This shift will come not only from the emerging environmental lobbies in these countries but also from increasingly safety-conscious farmers. The challenge for the industry is to reduce the unit cost of production of the less hazardous chemicals, and thereby price them at levels comparable to the more hazardous but cheaper Category I and II products.

On the matter of packaging, major changes occurred during the 1980s and further progress is expected during the 1990s. Recent advances in plastics and molding technology have made pesticide containers safer in the developed world. Manufacture of these in the developing world is still limited. Returnable containers are now commonly used in the United States and Europe. Made of stainless steel or plastics, they can be returned to the supplier for refilling. This eliminates the problems of container misuse and disposal. However, this approach requires a good supply and transport infrastructure, often lacking in developing countries (Dollimore, 1993). Further, potential use of water-soluble sockets has also occurred as this technology has improved. Although these sockets were originally designed to contain powders, they are now being used for liquid formulation. Again such technology is expensive for developing economies. With respect to labeling, while FAO/WHO have issued standards (FAO, 1986), their adoption and implementation by member countries is poor. User friendly labels could significantly reduce the risks faced by farm households.

REGULATORY OPTIONS FOR SAFER PESTICIDE USE

Several regulatory options are available for moving towards the preferred scenario of safer and reduced pesticide use. Some of these are discussed below. It

ought to be recognized, however, that the most effective means of regulatory control are pesticide registration and taxes. The costs of enforcement are substantially higher for all other options.

- *Banning Certain Chemicals*

The current regulatory debate in developing countries is on whether the importation of the highly hazardous Category I and II chemicals ought to be banned. In developed countries, the registration of many of these chemicals has been canceled or has been allowed only under very restricted conditions. The U.S. evidence of a ban on the use of certain pesticides has shown that although the initial impact is of a decrease in output supply, in the long run and with additional land, the fall in supply is small (Lichtenberg, et al 1991). Eliminating 57 chemicals in Indonesia has not led to a fall in food supply. The resulting change in the relative price of pesticides led to an increase in the use of alternative non-chemical methods and integrated controls, such as use of IPM.

The Indonesian experience allows us to question the traditional argument about pesticide cancellation: that it always leads to "technological regression," and therefore a decrease in output supply (Just, et.al., 1982). This argument assumes limited substitution opportunities across chemicals and even smaller possibilities for substitution among chemical and non-chemical methods of pest control. Neither assumption is valid. Moreover, the Indonesian experience has shown that the cancellation of broad spectrum insecticides has improved the pest/predator balance, prevented pest resurgences and therefore increased the productivity of the pesticides applied (Rola and Pingali, 1993).

Where opportunities for input substitution are not available, Lichtenberg, et. al., (1991) argue that pesticide bans increase the comparative advantage of regions that are less vulnerable to pest infestations or better suited to alternative means of pest control. For example, fruit and vegetable production in hot and humid climates is susceptible to high disease pressure; pesticide bans would result in the movement of this production elsewhere. The positive connotation of this argument is that the hot and humid tropics will concentrate on crops that are more suited to that environment and hence less susceptible to pest pressures.

- *Tariffs/Taxes*

Price and tariff interventions could be used to encourage the shift to safer chemicals and to non-chemical pest control practices. Very high tariffs, especially on pesticides on the PIC list, could discourage importers from promoting these chemicals. Very high rates of taxes of Category I and II, versus Category III and IV could encourage the farmer to shift to safer chemicals.

Antle and Pingali (1994) provide simulation results for rice production to show that, while a uniform tax on insecticides and herbicides has negative effects on productivity, a tax on insecticides alone has a significantly positive effect on productivity. Insecticides used in the Philippines are the highly hazardous Category I and II chemicals. A reduction in the use of these chemicals has significantly positive farmer health benefits, which leads to an increase in productivity. The loss in productivity resulting from increased pest-related yield losses is more than offset by the gain in productivity from improved health. The social benefits of restricting insecticide use are substantially higher than the social costs. The same argument does not hold for herbicides, because: i) herbicides used are, generally, the less toxic Category III and IV chemicals, therefore the health benefits are smaller; and ii) the yield response to herbicide use is substantially higher than the response to insecticide use.

- *Monitoring Residue Tolerance Limits*

Following the lead of developed country regulatory agencies, several developing countries have set up pesticide residue monitoring units. These units are meant to track residue levels in food, water and, in some cases, the long term build-up of pesticides in the soil. In general, pesticide residue monitoring tends to be resource intensive and not very effective.

Monitoring of internationally traded food products is the only viable residue screening activity. In this case however, producers themselves have an incentive to adhere to international standards. In the case of domestically traded food products however, in a developing country context, the sheer volume of producers and the large number of market outlets makes monitoring quality exorbitantly expensive and non-viable.

If the regulatory objective is to make food supplies and the environment safer, then there are more effective means of achieving it than

residue monitoring. A three pronged approach aimed at producers would be: i) cancellation of the highly hazardous and/or persistent chemicals; ii) selective taxation to make the liberal use of all chemicals expensive; and iii) farmer training in the judicious and discriminate use of chemicals.

- *Enforcing Pesticide Safety Standards*

Safety standards can cover the broad spectrum of activities associated with the use and handling of pesticides. This includes sales, storage, application and disposal. The most effective means of setting these standards is through clear labeling, through verbal or pictogram warnings. Labels can help farmers discriminate among chemicals and help provide them information on appropriate use and disposal. Regulation via verbal labels are only effective in highly literate societies. Pictograms are an alternative for less literate societies, however, these may not be universally understood, especially in the developing world such that more education and mass communication is needed. Hence, label regulation is effective only if complimentary investments are made in training farmers to read and interpret them.

In developing countries, substantially greater resources have to be devoted to monitoring product quality at the retail level. Comparisons of label information with the contents of the pesticide bottle have revealed substantial variability in the type and the quality of the material. Regulatory control of dealers, through appropriate licensing, training and monitoring, could improve not only the efficacy of the compounds but could also safeguard environmental and human health.

As mentioned earlier, application equipment should meet the minimum international standards. This would reduce farmer risk of unnecessary exposure to pesticides. Equipment that is properly calibrated and includes good nozzles promotes efficient use of chemicals and avoids drift. Finally, substantial future work needs to be done on comfortable and affordable protective clothing for the farmer-sprayer. There is enough evidence to show that protective clothing from the temperate countries cannot be easily adapted to tropical conditions (Chester, et. al., 1993).

Conclusions

We would like to conclude this paper by returning to the three questions we posed in the introduction: i) should poor countries divert resources towards environmental protection; ii) do countries face a trade-off between productivity growth and environmental protection; iii) are developed country regulatory policies appropriate for and transferable to developing countries?

Poor countries do need to be concerned with environmental protection, in the case of pesticides, for several reasons. First, pesticide-related externalities have a negative effect on productivity, especially the reduction in labor productivity resulting from impaired health due to direct and indirect exposure to pesticides. Second, indiscriminate pesticide use can have long term negative consequences on the farm environment, especially in terms of disturbing the ecological balance. For instance, prophylactic insecticide applications can disrupt the pest/predator balance in favor of pests, and thereby lead to a build-up of these populations in intensive monoculture systems. Third, countries do not remain poor forever. As incomes grow, the demand for improved environmental quality increases, thus, regulatory policy ought to be forward-looking and anticipate this increased demand.

It is not possible to make a generalization regarding the trade-off between productivity and environmental protection that could result from pesticide regulation. In the case of rice, with the progress made in varietal resistance, the trade-off is small. In the case of vegetables, where the progress in varietal resistance has been slow and physical appearance commands a price premium, the trade-off can be high. Detailed crop-by-crop assessments are needed to determine the magnitude of the productivity trade-off.

On the transferability of developed country regulations to developing countries, one can argue that direct transfers are generally not appropriate. The goals and objectives of developed country regulatory policies are often different from those of developing countries. For instance, developed countries tend to be more concerned with food safety and hence emphasize residue monitoring, while developing countries would be more interested in reducing health hazards associated with pesticide exposure. There is no unique recipe for pesticide regulation; each country has to determine its own unique set of regulations based on needs, financial resources and enforcement capabilities.

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**Safety Nets for the Rural Poor in Liberalizing
Economies**

Safety Nets for the Rural Poor: An Overview

Nicholas Barr*

Introduction

I should like to start with a caveat: I am not a development economist, but someone who has worked fairly extensively in the OECD and in central and eastern Europe and Russia. Thus this paper is not directly about rural safety nets, but an attempt to draw on lessons from those countries to set out systematically the pros and cons of different building blocks, particularly those which are relevant to (a) economic liberalization, (b) times of fiscal constraint, and (c) situations of limited institutional capacity.¹

The first part of the paper briefly discusses economic transformation, the very nature of which increases the need for a well-designed safety net. Section 2 sets out a series of arguments of principle which suggest the general shape of any safety net which is to be economically and politically sustainable. The third part of the paper discusses different ways of organizing transfers, including social insurance, income-tested poverty relief, benefits based on indicators of poverty such as age or health status, and the use of self-targeting benefits. The major conclusions are summarized in section 4.

The starting point is the nature of economic transformation -- a series of events occurring not only in the former-Communist countries, but across a whole range of economies. One of its major features is a reduction in general price subsidies, implying an increase in the relative prices of previously-subsidized goods, frequently food. This has two advantages. First, allowing prices to be determined mainly by market forces for commodities like food and clothing has major efficiency advantages, both in terms of a better allocation of resources,² and in terms of reduced fiscal cost. Less well understood is the fact that price subsidies are generally regressive (i.e. of greater benefit to people with higher incomes). A milk subsidy, for example, is of greatest benefit to those who consume the largest amount of milk; as a practical matter, consumption of milk generally rises with income, and so does that of most (though not all) foodstuffs. The removal of general price subsidies thus has equity advantages; it also reduces public expenditure. An apparent problem is that removing price subsidies makes the poor poorer; but, as a proposition in pure logic, the savings from removing a *general* price subsidy (i.e. a subsidy for *everybody*) makes it possible to compensate a *specific group*, the poor, for their loss, and still have a public expenditure saving. The removal of general price subsidies, if properly implemented, therefore can have the triple advantage of lower public spending, better resource allocation, and greater equity.

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The removal of price subsidies is one of the major purposes of economic transformation. A second feature, recession leading to fiscal stringency, is not a purpose, but a frequent by-product.

Transformation has a fundamental implication: if wages and prices are to have a primary efficiency role, some other instrument is needed to pursue distributional goals; a system of transfers is thus a central part of a transformation strategy. The questions then, and the main subject of this paper, are what type of transfers, and what level of benefit is affordable.

Arguments of Principle

Objectives

It is helpful to later discussion to establish a number of key objectives.

Efficiency has several dimensions. The system of transfers (henceforth referred to synonymously as the benefit system) should minimize adverse incentives to saving, employment and labor supply (a series of microeconomic objectives). It should also be economically sustainable in the light of the fiscal situation (a macroeconomic objective).

Equity objectives include the need to ensure adequate relief of poverty, and policies to assist the equitable treatment of different groups in the population, e.g. families with children relative to childless households, the elderly relative to the working population, etc.

Administrative feasibility is critical, all the more so in countries with relatively low institutional capacity. It is concerned, first, with *simplicity*, in that the system should be as simple as is consistent with policy objectives. A second aspect is *effectiveness*: administration should be timely and accurate, where accurate means both (a) that the right amount of benefit is awarded, and (b) that benefit goes to all who are entitled to it. Third, so far as possible, there should be as *little abuse* as possible. Finally, administration should be as *cheap* as is consistent with the achievement of the other objectives.

Political sustainability requires steering a path through the competing demands of the different parts of the electorate. The problem is made harder by the simultaneous need for economic sustainability.

Stylized Empirical Facts

- The income distribution in virtually all countries is heavily skewed to the left, i.e. with many poor people and few rich; the distribution of wealth is even more skewed. This is true of the advanced industrialized countries, and even more true in developing economies.
- The major source of income in richer countries is through wages in the formal sector, making income measurement relatively easy, tax enforcement relatively straightforward,

and tax collection relatively cheap. In poorer countries, much income arises in the grey economy, and much of it is in-kind income (e.g. own-produced food in peasant agriculture).

Implications 1: Targeting

Equity and political sustainability both require effective poverty relief. Economic sustainability, given fiscal constraints, implies a need for cost containment. The joint need for poverty relief and cost containment implies the need for a targeting strategy. It is important to be clear that targeting has two aspects:

- to ensure effective poverty relief, benefits should go to *all* who need them, i.e. there should be no significant gaps in coverage (this is known as horizontal efficiency);
- to contain costs, benefits should go *only* (or mainly) to those who need them, i.e. there should not be excessive 'leakage' of benefits (known as vertical efficiency).

The issues raised by targeting are complex and subtle (see Atkinson, 1992). There is a mistaken view that effective targeting is possible only where benefits are awarded on the basis of an income test, i.e. where the amount of benefit is directly related to individual or family income. Income tests, however, have major costs. They are administratively demanding; they can be intrusive and hence stigmatizing; and they can create major disincentives to work effort and saving. Moreover, accurate targeting does not always require an income test. There are two ways in which the poor can be identified: through an income test, or via *indicators* of poverty, i.e. possession by the individual/family of one or more easily observable characteristics which are highly correlated with poverty, for example ill-health, old age, or the presence of children in the family. Social insurance benefits are based on factors such as unemployment, ill-health or old age, and thus use indicator targeting.

Implications 2: Practical Issues

Though social safety nets are not concerned only with poverty, poverty relief is their major concern in poorer countries, particularly during restructuring. Policy makers therefore need speedy and accurate information on *how many* poor people there are now (and, for financial planning purposes, in the near future) and the *extent* of their poverty. The problem is that poverty is hard to define and hard to measure. There are a series of well-known problems, summarized here only briefly.³

How is the poverty line defined? Under an *absolute* definition, poverty is defined relative to the cost of buying a given quantity of goods and services; with a *relative* definition, it is compared with the income/consumption of others. It is well-known (see the references above) that a 'scientific' definition of poverty is a mirage; all definitions of poverty, ultimately, are political. Nevertheless, the state cannot avoid the issue merely because there is a conceptual *impasse*. Policy makers need to

consider *what* is necessary for survival, the fact that people require *different* amounts, and the need to work out the *cost* of the minimum consumption basket.

The yardstick by which poverty is assessed raises a separate set of problems. First *what* income should be included? Should home-produced goods (e.g. vegetables) be included? In principle they should, but the resulting measurement problems are acute. Second, *whose* income should be included? A narrow definition includes only individuals and married couples; a household definition includes the income of (say) grandparents sharing the family home; an extended family definition includes the income of close relatives like grown-up children living elsewhere. Narrower definitions reduce the risk of leaving out the genuinely needy, but are more expensive; a broader definition reduces the cost of poverty relief, but has to be predicated on an assumption that the social structure allows reliance to be placed on the extended family (possibly a more realistic assumption in rural than in urban societies). All these matters, particularly in poorer and more rural economies, face the most acute problems of administrative feasibility which, alongside fiscal sustainability, is in many ways the major constraint on policy formation in the different approaches to designing social safety nets discussed below.

A separate problem is how to define a poverty line for families of different sizes. Should the poverty line for a family of four be four times that for a single person, or should it be lower, for instance because small children consume less than adults?

Measuring the extent of poverty is difficult even where a definition of the poverty line has been agreed. Policy makers are interested in different dimensions of the problem and they need large amounts of up-to-date information on individuals and families:

- *how many* people are poor (the "headcount" measure); this is acutely relevant for social policy and for the political viability of transformation;
- by *how much* their income falls below the poverty line (the "poverty gap" measure); this measure is directly relevant to the cost of relief, and hence of acute relevance to economic sustainability;
- *how long* they are poor, i.e. is poverty transitory or long run?

The meaning of poverty relief is not unambiguous either. It has two possible objectives (a) *eliminating* poverty by bringing everybody above a poverty line; or (b) *alleviating* the poverty of those below a given poverty line by increasing their income, without necessarily eliminating the poverty gap. The purpose of (a) is in principle to reduce both the headcount measure and the poverty gap to zero; (b) seeks to reduce the *depth* of poverty of poor people, without necessarily implying any reduction in their *number*.

Designing Social Safety Nets

Social safety nets must be designed to relieve poverty, to be affordable, and to be administratively feasible. The first two objectives are the twin aspects of targeting: benefits should, to the extent possible, go to *all* the poor; up to a point, they should also go *only* to the poor, or at least should not go to the non-poor more than is fiscally feasible. This section discusses four sets of building blocks from which social safety nets can be constructed -- insurance, income-testing, indicator targeting, and self-targeting -- and finishes with a brief discussion of whether benefits are better awarded in cash or in kind.

Insurance

In principle there are two types of poor people: the lifetime poor, and those who are poor only at a particular stage in their lives (e.g. when unemployed). A pure model of insurance, in which people on average get back what they have paid in contributions, applies only to the latter group. The idea is illustrated clearly by pensions, under which I set aside some of my earnings during my productive years in order to provide for my old age. A mixture of saving and insurance is one approach to this. Clearly, however, this cannot work, at least on its own, for the lifetime poor. Even if insurance is possible, therefore, it cannot be the whole solution; and it will be less relevant the higher the proportion of the population who are lifetime poor.

Private Insurance. The relief of lifetime poverty, to a greater or lesser extent, must involve the state. But does the state have to be involved in insurance for the non-lifetime poor? The answer is yes, not primarily for distributive reasons but because, for technical reasons, important risks are uninsurable in private markets. This is not the place to set out the arguments in detail.⁴ The key point is that the probability of the insured event occurring (e.g. the likelihood that I will be burgled, or break my leg, become unemployed, or live to be 80 years old) has to conform with a number of conditions. Commodities which, by and large, do so are automobile insurance, burglary insurance and the like, examples of which are plentiful in the private sector. However, risks like unemployment and much of the inflation risk for pensions are uninsurable in private markets because they fail to meet the necessary conditions.

Thus private insurance may be a partial option for some risks (e.g. sick pay) for some people (the urban middle class) if the institutional capacity (including the necessary regulatory regime) is there. But it is not a solution for the generality of causes of income loss for the generality of the population even in the West,⁵ let alone in poor rural economies.

Social Insurance. Though based on the model of private insurance, social insurance takes a somewhat different approach. Benefits are conditioned on (a) an implicit or explicit contributions record and on (b) the occurrence of a specified event, such as becoming unemployed or reaching a specified age, frequently related to employment status, in that one of their major purposes is to replace lost earnings. The mechanism can take two broad forms. *Quasi-actuarial contributions* are related to the average risk (e.g. the flat-rate weekly contribution of the British scheme between 1948 and 1975).⁶

Income-related contributions break the link with individual risk; the contribution in this case looks like an earmarked tax.

Though modeled on private institutions, social insurance differs from them in two important respects. First, because membership is generally compulsory, it is *possible* (though not essential) to break the link between premium and individual risk. Second, the contract is usually less specific than private insurance: protection can be given against risks which the private market cannot insure (see later discussion of private insurance); and the risks can change over time. Atkinson (1989, p. 117) points out that:

"[actuarial] insurance is against a well-defined contingency, about which individuals can form probabilities. [However] much of the function of social insurance is to provide for contingencies which are unforeseen.... [I]t is hard to imagine that individuals could have taken out insurance to cover such events as ... the development of new surgical techniques, or the breakdown of the extended family. A looser form of contract, as with social insurance, may in this respect have significant advantages."

In assessing the usefulness of social insurance (e.g. for unemployment benefit, sick pay or old age pensions), it is necessary to ask a series of questions:

- are the causes of poverty relatively clear cut and in principle insurable, e.g. unemployment, ill-health or old age;
- can income be measured accurately for the purposes of calculating contributions;
- is administrative capacity adequate (a) to enforce contributions, (b) to maintain contributions records, and (c) to calculate benefits?

The important message of this section is that these are the questions to ask; readers may not necessarily agree with my answers; and the answers will, of course, differ from country to country. In most developing economies, however, and *a fortiori* in rural areas, the answer to most if not all of these questions is generally no. Poverty is endemic, rather than occurring as isolated instances from specific causes; thus any system of social insurance, however effectively enforced, would have gaps in coverage. Much income is in the grey economy and/or in-kind, largely from own production, making assessment of income difficult and enforcement of contributions in rural areas largely impossible; low administrative capacity aggravates the problem, and makes the enforcement of contributions problematic even in the formal sector. The introduction of social insurance before administrative capacity exists to run an effective system runs the risk of discrediting the system. Thus, social insurance may be an approach worth considering for the urban middle class, but in the short run, coverage will not extend easily to the rural poor.

Income-Tested Poverty Relief

Social assistance in its pure form is awarded to individuals/families whose income and/or wealth is below specified levels; in less pure forms there may be other eligibility criteria, such as being

above a specified age, or having children in the family. Such benefits are potentially relevant (a) for the lifetime poor and (b) where contributions cannot be calculated or enforced. This section looks at two approaches, that involving a (usually national) system in which benefits are awarded on the basis of rules, and that in which benefits are awarded on the basis of local discretion.

Rules. In assessing the relevance of social assistance, the central economic issue concerns the shape of the income distribution, i.e., how many poor people there are relative to the number of potential taxpayers. If there are many people in extreme poverty and a small tax base, the tax rates necessary to finance social assistance are likely to create a major labor-supply disincentive for taxpayers or to drive them into the informal sector. There will also be disincentives for recipients: if benefits are to be kept in the hands of the poor (which is necessary for economic sustainability), then they must be clawed back rapidly as the income of recipients rises. At its extreme, benefit is withdrawn dollar for dollar with recipients' marginal earnings. This implicit tax rate creates a severe labor supply disincentive.

Alongside economic sustainability are a series of administrative questions:

- can income be measured accurately for the purposes of administering an income test;
- is there sufficient administrative capacity to implement an income test for large numbers of poor people?

Developing economies generally have low levels of income and a highly-skewed income distribution; thus the tax rates necessary to finance a full-blown system of social assistance is likely to be unsustainable. So far as administration is concerned, income measurement, particularly in rural areas, is highly problematic, all the more so given the lack of administrative capacity and the heavy administrative demands of income testing even in the West.⁷ Thus income-tested social assistance based on a system of rules is likely to be problematic.

Discretion. A possible way to finesse some of these problems is to organize poverty relief locally, and with a discretionary element. This can, up to a point, address the economic issue: under a pure rules system, the benefit level is set in advance and total expenditure then depends on the number of eligible claimants; with a discretionary system, localities can be given a fixed budget. In the latter case, it is possible to stay within budget by making the level of benefits depend on the number of applicants or, in the extreme, by stopping payments once the local budget is exhausted; in either case, savings are made by paying benefits at a low level which alleviates poverty but does not eliminate it. In terms of resources, however, the smaller the locality, the greater the need for central government to make distributive transfers between localities. Such transfers raise major issues outside the scope of this paper, including the ability of central government to raise sufficient revenue, and problems in deciding how any such revenue is to be divided between different localities. The last issue requires some method of assessing needs by locality, a notoriously difficult task, and one which is likely to be highly political.

Local administration, can have administrative advantages: the smaller the locality the better the information on individual applicants is likely to be; this plus discretion helps to improve targeting. As just mentioned, however, the smaller the area, the greater the need for a system of distributive transfers between localities.

Indicator Targeting

Is there some way of identifying the poor which is administratively less burdensome than an income test? One way of doing so is to use more easily measurable indicators of poverty. The approach is best illustrated by example. Assume:

- only redheads are poor;
- all redheads are poor;
- there is no hair dyeing technology.

In these circumstances it is theoretically possible to eliminate poverty, as defined by the poverty line, by paying a redhead benefit; additionally, because benefits go *only* to the poor expenditure is minimized.

These results follow, first, because having red hair is a necessary condition for poverty (the first assumption); thus targeting is horizontally efficient; were this not the case a redhead benefit would leave gaps by failing to cover poor people who did not have red hair. It is also a sufficient condition (the second assumption); targeting is therefore vertically efficient; were this not the case, benefits would 'leak out' to redheads who were not poor. Thus having red hair is perfectly correlated with poverty. Furthermore, having red hair is wholly exogenous to the individual (the third assumption). The ideal indicators on which to condition benefits are therefore easily-observable *exogenous correlates* of poverty.

Obvious indicators for policy makers to consider are unemployment, ill-health and old age. None is completely foolproof. Unemployment is highly correlated with poverty; it is not, however, completely exogenous, in that individuals may be more diligent or less in seeking work; and people may continue to claim and receive unemployment benefit whilst continuing to work unofficially. Genuine unemployment is thus not easily observable. Ill-health is highly correlated with poverty, and is often obvious and objectively verifiable; again, however, the need to monitor health status makes non-trivial administrative demands. Old age, too, is highly correlated with poverty; but the award of benefit at a given age requires that record keeping is sufficiently widespread and accurate that the authorities are able to verify a person's age.

In many ways the best indicators are pregnancy, infancy and school attendance by young children. Such characteristics are not *necessarily* associated with poverty, but the correlation is generally high; there are no major problems of endogeneity (the existence of benefits for very young children is not usually a *primary* motive for pregnancy); and the characteristics are easily observed. In such cases, direct in-kind transfers are both well-targeted and non-transferable, particularly because

there is a "captive" target. Pregnant women and infants benefit from nutritional programs such as free orange juice at maternity clinics, medical check ups, and school children can be given free milk, meals, and health checks. Such programs are aimed at a precise, and largely captive group, and they are not readily tradeable. More generally, targeted family support, particularly for nutritional and medical purposes, can be a useful instrument (for further discussion, see Grosh, 1992).

Another possible indicator is visible old age. Transfers to this group can have wider benefits: they can simultaneously empower the old (usually women); and, to the extent that there are intra-family transfers, they may help with family support.

Self-Targeting

Good indicators can produce targeting that is accurate and administratively relatively cheap. In some circumstances, however, it is possible to do even better by allowing the choices of claimants to assist the targeting process, provided that it is possible to devise an appropriate incentive structure.

The simplest approach arises where the poor consume a different and easily identifiable bundle of goods from the non-poor. If, for example, only poor people eat dark bread, it is possible to offer it at subsidized prices. As a practical matter, however, there are not many such commodities.

Another approach, often used in famine relief, takes the form of a guarantee of subsistence cash payments in return for a day's work. This has the advantage that it will benefit *all* who come forward and *only* those who come forward; and the only ones who will claim are people who genuinely cannot find higher paying work.

The arguments in favor of workfare are similar. Here an unemployed person is awarded benefit, but only on the basis that he/she undertakes some form of public works or training. The approach has serious problems: it is not easy to implement; and it violates individual choice more than some policy makers find acceptable. Its advantage is its incentive effects. Workfare imposes a cost on recipients of unemployment benefits in one of two ways: it makes it difficult or impossible for a person to receive unemployment benefit while continuing to work unofficially, i.e. it "taxes away" the person's earnings from their unofficial job; and where people are using unemployment benefit, in effect, to subsidize their leisure, it 'taxes away' their leisure. In both cases, workfare reduces the individual's replacement rate (i.e. the ratio of benefits when unemployed to income when in work), in the first case by the reduction/elimination of unofficial earnings, in the second by the foregone leisure, and thus increases the incentive to find work. The only people who claim benefit, then, are those for whom unemployment benefit plus workfare is genuinely the least-bad option.

The nineteenth century British Poor Law sought to establish the principle of "less eligibility," i.e., the idea that a person receiving poor relief would be worse off than the poorest worker. The Victorian debate about the balance between incentive effects on the one hand and the dignity of the individual on the other clearly continues into the present (they were much in evidence in Britain and the United States during the 1980s). Workfare, from one perspective, seeks the beneficial effects of less

eligibility while trying to minimize the affront to individual dignity. The extent to which it does so is a matter of political belief and local culture. Workfare is thus an option to be considered in the light of the detailed circumstances of a particular country or locality.

Cash versus Kind

The section thus far has concentrated mainly on the issue of how to choose *who* receives benefit. A final, cross cutting, issue is the *form* in which benefit is paid, i.e. the issue of cash versus kind.

Benefits paid in cash are generally preferable if the objective is poverty relief. They are often (though not always) more cost-effective; and they help to create and maintain markets and consumer discretion. In-kind programs, in contrast, can inhibit private production of the commodities concerned.

If economic liberalization is part of the reform agenda, there is a strong case for letting the poor choose by granting them cash benefits, quite apart from benefits of increased liberty and reduced paternalism.

Cash is generally more effective (a) the greater the fraction of the population whom it is intended to help, (b) the easier it is to trade the commodity being redistributed, (c) the more fungible is the commodity in family income (i.e. the easier it is to redirect spending), (d) the better-informed are consumers of the commodity, (e) the greater the extent to which the commodity is available at market prices, and (f) the lower is institutional capacity to organize in-kind redistribution.

Benefits in kind also have a role, however, particularly if the aim is to stimulate the consumption of certain types of goods or services among pre-identified groups. Cases where distribution in kind might be appropriate include commodities which the private market supplies badly, if at all: an example is primary education (because of imperfect consumer information and the lack of complementary markets, e.g. for loans); another is vaccination against communicable diseases (because of externalities)⁸. In addition, some in-kind benefits can be self-targeting, for instance, where the poor consume different goods from the rich (as in the dark bread example discussed earlier).

Considerable care is needed, however, in designing in-kind programs. They generally have two possible aims: to alleviate absolute shortage, e.g. by giving out food directly; or to constrain the consumption of the poor to types of consumption which policy makers regard as appropriate. On the former aim, the consensus on famine relief (Ravallion, 1987, 1991) tends towards income transfers rather than direct transfers of food, though there *may* be a case for limited direct transfers of food if shortages become acute. Food stamps and the like, however, may not be successful if their aim is to constrain the consumption of the poor. The group aimed at is large; the commodity is easily traded, even if the law specifies otherwise; it is possible to divert family income from the food on which it would otherwise be spent to other uses; and significant administrative resources are needed.

Two possible arguments remain. One is that, in political economy terms, it may be easier to redistribute in kind. The argument has to be recognized; but its strength should not be overestimated.

A final argument *is* a strong one: in very specific circumstances direct in-kind transfers are both well-targeted and non-transferable, particularly where there is a 'captive' target. Major examples include pregnant women, infants and young children; as discussed earlier, these are good indicators on which to base nutritional and medical benefits.

Conclusion

The following discussion attempts very briefly to list potential programs in ascending order of (a) the size of the formal economy, (b) the extent of fiscal stringency, and (c) the strength of administrative capacity. Programs making the lowest demands are listed first.

Self-Targeting. Such a program can work by subsidizing goods consumed only by the poor. Such an approach, however, needs to be adopted with *very* great care, since it puts at political risk any wider attempt to liberalize prices. Given the danger that the list of subsidized commodities will be hijacked by the middle class, it might be better not to adopt such a policy except during times of major crisis.

Other examples of self-targeting involve making benefit conditional on the recipient doing work or training. The extent to which workfare in one form or another is useful depends on (a) the availability of public works-type activities or training, (b) the capacity to administer such programs, and (c) local attitudes about the relative values of the dignity of labor as opposed to individual freedom.

Indicator Targeting. This approach includes programs for pregnant women, mainly through in-kind dietary supplements and medical help. If there are any special benefits (particularly cash benefits) awarded at the time the baby is born, they could be made conditional on adequate previous attendance at ante natal classes. Similarly, there could be nutritional and medical assistance for infants; again, receipt of certain benefits could be tied to attendance at clinics (or the benefit could be paid out at the infant clinic). Finally, there could be school medical and feeding programs.

Locally Delivered Poverty Relief. Such relief can be awarded on a discretionary basis. The advantages are the use which can be made of local knowledge about applicants, and the ability to contain spending within pre-ordained limits. The disadvantages are the extent to which such benefits might be the subject of actual or perceived corruption, and the need for central government to have administrative capacity sufficient to organize redistribution between regions.

Benefits for the Aged. Depending on fiscal and administrative capacity, it would be possible to award a pension to the very elderly (the precise age would depend on life expectancy and resource availability). Technology might be helpful here. I have been told (though have not been able to discover more) that armored trucks go round rural South Africa. They come to each village on their round once every two weeks. In the side of the truck is a cash dispenser which is voice activated. The cash dispenser is programmed to pay pensions of a specific amount to individuals whose voice has previously been entered. Elderly people walk up to the side of the truck, announce their name and wait

a few seconds until their cash is dispensed. The system apparently works well. It empowers the elderly; and it can be a good way, through grandmother's discretion, of offering family support.

Social Insurance. As earlier discussion made clear, social insurance makes the heaviest administrative demands, and is therefore likely to become part of the social safety net only as economic development progresses. Its manifold uses, not least as a bridge to private insurance institutions, make its introduction highly desirable as and when feasible; the issue is not *whether* there should be social insurance eventually, but one of sequencing. It may be that in the first instance the major relevance of social insurance is to the urban, formal-sector population.

Finally, though much can be learned from the experience of economic liberalization in various parts of the world, it is important to be clear that there is no blueprint for rural poverty relief. The type of social safety net to be put in place in any country will depend on policy objectives, the fiscal situation, administrative capacity and cultural norms. What is needed is a careful blend of economics, demography, administrative expertise, anthropology and sociology. Though hard to measure, cultural sensitivity, alongside economic rationality and administrative realism, are key ingredients in successful reform.

Endnotes

1. For detailed discussion of the design of social safety nets in the former Communist countries, see Barr, 1994 and Sipos, 1994.
2. Though true for many goods, market forces do not *always* automatically lead to an efficient outcome; for fuller discussion, see Barr, 1992, 1993.
3. For fuller discussion see Atkinson (1987; 1989, Ch. 1; 1991); Barr (1993, Ch. 6); World Bank (1990, Ch. 2; 1992, Ch. 1).
4. See Barr (1992, 1993, Ch. 5).
5. In the OECD countries in 1990, the average figure for *public* spending on income transfers was 8.8 percent of GDP.
6. In theoretical terms, this is a pure pooling equilibrium (see Barr, 1992, section III (B) or Barr, 1993, Ch. 5).
7. In the UK, for example, pensions (which are not income tested) have an administrative cost of about 1.5 percent of benefits paid; for the major income-tested benefits, the figure is between 10 and 15 percent.
8. The argument is that if I am vaccinated against polio, I benefit not only myself, but also those around me, who now cannot catch polio from me. My vaccination thus confers what economists call an "external benefit" on others. It is a standard proposition in economics that in the absence of state intervention the market undersupplies such goods.

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Safety Nets after the Cooperatives: The Challenge to Welfare in Central and Eastern Europe

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Introduction: Agriculture and the Transition

The authors of this paper are neither a theoretical nor an agricultural economist but economists who have been confronted by a number of welfare implications of the fundamental changes which are currently reshaping the rural scene in Central and Eastern Europe (CEE) during their operational work on supporting safety net reforms in some of the countries of the region. This paper will try to make an inventory of the most important policy challenges/options governments face while trying to redesign their systems of social protection in order to alleviate the disruption resulting from the economic transition, while at the same time configuring these systems to be compatible with a market-oriented economy. Many of these challenges emerge from agriculture or are especially severe in rural areas.

Agriculture plays a special role during the transition. In most countries *changes take place more rapidly in agriculture* than in industry. It is relatively easier to privatize land than industrial or other more complex assets and there has been more political pressure to that end from those (or their families) who used to own land before collectivization. There have also been high expectations for early supply responses to incentives stemming from quick privatization and rising food prices due to abolition of price controls and subsidies. Experiences are widely divergent in this field. In some countries, usually with less developed agriculture and higher rural population share, these expectations appeared to be justified (e.g. Armenia, Albania, and to a lesser extent, Romania). Elsewhere the initial impact of the emergence of tens of thousands of badly equipped, often suboptimal size farms owned by farmers without capital and experience, was a substantial decline in output (e.g. Hungary).

Dislocations have been enormous in rural areas of CEE even in countries where agricultural output has been growing. Contrary to some earlier illusions, agriculture is not only unable to absorb long-term urban unemployed but releases an *increasing number of unemployed or underemployed rural* people. Often these unemployed/underemployed rural workers are *not eligible* for unemployment benefit or social assistance because they own some land, usually inadequate for survival. Protracted restitution and privatization procedures frequently create an

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unclear legal status for many agricultural workers excluding them from certain social insurance or social assistance benefits.

Equally important is that *services and benefits*, including social ones, provided by cooperatives or state farms *ceased to function* or are in serious danger (e.g., cash and in-kind supplements to cooperative retirees, state farm or cooperative-run kindergartens, schools, health centers, clubs, canteens etc). The loss of these services reveals the depth of the changes which took place earlier during the so called "socialist transformation of agriculture". Extended family structures also have been replaced by more nuclear ones in rural areas in most countries of CEE and in these nuclear families there is little scope for relying on resource pooling to alleviate the consequences of lost income (notable exceptions are Albania and the central Asian republics of the FSU).

In countries where cooperatives and state farms were abolished almost overnight (e.g. Albania, Bulgaria), former cooperative members and state *farm workers* lost their employment status and *became self-employed*. Thus, all of a sudden, a large part of agricultural production and population became *inaccessible to taxation*; while eligibility to social insurance (e.g. pensions) and universal benefits (e.g. family allowances) remained intact, potentially undermining the whole system of social security. Elsewhere gradual dismantling of cooperatives could lead to similar results over a longer period of time if innovative solutions are not found in the meantime.

Part of the current solutions are short-term without adequate long-term linkages. For example, many countries waive the obligation to contribute toward social insurance and still provide benefits for peasants and their families for a transitory period of time. However, the *long-term social insurance status of the self-employed peasantry remains unclear*. Elsewhere, lump-sum contributions and taxes are being introduced to secure flat rate minimum benefits which are likely to provide only very limited income replacement. If social insurance coverage falls drastically, or if flat rate contributions and flat rate benefits prevail, agriculture and rural areas will be the first where the welfare state will be irreversibly "rolled back" instead of being "streamlined" and made more efficient during the transition to a market economy.

Local governments are often *unprepared and ill-equipped* to address the surge in rural poverty and the recess of the central welfare state due to lack of resources and inadequate administrative capacity, while the central government has less access to these populations than before (due to political, administrative and economic reasons) and faces a severe financial crisis itself. An additional problem in many countries is that articulation and *political representation of rural interests is inadequate*, often captured by groups narrowly interested in restitution or pursuing emotional and/or ideologically motivated agenda rather than practical considerations.¹

This paper examines the possibilities for *making the safety net more efficient, not how to dismantle* it. In rural areas, more than in towns, social services, pensions and social assistance are indispensable for preserving the attributes of whatever modern life evolved during the controversial years of communist rule and improving the human capital of people. Private

markets are less likely to replace these services since often rural markets are too small to support these services (a typical case for *market failure*). In the absence of safety nets and social services, rural areas could easily slide back to their paternalistic past and to cycles of perpetual reproduction of poverty. Section 2 will review the social safety net the countries in CEE inherited; Section 3 the forces driving change; and Section 4 the policy options being contemplated. Section 5 will summarize some of the major implications for the suggested policies for agriculture and rural areas. The paper will not discuss in detail the impacts of the abolition of price subsidies and the changes in housing policies since they are somewhat less characteristic for rural households than urban ones.

The Inherited Safety Net in Cee²

Narrowly defined, the social safety net comprises cash benefits aimed at providing poverty relief. Poverty was ideologically denied and institutionally neglected in most countries of CEE under communist rule. Hence the prevailing perception among many Western commentators that a safety net should be introduced during the transition. If, however, more broadly interpreted, the social safety net includes consumer subsidies and expenditures on all social sectors, countries in CEE had a huge social safety net, comparable to or larger than in high income developed countries (see *Table 1*). This high social spending provided security from the cradle to the grave albeit at a relatively low level. Collectivization of agriculture, notwithstanding its long term structural impacts, played an important role in making rural incomes taxable to finance the robust welfare state; and agricultural cooperatives, or state farms, were important vehicles for extending the coverage of the broader safety net to rural areas.

The Strengths of Social Protection

In addition to guaranteed employment, free health and education, the old arrangements comprised a wide-ranging and mature system of social insurance³ including sick pay, pensions, death grants and generous family allowances and a much less developed system of social assistance.⁴ Under the old system, the distribution of earnings was fairly flat, with differences in family size accommodated by generous family benefits. This arrangement had significant advantages. It prevented many families from falling into poverty. It empowered households as consumers as opposed to passive recipients of in-kind provisions⁵. It allowed women to participate in the labor force, or to choose to stay at home with some income and job security, or to opt for part-time work (see Cornia and Sipos, 1991). It promoted gender equality, which later became an explicit policy goal (see Ferge, 1993; Fong, 1993; Fong and Paul, 1992; Neményi, 1990).

As an increasing body of empirical literature shows, a final advantage is that these benefits were generally well-targeted, in that they reached most of the people who were poor or at risk of being poor. Sipos (1992) showed that in CEE young people were 30 percent of the population but 40 percent of the poor. Zám (1991, p. 183) found that social expenditure in Hungary in 1989

provided 82 percent of the income of large families in the poorest 5 percent of incomes, but only 22 percent for families in the top 5 percent. Ravallion, van de Walle and Gautam (1993) concluded that family allowances reduced poverty in Hungary in the late 1980s, were well-targeted but, had they been focused on younger and larger families, could have been even better targeted. Jarvis and Micklewright (1993) argued that making family allowances universal in Hungary in 1990 improved targeting. Similar conclusions were drawn for Czechoslovakia (Dlouhy, 1991), Poland (World Bank, 1993b, Topinska, 1991), Yugoslavia (Vukoti_Coti_, 1991) and for the whole region, except for Russia (Zimakova, 1992).

The main strength of poverty relief was that it was delivered to *groups* of people (e.g. families, the elderly), rather than on the basis of *individual* circumstances, through guaranteed employment and wide-ranging social insurance benefits, not primarily through social assistance. Poverty relief thus took place *ex-ante*, that is, *before* large sections of the population fell into poverty. Although poverty, contrary to official orthodoxy, was not fully eliminated, it was definitely not a mass phenomenon (see *Table 2* and Atkinson and Micklewright, 1992; Milanovi_, 1991; Sipos, 1992). Notwithstanding these strengths, this *preventive approach* became increasingly unsustainable in the face of the growth slowdown prior to the transition and the steep decline of production during the last 3-4 years.

The Weaknesses of the Existing Safety Nets

While some of the strengths of the system have been quickly eroded by the economic crisis or were eliminated by systemic changes (e.g. guaranteed employment), many of the weaknesses drag on due to acquired rights and inertia. In the old system of social protection the major adverse economic inheritances were lack of targeting and underpowered administration. The lack of targeting manifested itself particularly in the form of ineffective cost containment, holes in the social safety net, and adverse incentives. These flaws were especially severe in rural areas where some elements of the broader safety net were missing altogether or were introduced 15-20 years later than in urban areas.

Ineffective Cost Containment

Social insurance expenditures have been very high because the level of benefit is relatively high (high replacement ratio, usually between 80-100%), because access to benefit is easy (early retirement with effective average retirement ages of 53 for women and 57 for men, high prevalence of sick-pay and invalidity); and often it may be possible to combine work with receipt of benefits on generous terms.

Family benefits in CEE, in the mid-1980s, cost over twice as much as the OECD average of 1.2 percent of GDP⁶ and were three to four times higher as fractions of earnings in comparison with western Europe.⁷ In addition, in some countries, benefit was also paid for a dependent spouse. The high level of family benefits is understandable historically, when the distribution of

Table 1. Central Government Spending in Various Countries, 1991^a

	Social Security, Welfare Housing, etc.	Health	Education	Defense	Other	Total Expenditure (percent of GDP)
Percent of total expenditure						
Largest OECD						
Canada	36.4	5.2	2.9	7.4	48.1	23.9
France	46.4	15.3	6.9	6.3	25.1	43.7
Germany ^b	48.9	18.1	0.6	8.3	24.1	32.5
Italy	na	na	na	na	na	49.6
Japan	na	na	na	na	na	15.6
UK	31.8	13.3	3.2	11.1	40.6	38.2
USA	28.7	13.8	1.7	21.6	34.2	25.3
Selected Latin America						
Argentina	39.4	3.0	9.9	9.9	37.8	13.1
Brazil	25.5	6.7	3.1	3.5	61.2	35.1
Mexico	13.0	1.9	13.9	2.4	68.8	18.1
Selected High-Performing Asian Economies						
Singapore	8.2	4.6	19.9	24.0	43.3	22.1
Thailand	5.9	7.4	20.2	17.1	49.4	15.5
CEE						
Bulgaria	23.9	4.8	6.2	5.6	59.5	77.3
Czechoslovakia	27.0	0.4	1.9	7.1	63.6	55.6
Hungary	35.3	7.9	3.3	3.6	49.9	54.7
Poland	20.5	16.1	14.3	7.5	41.6	29.3
Romania	26.6	9.2	10.0	10.3	43.9	37.0
Russia ^c	24.5	1.2	5.1	19.1	50.1	26.8
Yugoslavia	6.0	0.0	0.0	53.4	40.6	21.0

Notes:

^a The data have limitations and should be interpreted with care. First, because of differences in coverage, the individual components of central government spending may not be strictly comparable across countries. Second, the data relate only to *central* government spending, and therefore do not cover expenditure by state, provincial and local governments; this may seriously understate or distort the statistical portrayal of the allocation of resources for the various purposes, especially in countries where lower levels of government are responsible for many social services. For further discussion of the construction and limitations of the data, see the technical notes in World Bank (1993a).

^b Data refer to the Federal Republic of Germany prior to unification.

^c Russia, Ministry of Finance. The data are for 1992, and include extrabudgetary funds (Employment Fund, Social Insurance Fund, Pension Fund, Social Protection Fund), but exclude all local government expenditure, which is about 80 percent of spending in the health and education sectors.

Source: World Bank (1993a, Table 11). For Russia, Ministry of Finance. For Poland, World Bank (1992 p. 80) and Poland (1992, p. 139).

Table 2. Poverty Indicators and Rates in Central and Eastern Europe (1958-90)

	Expenditure on Food as Percent of Poverty Line	Poverty Line as Percent of Average Wage	Percent of Population in Poverty
<i>Bulgaria</i> 1978-89 Subsistence minimum 1978-89 Social minimum	na 34-42	start 65 end 53 start 82 end 67	na na
<i>Czechoslovakia</i> 1958-88 Subsistence minimum 1958-88 Social minimum 1976-90	60 50 60	42 ^{a/} start 55 end 56 ^{b/} start 42 end 56 ^{c/}	start 6 end 0 start 11 end 7 6
<i>Hungary</i> 1967-82 Subsistence minimum 1967-82 Social minimum 1983-90 Subsistence minimum 1983-90 Social minimum	35-37 29-31 30-38 25-32	min 45 max 55 min 54 max 66 min 40 max 58 min 48 max 70	start 10 end 7 start 14 end 14 start 7 end 10 start 15 end 15
<i>Poland</i> 1981-89 Subsistence minimum 1981-90 Subsistence minimum	50-60 60	na 36 ^{b/}	start 14 end 17 start 14 end 33
<i>Romania</i> 1991 Subsistence minimum 1991 Social minimum	na na	na na	13 42
<i>USSR</i> 1967 Subsistence minimum 1967 Social minimum 1980-90 Subsistence minimum	56 36 49 ^{d/}	58 76 Urban start 72 end 59 Rural start 90 end 67	Urban 16 Rural 39 na start 24 end 2
<i>Yugoslavia</i> 1978-89 Subsistence minimum	54 ^{d/}	Urban start 28 end 32 ^{e/}	start 17 end 24

Notes:

- ^{a/} per average household income
- ^{b/} 1987
- ^{c/} 1985
- ^{d/} 1989
- ^{e/} 1982-86

Source: Sipos (1992, p. 56).

earnings was flat, with differences in family size accommodated by generous family benefits. This policy becomes increasingly inappropriate as the economic reforms take effect and wages become the main source of family support. The pattern in western Europe is to pay such benefits at a lower rate, complemented by income-tested family support (see Commission of the European Communities, 1991).

Holes in the Social Safety Net

Despite high levels of spending, poverty relief remained incomplete for four reasons: lacking data on poverty; some benefits were too low; gaps appeared in coverage; and some people did not receive the benefits to which they were entitled. During the early transition real wages fell significantly (10-40 percent). This caused problems in many countries where minimum benefits were tied to average wages. Another set of problems arose when benefits administered by three separate authorities (unemployment, other social insurance, social assistance) proved not adequately linked. A broad-ranging system of social assistance is needed to cope with these imperfect links, to cope with poverty in families of different sizes and because the scope of social insurance is being narrowed during the transition. Gaps in coverage were a particular problem for maternity benefit and family allowance. Maternity benefit depends on a contributions record in almost all the advanced industrialized countries and throughout Latin America⁸. In CEE, however, large agricultural populations and the self-employed were excluded or received significantly lower benefits. Declining agricultural populations and gradual extension of coverage improved matters, but gaps remained in some countries, for example Poland and Romania.

Family allowance had even greater gaps. Whereas social insurance is intended to offer insurance against risk, an important purpose of family allowance is to help a family redistribute across the life cycle. Precisely because having children is not in any sense an insurable risk, family allowance in most western European countries is universal (i.e. paid without a contributions record or income test -- see Commission of the European Communities, 1991). In Latin America only the richer countries (Argentina, Brazil, Chile, Uruguay) provide some family allowance, usually for those covered by social insurance (Mesa-Lago, 1990, Table 19). In CEE, family allowance was normally part of social insurance, and thus excluded families outside formal employment. In some countries (e.g. Poland) family allowances were related to salary and hence regressive (see Wiktorow and Mierzewski, 1991); in some (Poland, the USSR), means-tested benefits supplemented or replaced the social insurance based benefits. During the 1980s coverage of family allowances gradually broadened, but the first country to introduce a universal allowance, Hungary, did so only in 1990.

Adverse Incentives

In most CEE countries social insurance contributions are paid entirely by the employer while in western Europe these contributions are normally shared between worker and employer. The problem, if the entire contribution is paid by the employer (especially where employers face soft budget constraints or where all short-term benefits are paid by social insurance), is that

everyone thinks that benefits are paid someone else and therefore there is no incentive for anyone to restrain benefits. The situation is exactly parallel with cost explosion caused by fee-for-service medical care financed by insurance. This has caused especially acute problems in agriculture where seasonality of activities and income flows provides a particularly strong (adverse) incentive both for employers and employees to abuse social insurance benefits, especially sick-leave and invalidity. As a consequence, contribution rates are high, typically about 40-45 percent of gross wage, not only interfering with the competitiveness of enterprises but also depressing the demand for labor and in particular, given the high cost of benefits for mothers with young children, the demand for female labor.

There is a vast literature on the labor-supply effects of family benefits and social assistance (see Burtless, 1986; Moffitt, 1992). Its application to CEE is unclear, not least given very high rates of female labor force participation. The only benefit for which there is evidence of reduced labor supply are parental or child care allowances, which allow extended maternity leave: unskilled women utilized the benefit fully; those with higher earnings resumed work earlier than required (Zimakova, 1992). Given the objectives of extended maternity leave, namely allowing more child-parent interaction in a crucial period in early child development, this outcome is not necessarily a disadvantage.

Underpowered Administration

Benefits in the past were mostly long-term (family allowance, pensions, invalidity). Individuals receiving short-term benefits were relatively few which, coupled with little emphasis on administrative efficiency allowed highly complex benefit structures. This is unsustainable with large-scale unemployment and with a large influx to social assistance. Similarly unsustainable is the practice that enterprises play a major role in administering benefits as job mobility increases, as many enterprises go bankrupt, and as more and more people work for small enterprises or become self employed, especially in agriculture. These changes necessitate a major transfer of administration from the enterprise to public authorities. A related problem is that social insurance authorities in most countries of CEE have no knowledge whatever about individual contribution records and have no knowledge of individual recipients of short-term benefits and family allowance. Both problems impose major limitations on the range of reforms which are administratively feasible in the short run.

The administration of social assistance was also underpowered, and usually local. In most countries there were no social workers, and those in place were not adequately trained (all but missing from rural areas). Ignorance was reflected in a restricted range of policy instruments: gaps included overnight shelters and temporary work opportunities. Organizations outside government were invited to provide neither complementary sources of care nor financial assistance to state channels. Very few charitable NGOs were allowed, mainly church organizations. The environment in which they operated was often hostile because of ideological constraints on charities and political suspicion of civilian initiatives.

The Forces Driving Change

Overview

The two positive motives for the transition are the desire for higher living standards and increased individual freedoms all over CEE. Hence the decisions to move from central planning towards a market system, and from totalitarianism towards democracy. Price and wage liberalization, on the economic side, better articulation of interests and enforcement of democratic controls, on the political side, have unleashed forces which drive changes in safety nets. Increased diversity of earnings is a fundamental purpose of the reforms. Earnings which bear relation to individual productivity encourage workers to improve the quality of their work, to move into jobs in which they are most productive, and to acquire new skills. A key outcome of market liberalization is, therefore, a rising number of people with higher incomes and a widening income distribution.

Overall incomes, however, fall before they rise. This is due to the inherited economic crisis and a fall in output which have been exacerbated by major dislocations caused by structural adjustment, restructuring and new freedoms in resource allocation. The most dramatic manifestations of these dislocations are surging unemployment (from nil to 12-18 percent and some cases in general, e.g., Albania, to more than 30 percent); declining real wages and a sudden increase in poverty.

An important long-term implication of the widening income distribution for the social safety net is the need for a more sophisticated benefit structure. Under the former, fairly flat distribution, benefits could be targeted at specific *groups*, e.g., families. With widening distribution, benefits must be targeted also by *income* level. The resulting social protection system has greater coverage (replacing guaranteed employment) and a more complex targeting. The social insurance system which in the past also delivered most social assistance (e.g. pensions to invalids with little or no contributions records) will, as a result of the reforms, no longer be able to do so. A clear conceptual separation is needed between the contributory insurance benefits and non-contributory benefits such as family allowance and social assistance. This conceptual separation will leave out many people who were previously covered by social insurance. Thus there is a central and growing role for social assistance as the safety net of last resort.

Free political articulation of interests and the imperative higher living standards create pressure for increased benefits; and higher benefits are in direct conflict with the need to contain current expenditure in the interests of longer-term growth. At the same time, the fiscal crisis narrows the scope for income transfers. Social policy needs to be redefined. Better targeting is needed both to avoid gaps in coverage (horizontal efficiency) and to contain costs (vertical efficiency). Social assistance, being income tested, is at least in principle highly effective in this context, though policy development is necessary to prevent administrative costs absorbing much of the saving resulting from tighter targeting.

Empirical Evidence on the Extent of Poverty

Table 2 shows the extent of poverty prior to the transition relative to an *absolute* poverty line. The figures measure the income of households/individuals compared with a minimum basket, often called the subsistence or social minimum, which reflects an official perception of poverty⁹. The table shows that in most CEE countries poverty declined significantly between 1960 and 1980. In the 1980s, as growth started to slow, poverty rates stagnated or started to rise again with the exception of the USSR where poverty rates continued to fall until the end of the decade¹⁰. Poverty rates showed considerable variation both between and within countries. While poverty was not a mass phenomenon, it was too large for the prevailing residual poverty relief regimes; and one of the effects of wage and price liberalization in the early transition was to aggravate it. According to a recent UNICEF/ICDC study which uses relative poverty lines, expressed in terms of average wages (see *Table 3*):

"The biggest relative increases in the number of poor were observed in Poland in 1990, in Bulgaria, the Czech Republic and Slovakia in 1991, and in Russia and Ukraine in 1992. Furthermore, while at the end of 1992, 40 percent or more of the population of South-Eastern and Eastern Europe and Poland were affected by low incomes and poverty, its spread had been contained to about 20 percent or less in the Czech Republic, Slovakia and Hungary. At the end of 1992 poverty was still edging upward in the first group of countries, but has stabilized or experienced a small decline in the latter, particularly in the Czech Republic" (UNICEF/ICDC 1993).

In Poland, real income per head fell by over 41 percent between 1989 and 1991 according to official statistics, and the *poverty rate* (i.e. the number of poor people) doubled from 17 to 34 percent. These figures are almost certainly over-estimates both because of statistical problems and the welfare impact of increased choice and because of other specificities of the Polish situation¹¹. Nevertheless, the direction of change is clear with sharp effects on child poverty.

"Because the increase in poverty was greater among large-size families, the change in the percentage of children who are poor is even greater than the change in the percentage of the poor households or the population. In 1989, about 17.5 percent of children under 6 years of age lived in poor households; this increased to more than 50 percent in 1991. Poverty incidence among children of workers and mixed households tripled" (Milanovi_, 1993, p. 15).

Milanovi_ also found that the *poverty gap* (i.e. the amount needed to bring the income of all poor households up to the poverty line) almost tripled between 1989 and 1991 from 1.4 percent of GDP to 4.6 percent. Thus there are more poor than before and, subject to caveats about the statistical data, the poor are becoming poorer.

In Hungary the experience was somewhat different: the increase in poverty rates took place without an increase in the poverty gap. According to household surveys, the incidence of

poverty increased from 10 percent in 1990 to 15 percent in 1991, and to 27 percent in 1992 (Ferge, 1993; Andorka *et al.*, 1992; KSH, 1992). A narrower definition of poverty resulted in an increase from 7.8 percent to 15.6 percent between 1989 and 1992 (KSH 1993). Even if the impact of hidden incomes and informal sector activities is considered, the poverty rate was estimated to be in the range of 20 to 25 percent, representing a 2-2½-fold increase compared with pre-transition levels. Nevertheless, mainly because of offsetting social policy measures, the poverty gap did not widen substantially (see Sik and Tóth, 1992). The changes, nonetheless, are profound with a particularly great increase in poverty in the rural sector and in small towns. The average income of the richest 10 percent rose from 4.9 times that of the poorest 10 percent in 1987 to 6.0 in 1992 (Andorka *et al.*, 1992). Again, there is a high correlation between the number of children and poverty: in 1992 only 9 percent of those without children lived below the poverty line, rising to 21 percent of two-child households, and 49 percent of families with four or more children out of which more than 15 percent lived on less than 70 percent of the narrowly defined poverty line (KSH 1993). The incidence of poverty was also high among the unemployed (nearly 50 percent) and gypsies. In 1992 about two-thirds of gypsies aged 16 or over were poor (and even more if children are counted) (Ferge, 1993).

In Russia about 12 percent of the population were poor in 1990. By September 1992 the figure had risen to 37 percent¹². Once more, the great majority of poor households were families with children (Popkin, 1992; Popkin *et al.*, 1992; Sipos, 1992). In the first quarter of 1993, 42 percent of all families with children under 16 were below the poverty line, rising to 72 percent of families with three or more children¹³. Women were traditionally overrepresented among poor and vulnerable households in the former USSR. There are indications that this trend intensified during rapid inflation for households dependent on cash benefits and with low earnings (see Fong, 1993). In contrast, in late 1992, only 19 percent of elderly households were below the poverty line. In the case of Russia, not only the poverty rate, but also the poverty gap was large. In September 1992, the average shortfall below the poverty line was about 34 percent (World Bank, 1993c).

Less is known about poverty trends with the same level of accuracy elsewhere. In Bulgaria, in 1991, the poverty rate was about 34 percent. The proportion of the population with an income per capita below 45 percent of the average wage was estimated to have reached 55 percent in 1992. The poverty rate rises to 63 percent if, instead, the poverty line used corresponds to 50 percent of the 1989 average wage (UNICEF/ICDC 1993). In Romania between 13 and 42 percent of the population were found below the poverty line according to a survey in 1991, depending on the choice of poverty line (Barbu *et al.*, 1992; Sipos, 1992). Using a poverty line equal to 45 percent of the 1989 real wage, in the first year after the fall of the Ceausescu regime, the poverty incidence declined from 27 to 18 percent, but with the drastic drop in real wages (which started in November 1990 and has continued since then) the poverty ratio rose to 28 percent in 1991 and to 51.5 percent in 1992 (UNICEF/ICDC 1993).

**Table 3. Estimates of the Percentage of the Population Living Poverty, 1989-93
(Using Alternative Average Poverty Lines Per Capita/Month)**

Poverty Line	1989	1990	1991	1993	O19	O29	O392	O492	O193
Bulgaria									
45 of 1989 av. wage									
-households	-	-	-	53.6					
50% of 1989 av. wage									
-households	-	-	-	62.7					
Czech Republic									
35% of 1989 av. wage									
-households	5.7	7.7	19.4	18.2					
Hungary									
40% of 1989 av. wage									
-population	8.5	-	13.7	-					
-children	13.7	-	19.2	-					
45% of 1989 av. wage									
-population	10.1	-	21.3	-					
-children	14.1	-	29.1	-					
Poland									
45% of 1989 av. wage									
-population	20.5	39.7	38.8	42.5					
National poverty line									
-population	21.8	40.3	39.3	41.4					
-urban	19.8	37.0	33.0	33.6					
-rural	24.4	43.1	48.4	52.4					
-children	28.0	53.4	54.7	57.6					
-pensioners	32.7	40.6	29.1	33.2					
-adults	18.9	34.0	32.2	34.1					
-households	19.8	34.7	31.8	33.3					
Romania									
45% of 1989 av. wage									
-households	27.3	18.5	28.1	51.1					
-children	38.1	30.7	42.1	70.1					
50% of 1989 av. wage									
-households	47.2	29.5	37.4	60.8					
-children	53.4	46.0	53.1	81.3					
Russia (population)									
-118 Rb pov. line a/	27.1	24.5	28.7	-	84.6	63.1	70.5*	77.1**	
-100 Rb pov line b/	16.0	14.8	17.9	-	70.9	51.5	62.3*	66.8**	
-75 Rb pov. line c/	5.0	8.2	6.5	-	44.1	32.2	46.4*	43.8**	-
-60 Rb pov. line d/	-	-	-	-	-	-	-	30.8	-
-National Poverty Line e/ f/	-	-	-	27.0	25.7	25.8	29.3	27.0	30.4
Slovakia									
35% of 1989 av. wage									
-households	7.1	7.	14.2	18.3					
-children	9.0	9.1	19.7	25.7					
40% of 1989 av. wage									
-households									
-children									
Ukraine (households)									
-118 Rb pov. line a/	33.6	-	21.1	35.7***					
-100 Rb pov. line b/	20.2	-	10.5	23.5***					
-75 Rb pov. line c/	6.0	-	2.2	10.1***					

a/ corresponds to 45 percent of the 1989 average wage; b/ corresponds to 38 percent of the 1989 average wage; c/ corresponds to 28 percent of the 1989 average wage; d/ corresponds to 23 percent of the 1989 average wage; e/ the value in 1989 Rb of the National poverty line in the five quarters reported in the table was respectively: 62.5, 60.6, 59.3, 58.5 and 61.1; f/ computed by Ministry of Labour and Social Protection; * refers to August 1992; ** refers to November 1992. *** the poverty rates appear artificially low, due to the likely underestimate of the increase in the retail price index. Source: MONEE database unless otherwise stated.

According to the quoted UNICEF/ICDC study which reviewed changes in income distribution as well:

"In Bulgaria, the Czech Republic, Hungary and Slovakia, the increase in poverty is mainly related to the contraction in real **average** wages which have generally marked the beginning or stiffening of the reforms...the observed increase in poverty [in these countries - S.S.] cannot be attributed to a significant worsening of the distribution of income, nor to an excessive contraction of social transfers, and nor again to a 'retreat of the State'. In these countries, the extensive safety nets in place prior to the transition have been broadly maintained and extended so as to include unemployment compensation and social assistance benefits... The situation is somewhat different in Romania, Russia, Ukraine and, presumably, Albania...in these countries, and particularly in Russia, the surge of poverty rates and the dramatic deterioration in living conditions... have been compounded by widening wage differentials, an upturn in overall income inequality in 1992, and the erosion of the already weaker pre-existing social safety nets (including a devastating drop in minimum pensions and child allowances)" (UNICEF/ICDC 1993).

Although evidence is still fragmented, the main patterns confirm the analysis that the income distribution is widening in many countries; and poverty is spreading, especially among children, young adults, the unemployed and disadvantaged minorities. Problems which were marginal prior to the transition are becoming common experiences.

Reform Strategies and Policies

Change in Private-Public Mix

Under the old system, the economic functions of the state and the enterprise overlapped, and the two together were responsible for looking after the needs of workers. In a market economy, in contrast, *enterprises* are responsible for efficient production and for making profits, which, in the long run, protect existing jobs and create new ones. *Individuals* have the main responsibility for finding a job or other earning opportunities, with the assistance of the state. Reduced job security is an unavoidable price for increased efficiency and higher overall living standards. *The state* should help the market to run efficiently or should complement or replace market activity where private markets are inefficient or non-existent. It is the *private-public mix* of responsibilities which is at the heart of the reform process in CEE. In a market economy, where the countries of CEE are moving, there is much *less state intervention* than in CEE, and that intervention is often *different* from the traditional CEE forms of public production and allocation. While the shift to a new private-public mix in social policies with higher individual responsibility is clearly a long-term goal, short-term choices are more restricted due to the enormous macroeconomic shock and consequent fiscal crisis these countries are currently experiencing.

The strategy most countries of CEE follow or contemplate includes the following primary policies:

- improving poverty relief,
- cost containment,
- raising administrative capacity,
- improving incentives, and
- diversifying supply, particularly in connection with private pension, charities and NGOs.

Social Insurance

Conventional social insurance arrangements, however, with an explicit relationship between contributions and benefits, are likely to be unsustainable in some countries during the early transition. Thus there is a clear distinction between short-run policy, which concentrates on surviving the early transition by focusing on poverty relief, and medium-term developments, in which income transfers are more clearly a part of the structural reforms.

Short-Run Policies

Increasing unemployment and poverty require urgent action on poverty relief; the fiscal crisis makes cost containment imperative; and action is needed in the short run (as well as in the medium term) to ensure that the necessary benefits are paid.

Poverty relief should take precedence for fiscal reasons over the objectives of income support such as insurance and income smoothing.

- Urgent priorities are (a) to strengthen the system of unemployment benefit, and (b) to develop a system of social assistance capable of delivering poverty relief to potentially large numbers of individuals and families.
- Expenditure should be concentrated on protecting the minimum level of benefits. Depending on the severity of fiscal constraints, a case can be made for paying unemployment benefit and pensions at a flat rate.
- Unemployment benefit and the major social insurance and pension benefits should be at a level not below the poverty line for an individual; social assistance should be defined relative to a family poverty line; and the minimum benefit should if possible be fully protected against inflation. In choosing a poverty line, political pressures and fiscal realities are in direct conflict.

Measures to contain costs are vital, notwithstanding their high political visibility.

- In the short run, benefits above the minimum should be protected only to the extent that resources permit.
- Invalidity pension should no longer be paid to individuals whose earning capacity has not been affected.
- The right to receive a pension whilst continuing in one's old job should be withdrawn as rapidly as political realities allow. To assist restructuring and to protect young people from long-term unemployment, it might be appropriate to allow people who find a *new* job (or who become self-employed) to keep part of their pension.
- Private pensions should not be introduced for short-run reasons. They create no short-run fiscal savings, and are no short-run substitute for dealing directly with controlling expenditure on state pensions.

Administrative capacity must be adequate in the short run to ensure that unemployment benefit can cope with potentially large numbers of applicants.

- Unemployment benefit should be simplified as much as possible; staff should be adequately trained; and there should be detailed regulation to guide staff on how the law should be implemented.
- Large-scale income testing may exceed short-run administrative capacity. Where possible, therefore, benefits should not be based on income but on indicators of poverty such as family size, or being unemployed or above a specified age.

Policies with a medium-term dimension relate to actions which should start in the short run, but which will take time to take effect.

Administrative capacity requires continuing action. The shortage of implementation skills implies that policy makers should not be over-optimistic about the speed and scale of major reform. Nevertheless, administrative reform is vital, and not just because of the administrative savings which would result, important though they are. A modernized administration strengthens the capacity to collect contributions, speeds up benefit delivery by reducing the lag between application for benefit and its first payment, opens up options for cost containment which are not possible with manual methods, and increases policy flexibility.

- Work already under way on decoupling benefit delivery from enterprises should continue.

- An early start should be made on the planning necessary to increase administrative capacity through a coordinated process of policy development and upgraded delivery, including computerization.
- Action is needed to ensure that it is administratively possible to maintain individual social insurance records.
- Methods of benefit delivery more cost-effective than cash through the postal system should be introduced.

The structure of benefits should be refined. In particular, as fiscal and administrative constraints start to relax, should evolve towards one with a closer relation between contributions and benefits.

- Pensionable age should be raised over time. One way of phasing in such a change is to start to raise the retirement age by one year every second year. Fiscal pressures suggest an early starting date for such action; political pressures and a desire to minimize unemployment among younger workers suggest a more cautious approach.
- Social insurance contributions should be shared between worker and employer, with the worker's contribution appearing on his/her pay-slip.
- To avoid incentives against employing women, the cost of maternity and family benefits should, so far as possible, not fall on the employer.
- As soon as economically and administratively feasible, the relationship between social insurance benefits and individual contributions should be strengthened. As part of this process, growing administrative capacity will allow greater reliance on income-tested poverty relief. The combined result would be to restore the distinction between insurance and non-insurance benefits.

Private pensions require continuing work on design and implementation. There are two firm recommendations.

- Private pensions should not be introduced until the necessary regulatory structure has been put in place. The design and implementation of such a regulatory regime is the first step towards the development of private pensions.
- Private pensions should offer future pensioners at least some protection against inflation. This is particularly the case in CEE, where restructuring poses a serious inflation risk. One mechanism for achieving this objective is through the issue of indexed government bonds.

Beyond that, policy makers can choose the form of public/private mix in pensions.

- A mainstream western European system would have three tiers and would be very much a partnership between the public and private sectors. The foundation of the system would continue to be a PAYG¹⁴ social insurance pension, with a wider role than mere subsistence, through limited by appropriate maxima for contributions and benefits. The state system would be complemented by a mandatory system of appropriately-regulated private pensions (leaving open the question of whether they would be defined contribution or defined benefit). Third, there might be tax incentives to encourage voluntary private, defined contribution schemes, subject to the same regulatory regime as all financial institutions.
- A more individualistic system would have two tiers. There would be a minimal state PAYG pension, whose major purpose would be as a minimum guarantee for private pensions. Pensions for most people would be provided by one or more funded, regulated, defined contribution schemes, probably organized in the private sector.

In the three-tier system the separate components address different purposes of pensions: the state scheme is concerned with poverty relief and vertical equity; the second tier, by allowing people to redistribute to themselves across the life cycle, facilitates income smoothing; and the third allows for the expression of individual preferences. The scheme accords a significant role to social solidarity, and risks are shared fairly broadly. If pensioners are to share in economic growth occurring after their retirement, the state pension could be indexed to earnings. The two-tier approach gives less weight to social solidarity. Apart from the minimum pension, there is no redistribution from rich to poor, nor any redistribution between generations; and indexation, if provided at all, would be to price inflation.

The choice between the two approaches depends primarily on (a) objectives, (b) political arrangements, (c) the economic environment, and (d) the social context. On the first, Chile and a number of the high-performing Asian economies had a single objective, economic growth, which was given priority over all other objectives including social solidarity. On the second, government in the high-performing Asian economies is authoritarian; and the same was true in Chile at the time its reforms were introduced. On the third, those countries face fewer constraints than the CEE countries: they have long-established market systems, a sophisticated banking system, highly-developed capital markets, and relatively stable prices; and they need no substantial restructuring. In addition, the Chilean reform was introduced at a time of substantial budgetary surplus. Finally, the importance of the extended family in the high-performing Asian economies has already been noted. Such family structures exist in the central Asian Republics of the former Soviet Union, but not in the other CEE countries.¹⁵

Social Assistance and Family Benefits

As it was discussed earlier, declining real wages and dislocation of large numbers of people have led to a sharp rise in poverty. Under such circumstances, poverty alleviation is a clear imperative, both for political reasons and to maintain human capital, and is particularly important in countries which inherited a very low standard of living or where the stabilization or supply shocks were particularly severe.

Short-Run Policies

These should seek to strengthen or develop a system of social assistance capable of delivering poverty relief to potentially large numbers of claimants, to ensuring the necessary administrative capacity, and to taking practical measures to target benefits tightly in the interests of cost containment.

Poverty relief, for both political and economic reasons, should seek to cushion the fall in real incomes through relatively high family allowances and various income-tested benefits.

- Family allowance should continue to be paid without an income test, at least during the early transition, since family size is a good indicator of poverty when wage differentials are not very large. Family allowances should be supplemented by targeted family support, with particular emphasis on families with infants and very young children. Financial responsibility for all such benefits should be transferred from the social insurance funds to the general budget.
- Expenditure on social assistance should be increased in line with rising numbers of claimants and the average level of benefit. On the latter, a choice has to be made between policies which aim at preventing poverty (type A) and policies which seek to relieve the most acute poverty, but do not attempt to bring everyone up to the poverty line (type B). Additional expenditure on social assistance could be financed by part of the savings released by the abolition of general, untargeted price subsidies.
- Given large regional income differences, social assistance should be financed mainly by block grants from central government to localities, based on indicators of poverty. It is a matter of choice whether social assistance is controlled by central government or, subject to appropriate regulation, allows local administrative discretion.
- Legislative barriers to the involvement of domestic and international NGOs should be removed immediately. NGO involvement in social assistance, subject to an appropriate regulatory regime, should be encouraged.

Administrative capacity must be adequate in the short run to handle a large inflow into social assistance and, thereafter, should seek to refine its targeting capacity.

- Where possible, administration should build on existing institutions such as local governments or social work centers, rather than starting with brand new institutions.
- During the early transition, targeting of social assistance should as far as possible be on the basis of easily verifiable indicators of poverty (e.g. family size, age, social group, crisis region) to minimize the administrative demands of income testing. The latter approach, however, should become the norm once the administration of social assistance has been modernized.
- Deficiencies in data gathering should be rectified to give government information about the number of poor people and the groups who disproportionately experience poverty. These data are important for a number of reasons, not the least of them being the need to make cost projections. In most countries the short-term priority is the introduction of appropriate (sometimes even makeshift) poverty survey capacities. In countries where there was no social assistance administration prior to the transition, the development of administrative statistics is equally important.

Measures to contain costs, though vital, require a more than usually fine balance of economic and political considerations, given the size, visibility and political sensitivity of cash benefit programs.

- In addition to its administrative advantages, the initial use of indicators of poverty to target benefits is likely also to be more cost-effective and efficient than premature introduction of means testing. In countries where informal-sector incomes and remittances from abroad are important, this method could be supplemented by well-regulated local or caseworker discretion in determining eligibility.
- As wage differentials widen and administrative capacity increases, universal family allowances could be scaled down, and supplemented by means-tested schemes.

Policies with a Medium-Term Dimension

These policies should focus on consolidating social assistance as a complement to a reformed system of social insurance and other forms of income transfers.

Key choices have to made.

- Decisions are needed about the desired mix of type A and type B policies and, in the case of family allowances, about horizontal equity objectives.
- These issues and their cost implications should be made explicit in the political process and should be part of public debate.

Administrative capacity requires continuing action.

- Administrative costs should be kept down by simple, standardized procedures.
- When the appropriate administrative and financial institutions are in place, the integration of social assistance and family allowances with the personal income tax system could be considered but should not be regarded as the only option. In any case, a backup scheme is needed to respond to individual circumstances. Such a scheme could be based on a series of rules or could operate within a framework of caseworker discretion.
- Poverty monitoring should be improved by integrating statistical survey capacities with administrative/caseworker information collection mechanisms.

The benefits structure should seek to coordinate poverty relief with other cash benefits.

- Where income levels permit type A policies, the emphasis should be on coordinating social insurance, social assistance and other cash benefits relative to a well-defined poverty line and in a way which minimizes adverse incentives.
- In countries with type B policies, family allowances should be differentiated by income level, and could possibly be withdrawn for higher income groups.

The finance of poverty relief could be diversified.

- In the longer term, more local and private agencies (NGOs, charities, self-help groups) could be involved, both in financing but especially in delivering social assistance.
- Regional disparities should continue to be addressed by differentiated central allocations in ways which do not undermine the motivation for increased local responsibility.

In the longer term, the poverty relief function of cash and in-kind benefits should be substituted to the extent possible by policies aimed at developing the human capital of the poor and providing them with income earning opportunities.

The sorts of reforms outlined in this paper have a series of advantages. Through improved targeting they improve poverty relief and simultaneously contain costs. The system is flexible and can be adapted to objectives additional to poverty relief (e.g. income smoothing) in the light of developing economic and political conditions in each country. By liberating the labor market to perform its proper function of assisting workers to move to jobs in which they are more efficient, the reform of cash benefits is an integral part of the overall reform process.

Implications for Rural Safety Nets in CEE

Most of the strategies and policies spelled out in Section 4 apply in rural areas or for agricultural populations too. The specificities are related to the speed and extent of changes, the scope of rural markets and the initial conditions of rural safety nets. Namely (a) the deterioration of inherited safety nets is faster and greater than in urban areas; (b) markets can replace less of social services than in towns (lack of economies of scale); and (c) safety nets are usually less developed in rural areas.

The pace, extent and form of privatization of cooperatives and state farms should depend first of all on economic factors. This involves many dislocations, among them a substantial recess of the rural welfare state. It is imperative, however, when designing policies for privatization of land, or towards cooperatives and state farms, to take into *consideration the impacts of the dislocations and trade offs* these policies involve in terms employment, incomes, eligibility to social insurance and other benefits and access to services. Some of the trade offs are transitory and could be addressed by short-term, transitory measures (e.g. to provide cash benefits or concessionary loans to offset the seasonality of income flows and start up costs when monthly salaries are stopped and initial investments are made by former agricultural workers, now self-employed peasants). Most other challenges are structural by their nature:

(1) The welfare functions of cooperatives and state farms are shrinking rapidly or disappear altogether. *Local governments*, if given enough support, are better suited to take over some of these functions than central ones due to efficiencies stemming from economies of scale (they already have developed, or can develop, an administration in rural areas anyway) and better knowledge of local conditions. This, in most countries, however, requires the redefinition of the role of local government in legal terms; empowering them administratively and financially.

(2) It is not realistic to expect that privatization of land will prevent *rural unemployment or underemployment*. Active labor market policies, training and retraining, while desirable, are less likely to yield satisfactory results in rural areas due to a restricted access to labor markets. It is worthwhile to make an effort and spend resources on trying to keep agricultural populations covered by social insurance in order to avoid the emergence of negative externalities (e.g. epidemics, excessive poverty, crime, migration, etc.) *Access to cash benefits* is critical. It is equally a financial, legal and administrative issue.

(3) *Access* to certain social services, e.g. health could be *linked to participation in social insurance* programs in a sensible way. "Packaging" of pension contribution (for a benefit in the distant future) together with whatever form of health insurance (an immediate service) could indeed prove useful. Conditioning access to social assistance to poor families on school attendance of their children could play a role in arresting the drop in school enrollment rates in rural areas where, in many countries, peasants rediscover child labor. These linkages should be exploited in a tactful manner avoiding stigma and minimizing coercion, unacceptable in a democratic society.

(4) Rural conditions may or may not facilitate the organization of *public work schemes* depending on the severity of the fiscal crisis, the availability of resources in rural areas and administrative capabilities. However, in the absence of many services, they could be particularly attractive in better organized rural communities (cleaning up the village, building side-walks or feeder roads, etc.). In better off communities *matching grants* could help mobilize local resources and initiative, e.g., to launch public work schemes or to support supplementary feeding programs/canteens for the elderly or the children. In communities where the scope for self-help is more limited, locally administered but tied *block grants* could help by ensuring that welfare objectives are met. Both instruments could be used as launching pads for community based income generating activities at a later stage. In Albania, a World Bank financed rural poverty alleviation project introduced a *special fund to initiate* public work schemes and to promote rural microenterprise.

(5) Development of *rural financial institutions*, agrarian banks and rural branches of commercial banks, in a proper regulatory framework, could be conducive to the development of *private pension and other savings and self-help schemes* which could provide benefits and financial services tailor-made for the needs of rural population. A specificity of the agricultural sector, in the absence of large employers, is that these schemes are likely to provide contributions defined benefits. These programs could emerge as useful supplements to the rural safety net and thereby reduce the needs for certain social services although, especially during the early years of transition, they could cater for the needs of mainly higher income peasants.

(6) Some of the more sophisticated social services such as counseling or social work may not be readily available in rural settlements. This should draw the attention to appropriate *training of rural benefit officials*. Benefit officials may not substitute for social workers in targeting benefits and providing services but early experiences in some countries (e.g. Albania) show that well designed short (crash) training courses could improve services substantially. Pooling scarce resources, or provision of some of these services by regional authorities could also help in eliminating bottlenecks in social assistance.

Endnotes

1. A typical example is when peasant parties are dominated by very old leaders who do not show interest in negotiating favorable conditions for pension, child and family benefit and social assistance arrangements and/or dismiss them by saying that, in their time, they could live without them. They are often hostile to poverty relief despite the fact that their constituency is often the most seriously hit by poverty.
2. Sections 2-3-4 heavily draw on Nicholas Barr (ed.), *Labour Markets and Social Policy in Central and Eastern Europe: The Transition and Beyond*, a volume to be published in 1994, to which both authors of this paper contributed chapters.
3. Social insurance: cash benefits can be awarded on the basis of past contributions. In social insurance schemes these benefits are organized by the state through compulsory contributions. The main benefits are sickness and maternity benefits, and retirement, invalidity and survivors' pensions.
4. Social assistance: partly cash benefits financed out of general taxation and paid to the needy individuals on the basis of an income and/or assets test, partly in kind benefits provided by various social institutions for various categories of needy individuals (e.g. night shelters, free meals, elderly homes, orphanages, etc.). Often referred to as "safety net of last resort".
5. Early communist principles favored collective over individual consumption. The distribution of benefits in kind derived from this view. Thus a move towards cash benefits which empowered individual consumer choice was a major departure from the early principles (see Zimakova, 1992; Rupp, 1992). It is therefore no accident that the scope of cash benefits was greater in countries where some market-oriented reforms took root or where the civil society was stronger (e.g. Hungary, Poland, Czechoslovakia), and developed only partially and belatedly in countries which adhered to a more orthodox vision of the 'socialist society' (e.g. the former USSR, Albania).
6. These data need to be interpreted with care. First, it is difficult to standardize statistics. Second, the difference between the OECD and CEE is partly the result of demographic factors: only Australia, Spain and Portugal among OECD members have more than 30 per cent of the population under 19 years old; among CEE countries, only Hungary has less than 30 per cent of population under 19. Third, the comparison is biased because countries with low family benefits, e.g. Albania and the countries of the former Soviet Union (below 1 per cent of GDP) are usually excluded from CEE averages. Finally, the outcome is influenced by other factors than the generosity of family benefits. For instance, between 1960 and 1984, expenditure on family benefits in the OECD remained a broadly constant fraction of GDP, but fall sharply as a fraction of social spending from 17.3 per cent to 8.9 per cent because of expansion of other programs, notably pensions.

7. Across the OECD, the average level of support from all family benefits was 7½ per cent of average earnings *per family* while in CEE similar or higher amount was paid *per child*.
8. 21 of the 22 Latin American countries had some sort of maternity benefits (see Mesa-Lago, 1991).
9. On the merits and shortcomings of these calculations see Atkinson and Micklewright (1992), Sipos (1992) and Milanovi_ (1991).
10. While long lines and misery played a role in creating dissatisfaction in the communist regimes, rising poverty alone cannot explain the sudden demise of the system. A more likely explanation is the widening gap between expectation and reality for a large majority of people. The economic stagnation and downturn in the 1980s made it clear that the regime would not be able to deliver its promises and that the economy was entering a downward spiral.
11. The dramatic decline in real wages in 1990 in Poland should be seen in the context of an explosion of nominal wages in 1988-89 under the conditions of still largely controlled prices which generated massive shortages and finally hyperinflation. The argument is that the higher comparator real wage figures were indeed not realized in terms of welfare due to increased shortages and forced savings; these forced savings then were washed away by inflation which ensued from wage increases. (A comment by Leszek Balcerowicz.)
12. Although the data are not strictly comparable due to differences in methodology.
13. Radio Free Europe/Radio Liberty *Daily Report*, No. 99, 26 May 1993.
14. See the Glossary for such terms as PAYG, funded, defined contribution and defined benefit schemes.
15. It has been noted, for instance, that ethnic Russians in countries like Kyrghistan are much worse off than elderly Kyrghis, for whom the extended family support network still exists.

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Glossary of Terms

CASH BENEFITS are income support for individuals in the form of cash, in contrast with benefits in kind like free health care. In the CEE/FSU context, they comprise unemployment and related benefits, SOCIAL INSURANCE benefits, and SOCIAL ASSISTANCE. The term 'social security' is avoided because of its ambiguity. In US usage it refers to retirement pensions; in the UK it refers to the entire cash benefit system; and in mainland Europe (in accordance with ILO usage) it refers to all cash benefits plus health care. The term cash benefits has been used throughout.

DEFINED BENEFIT SCHEME: under a defined benefit scheme, usually run at firm or industry level, the individual's pension is based on the number of years of service and his/her final salary; thus the risk of different rates of return to pension assets is borne largely by the employer.

DEFINED CONTRIBUTION SCHEME: under a defined contribution scheme, the individual's pension depends only on the size of his pension accumulation; the risk of varying rates of return to pension assets and the risk of inflation after retirement are therefore borne entirely by the individual.

EARNINGS-RELATED BENEFITS are paid as a percentage of previous earnings; thus, individuals with higher previous earnings receive higher benefits.

FAMILY ALLOWANCE: a monthly payment, tax free and normally not subject to an INCOME TEST, paid until the child reached a certain age.

FLAT-RATE BENEFITS are paid at a fixed monthly rate (though they may be higher for larger families) and are not related to previous income. Thus, for a given family type, all recipients receive the same benefits.

FUNDED pensions are paid out of an accumulated fund, in contrast with PAYG schemes.

FSU: the former Soviet Union

HEADCOUNT: the headcount measures poverty in terms of the number of people whose income falls below a given poverty line, i.e. it measures *how many* people are poor, as opposed to the POVERTY GAP measure, which assesses by *how much* their income falls below the poverty line.

HUMAN CAPITAL: the skills and attributes embodied in an individual, inter alia because of his/her education/training.

HUMAN RESOURCES embrace policies and programs relating to employment and unemployment, income support, education and training and health care. These areas are referred to collectively as the social sectors.

INCOME SUPPORT: see CASH BENEFITS

INCOME-TESTED BENEFITS: benefits paid only to people whose income falls below a certain level. See also MEANS-TESTED BENEFITS.

INCOME TRANSFERS: see CASH BENEFITS

IN-KIND BENEFITS: direct transfers to individuals of commodities; examples include health care and education.

LABOR SUPPLY DISINCENTIVES: suppose an individual has the option of working longer hours and earning an extra \$10; if he does so, he has to pay an extra \$6 in tax; as a result of this high taxation he may choose not to work the extra hours. In such a case, high taxation is said to create a labor supply disincentive.

MARKET FAILURE: an economic technical term describing a situation in which private markets, for systematic technical reason, will either produce inefficiently, or will not produce at all. The efficiency of markets rests on a number of key assumptions, including the existence of competition and, importantly, perfect information on the part of buyers and sellers. Where any of the assumptions fail, a possible outcome is market failure. A key example so far as human resources is concerned is that, because insurers are imperfectly informed, unemployment, inflation and important medical risks are uninsurable in private markets.

MATERNITY LEAVE: in most countries a woman who is a member of the labor force may stay at home in late pregnancy and early motherhood at a (usually high) fraction of her previous wage.

MEANS-TESTED BENEFITS are paid only to individuals whose income and/or wealth from all other sources are below a given amount. The term thus embraces both INCOME TESTING and wealth testing.

NON-GOVERNMENTAL ORGANIZATIONS (NGOs): non-profit institutions which frequently carry out tasks similar to those of government, e.g. the Red Cross, charitable organizations, non-profit health care facilities.

PAY-AS-YOU-GO (PAYG) pensions are paid out of current revenues, as opposed to **FUNDED** schemes.

POVERTY GAP: the poverty gap measures total poverty by estimating by *how much* people in aggregate fall below the poverty line, i.e. it is a measure of how much it would cost to bring everybody's income up to an agreed poverty line. The poverty gap as a measure of total poverty is to be distinguished from the **HEADCOUNT** measure.

POVERTY RELIEF: a key objective of **CASH BENEFITS** during the transition is to provide poverty relief. The poverty relief objective can be defined in two ways: to eradicate poverty by bringing everybody above a poverty line; or to ameliorate the poverty of those below a given poverty line by increasing their income without necessarily completely eliminating the **POVERTY GAP**.

REPLACEMENT RATE: the replacement rate is the ratio of income when receiving benefit to net income when in work. High replacement rates, it is argued, give unemployed individuals an incentive to remain unemployed.

SICKNESS BENEFIT is paid to individuals who suffer a loss of income during short-term sickness or injury.

SOCIAL ASSISTANCE benefits (also referred to as "welfare") are usually financed out of general taxation and paid to needy individuals on the basis of an income and/or assets test.

SOCIAL INSURANCE: cash benefits can be awarded on the basis of past contributions. In social insurance schemes these benefits are organized by the state through compulsory contributions. The main benefits are sickness and maternity benefits, and retirement, invalidity and survivors' pensions.

SOCIAL SAFETY NET: narrowly defined, the social safety net comprises **CASH BENEFITS** aimed at providing **POVERTY RELIEF**. More broadly, the social safety net includes all **SOCIAL EXPENDITURE**.

SOCIAL SECTORS: the social sectors is a collective term covering policies and programmes relating to employment and unemployment, income support, education and training and health care.

SOCIAL WORK: social workers provide care for individuals/families who are not able to care for themselves, e.g. the frail elderly, invalids, individuals with emotional problems.

STIGMA occurs when people feel stigmatized by the receipt of cash benefits in the form of (usually) **INCOME-TESTED** benefits, rather than from some more congenial source (e.g. earnings or insurance benefits).

SUBSISTENCE refers to a level of consumption sufficient to keep an individual/family alive and healthy.

TAKE-UP: the number of people receiving a particular benefit as a proportion of those potentially eligible.

TARGETING has two aspects: horizontal efficiency refers to the ability of the system to cover all potentially eligible individuals (i.e. to avoid gaps in coverage); vertical efficiency refers to the ability of the system, by and large, to convert only the eligible group (i.e. to avoid "leakages" to non-eligible groups).

UNEMPLOYMENT BENEFIT: a cash benefit paid to an individual who has lost his/her job. A condition for receipt of the benefit is normally that the individual actively seek a new job.

UNIVERSAL BENEFIT: a benefit which is paid on the basis of relevant criteria without a **MEANS TEST**, e.g. **FAMILY ALLOWANCE** is paid to all families with children, irrespective of their income.

WELFARE: see **SOCIAL ASSISTANCE**.

**STRUCTURAL ADJUSTMENT AND
AGRICULTURE: LESSONS FROM EXPERIENCE
AND NEW APPROACHES**

Agricultural Lending in Transition: Lessons from Experience and Future Approaches

Odin Knudsen and Kathy Lindert*

The Continuing Disarray of Agriculture

We in the agricultural complex of the World Bank have become like town criers – repeating the same declarations:

Because agriculture contributes substantially to GDP and employment in developing countries, the policy stance toward agriculture matters considerably.¹ The agricultural sector, however, historically has been characterized by a complex array of contradictory policies in many developing countries. Governments have intervened in agriculture to achieve a number of somewhat conflicting social objectives, including inter alia: protecting consumers, establishing "fair" producer prices, generating foreign exchange earnings, creating price stability, and combating inflation.²

We have further proclaimed that:

The general thrust of sectoral and economy-wide policies has had an adverse effect on the agricultural sector. Development strategies seeking to promote industrialization have resulted in exchange rates that are highly overvalued, which have, in turn, depressed the prices of agricultural tradables. Direct industrial protection policies have further exacerbated the policy bias against agriculture. To generate government revenues, trade policies have often taxed agricultural exports.³ In an effort to provide urban consumers with low-cost food stuffs, administrative domestic pricing schemes have maintained producer prices far below international levels.⁴ Moreover, parastatal monopolies and restrictions on distribution and marketing have constrained agricultural operators in many subsectors.

We have followed with more truths:

Governments in many developing countries have attempted to offset these discriminatory policies with more favorable interventions. Agriculture has enjoyed subsidized inputs, such as irrigation water, fertilizers, seeds, and pesticides. In addition, trade protection has taken a variety of forms in developing countries, especially in times of stress. These include quantitative restrictions and other non-tariff barriers that have shielded

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*producers from the competition of cheap foreign imports, in particular for agro-industrial products.*⁵

Through this simultaneous encouragement and discouragement of agricultural production, governments in both developing and industrial countries have effectively had "one foot on the accelerator and one foot on the brake." In developing countries, the foot has leaned heavily on the brake,⁶ whereas in industrial countries, it has rested ponderously on the accelerator. The consequence is a situation that still fits D. Gale Johnson's 1950s description of an agricultural sector in disarray.

The Costs

The costs of this predicament have been enormous. Since the world food crisis of the early 1970s, a modest estimate of the accumulated losses to the world of this unfavorable agricultural policy stance is conservatively estimated at \$6 trillion, or about twice the aggregate annual GDP of developing countries. Looked at from a different angle, recent estimates of the gains from the implementation of even a modest GATT agreement, involving a 30 percent reduction in agricultural sector intervention, yield annual world benefits of over \$200 billion, or four times official OECD and OPEC development assistance.⁷ A complete elimination of all trade restrictions on agriculture projects would put this gain at over \$400 billion. About 40 percent of the gain would accumulate to developing countries.

At the same time, since 1966, the World Bank has invested \$102.5 billion to foster agricultural development. The Bank has promoted these investments in the sector, rightfully or wrongfully, in the context of substantial, and often severe, distortions. In making these investments, the basic assumption held that these interventions would persist. International price projections assumed a continuation of existing distortions for the cost-benefit evaluation of agricultural investments. As history has shown, this evaluation was often overly-optimistic: world market distortions in the sector intensified the fall of world commodity prices and reduced the ex-post benefits of Bank projects. It is not surprising, therefore, that a significant share of agricultural projects have failed, not only because of this over-optimism but also because, in a sector so contorted by public intervention, success was unlikely.

Distortions were matched by further interventions as policy-makers reacted to the actions of others. Developing country governments did not intend to passively allow their wealthy northern cousins to muddle in the sector with massive subsidies, without attempting a little bungling on their own. The rule and not the exception was for a private farming community to be burdened with a ponderous public sector that dominated the most fundamental of the market's activities. In many countries, even decisions on what to plant and to whom to sell were controlled by the state. With such a heavy hand, the temptation to further exploit the sector was irresistible.

By making agriculture less attractive than other sectors, the detrimental policy stance in developing countries has resulted in a deterioration of agriculture and the economy in general. Krueger, Schiff and Valdés find that, over a period of 25 years, the high taxation of agriculture in

developing countries was correlated with low growth in the sector and low growth in the economy as a whole. Higher growth rates were witnessed in countries with lower taxation rates and vice-versa.⁸ While some shift away from the production of primary goods is a common pattern in the course of development, and the decline in world prices for agricultural commodities most likely contributed, in part, to this decline. It seems probable, however, that much of the sector's poor performance was caused by a hostile and contradictory policy environment.

The tragedy of these policies is not only a loss of world income, but also a negative impact on the poor. Because the poor in developing countries reside disproportionately in rural areas and are dependent both directly and indirectly on agriculture for their livelihood, discrimination against the sector in developing countries has had dire consequences for the poor. Moreover, feeble efforts to compensate lower-income groups through food aid have made urban areas more attractive to the disenfranchised rural poor. The barrios and ghettos that surround all major developing country capitals are, in large part, the testimony to the adverse effects of these harsh policies.

The environment has also been a victim of world agricultural policies. The distress and pollution of groundwater arising from an overuse of inputs, such as fertilizers and pesticides, will haunt industrialized countries for years to come. In developing countries, the direct toll has been somewhat less severe since input use has not been as extensive. Nonetheless, it is clear that wasteful use of water has generated salinity in vast areas and that continuing poverty has propagated exploitation of forests and savannahs. Furthermore, as clearly witnessed in Eastern Europe and the former Soviet Union, public enterprises, the dominant form of agro-industry and irrigation management, have had little consideration for the environment.

The Opportunities

Despite this unfavorable history in the agricultural sector, a new opportunity has emerged with the conclusion of the Uruguay Round. Without overemphasizing the success of the GATT accord, it is important to recognize that a new chapter in the policy stance towards agriculture has begun. The agreement will reverse the trend of increasing subsidization of agriculture in industrialized countries and place further liberalization of the sector on the policy reform agenda.

Agricultural lending is also in a state of transition. The agricultural complex of the World Bank has come to some sober realizations in its reviews of portfolio performance. We are at a difficult juncture both internally and externally. Within the Bank, we have initiated a painstaking reassessment of our business; externally, our borrowers are experiencing a certain degree of adjustment fatigue, arising both from arduous negotiations during the Uruguay Round and from extensive reform programs undertaken during the 1980s. Despite the potential reluctance of developing countries to engage in renewed sensitive dialogue regarding agricultural policy, the time is ripe for a deepening of policy reforms in the sector. The GATT agreement, which calls for the conversion of all agricultural protection mechanisms into fixed tariffs,⁹ paves the way for real structural adjustment in the sector. The justification for public entities deeply engaged in controlling external and internal trade has become moot with this tariffication of protection.

To respond to this new international policy environment, developing countries must extend the process begun under adjustment operations and strengthen their capability to respond to a more competitive and demanding international market. In this regard, developing countries, with the support of their major benefactor, the World Bank, face five major challenges in agriculture:

- Deepening reforms and extending the reform agenda into the subsectors and completing the structural adjustment of agricultural policies and institutions;
- Restoring and improving the efficiency of public investments and administration;
- Stimulating private investment in the sector;
- Encouraging natural resource management, in particular of water and soil; and
- Confronting broad-based poverty in rural areas.

In the next section of the paper, we undertake a retrospective review of the policy dialogue involved in adjustment operations in developing countries. Our survey indicates that the performance of adjustment programs has been mixed. On one hand, evidence from the World Bank database on adjustment conditionality reveals that adjustment operations in agriculture have been fairly successful in meeting, at least initially, the terms of their conditionality. On the other hand, evaluations of adjustment lending by the Bank's Operations Evaluation Department (OED) have been somewhat less favorable. In a review of 12 Agricultural Sector Adjustment Loans (ASALs), half were judged unsatisfactory. Key reasons cited for the unsatisfactory ratings were incomplete implementation and backsliding on major conditions.

In the final sections of the paper, we reflect on the future challenges in the sector and suggest a direction for agricultural policy-based lending. The paper advocates four major lending instruments to assist developing countries in meeting these challenges:

- Agricultural Sector Investment Loans,
- Resource-Specific Investment Projects,
- Rural Finance Projects and
- Rural Poverty Projects.

Each of these lending instruments should emphasize policy reform and institutional strengthening. Somewhat contrary to the recommendations of the Wapenhans report, none of these approaches would be simple or straightforward. Rather, these instruments would challenge the Bank's capability to assist borrowers in confronting real development issues. The paper argues that intricate problems require instruments that can address their complexity and create a solid base for growth, so that borrowers can be weaned from direct Bank assistance. Emphasis should be placed on broader based time-slice investment lending, in which ownership rests more with the borrower and reforms are more sustainable, rather than on traditional enclave projects.

Agricultural Adjustment Operations: Lessons from Experience

The primary goal of adjustment operations¹⁰ involves creating a policy environment conducive to promoting economic growth. This goal has been pursued in several ways, including:

- Adopting a more appropriate incentive structure to induce the efficient use of resources;
- Encouraging investment to expand the stock of available resources; and
- Strengthening institutional elements to assist countries in developing the flexibility and capacity to efficiently respond to changing economic conditions.¹¹

The performance of adjustment programs in agriculture has been mixed. Assessments of the implementation of these operations yield somewhat conflicting results. A database of adjustment lending conditionality maintained by the Bank demonstrates that compliance with policy conditions has generally been reasonable, whereas recent OED reviews of adjustment operations in the agricultural sector draw more modest conclusions. In terms of impact on economic performance, rough estimates indicate that agricultural growth increased following the introduction of ASALs. More rigorous methods likewise reveal a positive impact of adjustment operations on the growth of GDP and the ratios of exports and savings to GDP. Evidence indicates, however, that investment as a share of GDP tended to fall during adjustment operations.

Policy-based lending to the agricultural sector primarily gained momentum in the early- to mid-1980s. Agricultural policy conditions have been introduced in economy-wide adjustment lending operations, such as Structural Adjustment Loans and Credits (SALs), and specific sector adjustment programs, such as Agricultural Sector Adjustment Loans (ASALs). SALs typically address major macroeconomic and sectoral issues, including trade policy, resource mobilization, efficient use of resources, institutional reforms, and social safety net protection. SALs generally require agreement on a satisfactory macroeconomic framework to boost the success of lending operations in the borrowing country.¹² ASALs concentrate primarily on key sectoral issues, including the incentives and regulatory framework, institutional capabilities, and the sector expenditure program. To be effective, ASALs typically require agreement on:

- A satisfactory macroeconomic framework and its implementation;
- A specific action program addressing key sectoral issues that can be monitored on a specific schedule; and
- An overall investment program for the sector.¹³

Tables 1 and 2 provide a lists of countries with SALs and ASALs during the period from 1979-92.

TABLE 1. POLICY CONDITIONALITY IN 105 SALS: FY1979-92

COUNTRY	FY TO BOARD	AGRIC. POLICY CONDITIONS				E-R CONDI-TIONS	TRADE POLICY CONDITIONS			
		PRICING/ SUBSIDY	INSTIT. REFORM	INVEST. PROMO.	TECH/ RESEARCH		M/X QR's	M DUTY/ SUBSIDY	X DUTY/ SUBSIDY	OTHER INSTIT.
Bangladesh	92									
Benin	89,91	X	X							
Bolivia	80,92	X				X			X	X
Bulgaria	92		X			X	X	X	X	X
Burkina Faso	91		X				X	X		X
Burundi	86,88,92	X	X		X	X	X	X	X	X
Cameroon	89	X	X			X	X	X	X	X
CAR	87,88,90	X	X				X	X	X	X
Costa Rica	85,89	X	X			X		X	X	X
Chile	86,87,88	X	X	X		X		X	X	X
Congo	88							X		X
Cote d'Ivoire	82,84,86	X	X				X	X	X	X
Czechoslovakia	91						X	X		X
Dominica	87	X	X				X	X	X	X
Egypt	92	X	X			X	X	X		X
El Salvador	91	X	X			X	X	X		X
Gabon	88	X	X	X			X	X		X
Gambia	87,89	X	X	X		X		X		X
Ghana	87,89	X	X			X	X	X		X
Guinea	86,88	X	X			X	X	X		X
Guyana	81,90	X	X		X	X	X	X		X
Guinea Bissau	87,89	X	X			X	X	X	X	X
Honduras	89,91,91	X	X			X	X	X	X	X
Hungary	90,91		X			X	X	X		X
India	92	X					X	X		X
Indonesia	89	X				X	X	X		X
Jamaica	82,83,85	X	X	X	X	X	X	X	X	X
Kenya	80,83	X	X			X	X	X		X

NOTES: FY=fiscal year; "Board" refers to World Bank Board approval; E-R=exchange rate; M=import; X=export; QR's=quantitative restrictions. Other Institutional trade reforms include: import/export financing and credit; other export incentives; and other export institutional reforms. A X in each column means that the loan in that particular country supported that type of policy condition.

SOURCE: ALCID Database.

TABLE 1 Continued POLICY CONDITIONALITY IN 105 SALS: FY1979-92

COUNTRY	FY TO BOARD	AGRIC. POLICY CONDITIONS				E-R CONDI-TIONS	TRADE POLICY CONDITIONS			
		PRICING/SUBSIDY	INSTTT. REFORM	INVEST. PROMO.	TECH/ RESEARCH		M/X QR's	M DUTY/ SUBSIDY	X DUTY/ SUBSIDY	OTHER INSTIT.
Korea	82,84	X	X	X		X	X	X		X
Lao	89,92	X	X			X		X		
Malawi	81,84,86,92	X	X			X	X	X		
Mali	91						X	X		
Mauritania	87	X	X					X		
Mauritius	81,84	X	X			X	X	X		
Morocco	89,92	X		X		X	X	X		
Nepal	87,89	X	X			X	X	X		
Niger	86	X	X	X			X	X		
Pakistan	82	X	X			X	X	X		
Panama	84,87	X	X				X	X		
Papau	90	X	X			X	X	X		
Philippines	83,91	X	X			X	X	X		
Poland	91					X		X		
Romania	92		X				X			
Rwanda	91	X	X			X	X	X		
Sao Tome	87,90	X	X	X		X	X	X		
Senegal	81,86,87,90	X	X	X	X		X	X		
Thailand	82,83	X	X		X	X	X	X		
Togo	83,85,88,91	X	X		X		X	X		
Trinidad	90					X	X	X		
Tunisia	88,92	X	X			X	X	X		
Turkey	80,81,81,82,83,84	X	X		X	X	X	X		
Uganda	92						X			
Uruguay	87,89					X		X		
Venezuela	89	X				X	X			
Yugoslavia	83,90		X			X	X	X		
Zaire	87		X	X				X		
Zimbabwe	92		X			X	X			

NOTES: FY=fiscal year; "Board" refers to World Bank Board approval; E-R=exchange rate; M=import; X=export; QR's=quantitative restrictions.

Other Institutional trade reforms include: import/export financing and credit; other export incentives; and other export institutional reforms.

A X in each column means that the loan in that particular country supported that type of policy condition.

SOURCE: ALCID Database.

TABLE 2. POLICY CONDITIONALITY IN 41 ASALS: FY1983-92

COUNTRY	FY TO BOARD	AGRIC. POLICY CONDITIONS				E-R CONDI-TIONS	TRADE POLICY CONDITIONS			
		PRICING/SUBSIDY	INSTT. REFORM	INVEST. PROMO.	TECH/ RESEARCH		M/X QR's	M DUTY/SUBSIDY	X DUTY/SUBSIDY	OTHER INSTT.
Argentina	86	X	X		X	X	X	X	X	X
Brazil	84,86	X	X	X					X	X
Burkina Faso	85,92	X	X				X	X	X	X
Burundi	89	X	X							
CAR	88	X	X							
Chad	89	X	X							
China	90	X	X	X						
Cote d'Ivoire	90	X	X	X			X	X		
Ecuador	86	X				X	X	X		X
Ghana	92	X	X	X			X			X
Jamaica	90	X	X				X	X		
Kenya	86,91	X	X	X			X			X
Madagascar	86	X	X	X						X
Malawi	90	X	X		X	X	X	X		X
Mali	90	X	X	X		X	X		X	
Mauritania	90	X	X	X	X					
Mexico	88,91	X	X	X			X	X	X	X
Morocco	85,88	X	X	X	X					
Nigeria	84	X	X							
Pakistan	81,89	X	X	X						
Philippines	85	X	X				X	X		
Somalia	84,86	X	X		X	X	X			X
Sierra Leone	89	X	X							
Sudan	80,83	X	X			X				X
Tanzania	90	X	X		X	X	X			
Tunisia	87,89	X	X	X	X	X	X	X		X
Turkey	85	X	X	X						X
Uganda	83,91	X	X	X	X		X	X		X
Uruguay	84	X	X	X			X	X		
Yugoslavia	84	X	X		X	X			X	
Zambia	85	X	X							

NOTES: FY=fiscal year; "Board" refers to World Bank Board approval; E-R=exchange rate; M=import; X=export; QR's=quantitative restrictions. Other Institutional trade reforms include: import/export financing and credit; other export incentives; and other export institutional reforms. A X in each column means that the loan in that particular country supported that type of policy condition.

SOURCE: ALCID Database.

Trends in Adjustment Lending

Records from the Adjustment Lending Conditionality and Implementation Database (ALCID)¹⁴ indicate that 105 SALs have been initiated in 57 member countries since 1982. Approximately 32 percent of all Bank members have received at least one SAL.¹⁵ Table 3 shows that roughly half of these SALs were granted to 26 Sub-Saharan African countries and close to one quarter were accorded to 11 Latin American and Caribbean members.

Table 4 indicates that the number of SALs has increased fairly steadily over time, but has leveled off since the late 1980s. Some members have been borrowing for adjustment operations for over a decade. A recent review, *Adjustment Lending Revisited*, classifies 25 countries as having "Early Intensive Adjustment Lending" (EIAL), including Turkey, which instituted a total of six SALs before 1985, Jamaica which had three by that same year, and Thailand, the Philippines, Mauritius, Malawi, Cote d'Ivoire and Korea which all received two SALs by 1985.¹⁶ In other countries, SALs have only recently been introduced. In particular, several countries in Eastern Europe have received their first SALs since 1990, including Hungary, Czechoslovakia, Poland, Romania, and Bulgaria.

The ALCID database reveals that the Bank has used 41 ASALs to support policy reforms in 31 countries since 1980.¹⁷ ASALs make up about 11 percent of all adjustment-related loans.¹⁸ Approximately 18 percent of all Bank members have received ASALs since their introduction in the early 1980s. Table 4 suggests that the frequency of ASALs, in terms of the number of loans and countries in which they have been initiated, has fluctuated since their introduction. The first ASALs were introduced in Sudan (FY80 and FY83) and Pakistan (FY81), followed by an ASAL in Uganda (FY83). ASALs have primarily been used in Africa and Latin America and have been applied far less in countries in East Asia and the Pacific, South Asia, Europe and Central Asia, and the Middle East.¹⁹

TABLE 3. REGIONAL TRENDS IN ADJUSTMENT LENDING				
Region	ASALS		SALS	
	# of countries	# of loans	# of countries	# of loans
S-S Africa	18	23	26	48
Maghreb	2	4	2	4
Other North Africa/M.East	0	0	1	1
Latin America/Caribbean	6	8	11	23
E.Asia/Pacific	2	2	6	10
Europe/Cent.Asia	2	2	7	14
South Asia	1	2	4	5
TOTAL	31	41	57	105

Note that # of countries over the various time periods refers to the number of countries receiving their first type of loan (ASAL or SAL).
Source: ALCID DATABASE. Regional classification according to World Bank Regional Departments.

TABLE 4. TRENDS IN ADJUSTMENT LENDING OVER TIME					
Number of Loans					
	1980-83	1984-86	1987-89	1990-92	1980-92
ASALs					
S-S Africa	3	7	3	10	23
Maghreb	0	1	3	0	4
Other North Africa/M.East	0	0	0	0	0
Latin America/Caribbean	0	5	1	2	8
E.Asia/Pacific	0	1	0	1	2
Europe/Cent.Asia	0	2	0	0	2
South Asia	1	0	1	0	2
TOTAL	4	16	8	13	41
SALs					
S-S Africa	7	10	19	12	48
Maghreb	0	0	2	2	4
Other North Africa/M.East	0	0	0	1	1
Latin America/Caribbean	4	4	9	6	23
E.Asia/Pacific	4	1	2	4	11
Europe/Cent.Asia	6	1	0	6	13
South Asia	1	0	2	2	5
TOTAL	22	16	34	33	105

Source: ALCID DATABASE. Regional classification according to World Bank Regional Departments.

Content of Agricultural Policy Conditions in Adjustment Operations

Evidence from ALCID²⁰ indicates that conditions specifically addressing policy issues in the agricultural sector accounted for over 13 percent of all loan conditions in the database, as indicated in the last column of Table 5.²¹ Not surprisingly, agricultural policy reforms represented a majority (62 percent) of total conditions in ASALs.²² They constituted a much smaller share (9 percent), however, of total conditions in SALs.²³

The introduction of agricultural policy conditions peaked in the late 1980s for all loans in the sample, as indicated in Table 5. In particular, 46 percent of agricultural policy reforms were initiated in SALs that were approved to the Board during the period between 1987-89. For ASALs and all loans in the sample, the figure was about 39 percent. The introduction of policy conditionality for the agricultural sector declined in the early 1990s: of all agricultural policy conditions implemented to date, only 24 percent of conditions included in ASALs and 16 percent included in SALs have been introduced since 1990. This trend could be due to the possibility that the conditions introduced during the peak of agricultural policy reform in the late 1980s have achieved their goals. However, given the fact that the total number of adjustment loans (SALS and ASALS) increased and was higher in the early 1990s than any other period (see Table 4), this pattern more likely arises due to a lack of follow-up for countries with repeat adjustment loans or an absence of agricultural policy reforms in countries where adjustment operations have just recently been introduced.

TABLE 5. AGRICULTURAL POLICY CONDITIONALITY IN ADJUSTMENT LENDING OPERATIONS ⁸						
TYPE OF LENDING INSTRUMENT	Percent of All Agricultural Conditions from 1980-92					Percent of All Conditions 1980-92
	1980-82	1983-86	1987-89	1990-92	Period ^a	
ASALS	2	35	39	24	100% ^d	62 ^d
SALS	14	24	46	16	100% ^b	9 ^e
ALL LOANS	8	31	39	22	100% ^c	13 ^f

^a Row refers to percent of all agricultural conditions (total 1024) in 41 ASALs over period. For example, from 1980-82, 2% of all 1024 agricultural conditions in 41 ASALs were initiated in loans approved during that period.
^b Row refers to percent of all agricultural conditions (total 526) in 105 SALS over period. For example, from 1980-82, 14% of all 526 agricultural conditions in 105 SALS were initiated in loans approved during that period.
^c Row refers to percent of all agricultural conditions (total 1860) in 361 loans (all loans) over period. For example, from 1980-82, 8% of all 1860 agricultural conditions in 361 loans were initiated in loans approved during that period.
^d 62% of all conditions (total 1642) in 41 ASALs involved agricultural policy conditions.
^e 9% of all conditions (total 5752) in 105 SALS involved agricultural policy conditions.
^f 13% of all conditions (total 13889) in 361 loans in database involved agricultural policy conditions.
^g Entire period refers to 100% of all agricultural conditions for each category (ASAL, SAL, ALL LOAN) for the entire period from 1980-92.

Source: ALCID database. Numbers may not add due to rounding.

TABLE 6. CONTENT OF AGRICULTURAL POLICY CONDITIONALITY, 1980-92			
Percent of all agricultural policy conditions (Figures in parentheses refer to critical conditions as a percent of all agricultural policy conditions in each category) ^d			
TYPE OF CONDITION	ASALS ^a	SALS ^b	ALL ALCID LOANS ^c
Pricing and Subsidies	30 (18)	36 (17)	34 (18)
Institutional Reforms	62 (10)	57 (10)	59 (10)
Entry/Exit	4 (7)	3 (8)	4 (8)
Regulatory	7 (11)	8 (10)	7 (12)
Subsector Restructuring	16 (6)	8 (21)	12 (11)
Subsector Planning	14 (10)	15 (5)	14 (9)
Marketing	7 (13)	7 (10)	7 (11)
Other Institutional	14 (10)	16 (6)	15 (9)
Investment Promo/Incentives	6 (11)	5 (11)	6 (11)
Technology/Research	2 (8)	2 (0)	2 (7)
TOTAL AG. POLICY CONDITIONS	100 (12)	100 (12)	100 (13)

^a Column refers to percent of all 1024 agricultural policy conditions in ASALs.
^b Column refers to percent of all 526 agricultural policy conditions in SALS.
^c Column refers to percent of all 1860 agricultural policy conditions in all loans in the ALCID database.
^d Critical conditions have been designated by Bank staff as being crucial policy reforms for the success of the loan. A critical condition is defined as a condition that is central to the main objectives of the loan. Figures in parentheses refer to critical conditions as a percent of all agricultural policy conditions in each category: for example, 18 percent of all pricing and subsidy conditions in all ALCID loans were deemed critical and 13 percent of all agricultural conditions (in total) in all ALCID loans were deemed critical.

Source: ALCID database. Numbers may not add due to rounding.

Domestic Pricing and Subsidies

Evidence from the ALCID database suggests that the most common category for agricultural policy reform involves domestic pricing and subsidies. Virtually all ASALs in the sample supported conditions involving domestic pricing and subsidy reforms.²⁴ These actions accounted for approximately one-third of all agricultural conditions in all loans in the sample (Table 6). Roughly 18 percent of these pricing and subsidy conditions were judged to be critical for the achievement of program objectives.

The prominence of pricing and subsidy reforms in adjustment operations is indicative of an almost universal concern with "getting the prices right." The practice of determining prices administratively, and often setting them well below international prices, rather than allowing them to fluctuate with market signals, fueled the frequency of pricing conditionality. In most developing countries, the net effect of agricultural pricing policies has been a tax on agricultural production. Krueger, Schiff and Valdés estimate that the direct tax on the agricultural sector averaged 8 percent for 18 representative developing countries from 1960-85.²⁵

Agricultural pricing policy constitutes one of the principal issues confronted in adjustment operations. As a remedy to create a more appropriate incentive structure, agricultural policy conditions have addressed distortions in producer, consumer and input prices.

- *Producer Prices.* Policy conditions involving producer price reforms have taken several different forms. Most actions have supported regular adjustments in producer prices to levels agreed upon by the Bank. Others have attempted to link the calculation of producer prices to corresponding international prices so that taxation and protection are made more transparent. These measures assure not only that individual prices follow market trends, but also that relative prices within the sector are appropriate. For example, medium-term agricultural adjustment programs which were supported by ASALs in both Morocco (FY88) and Tunisia (FY86) proposed revised methods for calculating domestic cereal support prices based on multi-year moving averages of international reference prices. Likewise, the Mexico ASAL (FY88) included conditions that linked official domestic prices for some crops to international prices via a price band.

An alternative, but perhaps less common, approach has involved the actual abdication of official price-setting authority. For example, the Brazil ASAL (FY86) supported steps to remove price controls on agricultural commodities. Likewise, in Burkina Faso, the ASAL (FY92) included conditions to abolish official prices of all cereals with the exception of rice. The Ghana ASAL (FY92) also sought an end to the fixing of palm oil and cotton producer prices.

- *Consumer Prices.* Conditions to reform consumer prices typically involve modifications in food subsidy programs. Again, adjustment operations have taken a number of different approaches in modifying consumer subsidy programs, which were generally introduced

during the 1970s to protect the consumption of urban consumers. Some conditions have sought to limit or reduce subsidy levels so as to bring consumer prices more in line with world prices. For example, the Brazil ASAL (FY86) included a condition to reduce consumer subsidies for wheat during the period covered by the loan. The Jamaica ASAL (FY90) supported steps to limit total food subsidies by increasing the prices of subsidized foodstuffs during the years covered by the loan.

Another approach has involved attempts to phase out official consumer prices over time. In Ecuador, for example, the ASAL (FY86) included conditions to reduce the number of agricultural consumer goods subject to price controls at both the retail and the wholesale levels.

In some countries, however, eliminating food subsidies has not been considered a feasible alternative due to the political ramifications and potentially adverse impact of such an action on food consumption by the poor. In some countries, policy reforms have sought to improve the targeting of food subsidies, by shifting subsidies toward products that are primarily consumed by lower-income groups. For example, although abolishing consumer flour subsidies was cited as a medium-term objective in the second Morocco ASAL (FY88), government concerns about the purchasing power of the poor led to the targeting, rather than the complete elimination, of these transfers. Subsidies, which had previously been injected on a variety of food products, were shifted to a rough, dark, high-extraction rate flour that is less-preferred by the rich. For similar reasons, the Tunisia SAL II (EFRSL FY92) also supported the self-targeting of food subsidies in several subsectors (including cereals, cooking oil, milk and sugar) through quality differentiation.²⁶ General subsidies are likewise being replaced by targeted food subsidy programs in Mexico.

- *Input Prices.* Agricultural policy conditions commonly involve measures relating to the reform of input pricing. These conditions generally entail a gradual reduction or elimination of input subsidies. Knudsen and Nash (1990) note that subsidies to fertilizer alone averaged close to 0.5 percent of GDP and 23 percent of the total budget allocated to agriculture in a sample of 17 countries.

ASALs in Burundi (FY89), China (FY90), Ghana (FY92) and Morocco (FY85) all included steps to eliminate fertilizer subsidies. In the Central African Republic, an ASAL (FY88) endorsed the elimination of cotton input subsidies. Both ASALs in Tunisia (FY87 and FY89) supported measures to reduce and phase out input subsidies including those existing on animal feed, fertilizers, agricultural equipment, seeds and herbicides. The Madagascar ASAL (FY86) included, as a condition of the second tranche release, the elimination of subsidies on all agricultural inputs except pesticides and the establishment of a maximum limit on pesticide subsidies of five percent of their cost. Efforts to abolish subsidies on phosphate and potash fertilizers were supported under the Pakistan ASAL (FY89). In addition, public outlays on various inputs, including fertilizers and pesticides,

were reallocated to priority water sector and agricultural improvement projects under the ASAL in Pakistan.

Institutional Reforms

A substantial share (62 percent in ASALs and 57 percent in SALs) of agricultural policy conditions have confronted various issues surrounding institutional reforms, including strengthening institutions, modifying the regulatory framework and encouraging competition and privatization. Of these conditions, only 10 percent were judged to be critical for the success of the loan.

- *Strengthening institutions.*²⁷ A notable component of reform efforts in agricultural operations involves strengthening certain sector institutions. In particular, considerable importance has been attached to the strengthening of cooperatives, sector producer associations and the training of staff (e.g., extension agents). The Morocco ASAL (FY85), for example, supported the development of staff training programs for the staff of the Ministry of Agriculture to build institutional capacity for agricultural planning and policy analysis. The ASAL in Burundi (FY89) included a detailed strategy to strengthen the Directorate of Agricultural Planning in the Ministry of Agriculture.
- *Modifying the Regulatory Framework.* Adjustment operations frequently addressed the regulatory framework in the agricultural sector. For instance, reforms have often sought to institute controls on chemical use. In Burundi, the ASAL (FY89) supported the formulation of national regulation on pesticide use. A condition was included in the first ASAL in Tunisia (FY87) to develop and implement a program to ensure risk-free maintenance and storage of dangerous agricultural chemicals used against pests and weeds.

Regulatory conditions have also sought to establish cost recovery programs for farm inputs to increase efficiency in certain subsectors. For example, user fee programs were included in ASALs in Burundi (FY89) and Kenya (FY86) for livestock inputs, and in Pakistan (FY89), Morocco (FY85 and FY88) and Tunisia (FY87 and FY89) for irrigation water.

Licensing requirements for operators at various stages of the marketing chain have also been confronted in adjustment loans. For example, the Tunisia ASAL (FY87) included measures relating to the licensing of olive oil exporters. The ASAL in Burkina Faso (FY92) supported conditions requiring the Ministry of Commerce to ease limitations on the selection of sugar traders. The Morocco ASAL II (FY88) included measures to deregulate flour milling and the oilseed and sugar subsectors. Licensing requirements were also eased for cocoa and citrus exports under the Jamaica ASAL (FY90).

- *Encouraging Domestic Competition and Privatization.*²⁸ Adjustment lending has frequently included conditions that seek to increase competition in the sector by allowing

for freer entry and exit in various agricultural subsectors. These conditions have primarily resulted in reducing restrictions on private operators and cooperative participation in the sector. In particular, parastatal monopolies involved in the collection, storage, distribution and retail marketing activities of several agricultural products have increasingly faced competition as policy reforms seek to reduce government intervention and open up entry into these activities. In Cote d'Ivoire, for example, the ASAL (FY90) included a strategy to promote greater private sector and cooperative participation in input distribution channels. The Burundi ASAL (FY89) likewise supported conditions to strengthen the cooperative movement and steps to transfer retail marketing activities to cooperatives and the private sector. Several restrictions on the participation of the private sector in cocoa and citrus export activities were lifted under the Jamaica ASAL (FY90). The Tunisia ASAL I (FY87) required that the Government allow private sector and cooperative participation in retail sales of seeds. Similar steps were supported in the Tunisia ASAL II (FY89) for the collection of grain.

Some conditions involve the complete withdrawal or the closing of parastatals in particular subsectors. The Ghana ASAL (FY92), for example, requires that Government agencies cease involvement in the provision of agricultural inputs. The ASAL in Burkina Faso (FY92) supports a move to redefine the roles of agricultural sector agencies. In particular, the loan requires that various parastatals withdraw from the stabilization of cereals prices in conjunction with the elimination of official prices for cereals (except rice).

Both Morocco ASALs (FY85 and FY88) include conditions to develop criteria for and implement the closing of state fertilizer sales outlets in areas where private sector participation is high.

Other Non-Price Mechanisms

A substantial body of literature places notable emphasis on the role of non-price factors, such as investments in public goods, technology and research, in promoting agricultural growth.²⁹

Investment in irrigation essentially expands a "fixed" factor in production (land) and increases the options available to farmers. Transportation infrastructure increases the range of products that farmers can market (e.g., perishable goods).

Despite the complementary nature of price and non-price factors in promoting agricultural growth, relatively few conditions have involved non-price factors in adjustment lending. Evidence from the ALCID database indicates that only 6 percent of all policy conditions supported measures to provide incentives for investment and only 2 percent entailed steps to promote technology and research. Roughly half of those countries with ASALs had conditions involving investment promotion and about one-quarter included measures to encourage technology and research.

External Trade

Trade liberalization is closely related to reforms of the domestic pricing regime. Since most agricultural products are tradable, governments would be unable to maintain policies that drive a wedge between domestic and international price levels without trade controls.

Border measures used by developing country governments primarily include quantitative restrictions, such as quotas and licensing requirements, import tariffs, and export taxes. Tariffs and taxes have several advantages over quantitative restrictions. First, they are more transparent than quantitative restrictions: the levels of protection and taxation afforded by tariffs and taxes are more easily monitored than with non-tariff barriers. Second, quantitative restrictions, unlike most tariffs and taxes, insulate domestic markets from fluctuations in international prices. These changes represent important market signals that should be transmitted to domestic operators. Third, tariffs and taxes have the added advantage over quantitative restrictions of generating government revenues. Reforms of the external trade regime, therefore, typically involve converting quantitative restrictions on agricultural products and inputs to tariffs, and then gradually reducing the level of these tariffs.

If trade reforms are applied only in the agricultural sector, however, they could exacerbate the historical bias against the sector by leaving industrial protection in place. When implemented as part of a comprehensive, multi-sector trade reform effort (as in the cases of Ecuador and Mexico), however, they can be effective in opening the economy to expanded trade opportunities.

External trade reforms in all sectors accounted for approximately 13 percent of all conditions in the ALCID data set during the period from 1979 to 1992. Trade policies represented a smaller share of total policy conditions in ASALs than in SALs and other types of lending instruments, as is indicated in Table 7. Indeed, trade policy reforms constituted only 7 percent of all conditions included in ASALs, as compared with domestic agricultural policy reforms which accounted for 62 percent (Table 5). This pattern indicates that adjustment lending directed specifically at reforming the policy regime in the agricultural sector has concerned itself to a smaller degree with the external environment.

- *Quantitative Restrictions.* A substantial share of trade policy conditions involve reducing or phasing out quantitative restrictions. This type of trade reform represented approximately one-third of all trade policy conditions in ASALs and close to one quarter in SALs, as indicated in Table 5. Of these, 7 percent were deemed critical for the success of ASALs and 18 percent were judged critical for SALs.

A common trade policy condition involves easing quantitative restrictions on *imports* or replacing these restrictions with tariffs, which are a more transparent form of protection. For example, ASALs in Ecuador (FY86) and Jamaica (FY90) both call for converting quantitative restrictions on agricultural imports into tariffs. The second ASAL in Tunisia (FY89) supported conditions for replacing import quotas for beef and powdered milk with variable tariffs that provide 15 percent nominal protection. The

Argentina ASAL (FY86) calls for phasing out quantitative restrictions on agricultural imports and converting imports of agricultural machinery from being classified as "prohibited" to the category of imports requiring "prior approval." The second ASAL in Morocco (FY88) included steps to eliminate quantitative restrictions on hard wheat, barley and maize imports.

TABLE 7. TRADE POLICY CONDITIONALITY IN ADJUSTMENT LENDING OPERATIONS						
TYPE OF LENDING INSTRUMENT	Percent of All Trade Policy Conditions from 1980-92					Percent of All Conditions 1980-92
	1979-82	1983-86	1987-89	1990-92	Period ^{f/}	
ASALS	0	43	19	38	100% ^{f/}	7 ^{g/}
SALS	15	17	41	27	100% ^{f/}	13 ^{g/}
ALL LOANS	9	27	40	25	100% ^{f/}	13 ^{g/}

^{a/} Row refers to percent of all trade conditions (total 116) in 41 ASALs over period. For example, from 1980-82, 0% of all 116 trade conditions in 41 ASALs were initiated in loans approved during that period.
^{b/} Row refers to percent of all trade conditions (total 770) in 105 SALs over period. For example, from 1980-82, 15% of all 770 trade conditions in 105 SALs were initiated in loans approved during that period.
^{c/} Row refers to percent of all trade conditions (total 1776) in 361 loans (all loans) over period. For example, from 1980-82, 9% of all 1776 trade conditions in 361 loans were initiated in loans approved during that period.
^{d/} 7% of all conditions (total 1642) in 41 ASALs involved trade policy conditions.
^{e/} 13% of all conditions (total 5752) in 105 SALs involved trade policy conditions.
^{f/} 13% of all conditions (total 13889) in 361 loans in database involved trade policy conditions.
^{g/} Entire period refers to 100% of all trade conditions for each category (ASAL, SAL, ALL LOAN) for the entire period from 1980-92.
 Source: ALCID database. Numbers may not add due to rounding.

Although conditions involving quantitative restrictions primarily cover imports, some reforms seek to reduce similar controls on *exports*. For example, the Ghana ASAL (FY92) calls for the elimination of quantitative restraints on the export of cotton lint and palm oil.

- Duties and Subsidies.* Reforms of trade duties and subsidies have also been frequent elements in adjustment operations. Again, these measures have primarily concentrated on imports rather than exports. Approximately 18 percent of all trade policy conditions in ASALs involve reforms of duties and subsidies on imports, as compared with 12 percent for exports. The gap is even wider in the case of SALs, where 27 percent of all trade policy conditions supported reforms of import duties and subsidies, whereas reforms of export duties and subsidies constituted only seven percent for exports. A very small share (two percent) of these conditions were judged critical for the success of ASALs, whereas a larger share (14 percent) of conditions involving duties and subsidies tended to be more central for the success of SALs.

Trade policy conditions typically involve reducing the levels of subsidies and duties in the sector. For example, the Argentina ASAL (FY86) calls for a reduction in export taxes and tariffs on imported agricultural products and chemical inputs. The ASAL for Burkina Faso (FY92) likewise supports efforts to phase out export taxes.

TABLE 8. CONTENT OF TRADE POLICY CONDITIONALITY, 1980-92			
Percent of all trade policy conditions			
(Figures in parentheses refer to critical conditions as a percent of all trade policy conditions in each category) ^a			
TYPE OF CONDITION	ASALS ^b	SALS ^b	ALL ALCID LOANS ^c
Quantitative Restrictions (import/export)	32 (7)	22 (18)	22 (22)
Import Duties/Subsidies	18 (2)	27 (14)	26 (17)
Export Duties/Subsidies	12 (2)	7 (19)	6 (20)
Import/Export Financing and Credit	1 (0)	4 (6)	8 (20)
Other Export Incentives and Regime	22 (1)	13 (13)	14 (14)
Other Export Institutions and Promotion	11 (2)	10 (8)	11 (10)
Other Trade Policies	4 (1)	16 (3)	14 (6)
TOTAL TRADE CONDITIONS	100 (13)	100 (12)	100 (16)

^a/ Column refers to percent of all 1024 trade policy conditions in ASALs.
^b/Column refers to percent of all 526 trade policy conditions in SALs.
^c/ Column refers to percent of all 1860 trade policy conditions in all loans in the ALCID database.
^d/ Critical conditions have been designated by Bank staff as being crucial policy reforms for the success of the loan. A critical condition is defined as a condition that is central to the main objectives of the loan. Figures in parentheses refer to critical conditions as a percent of all trade policy conditions in each category: for example, 22 percent of all quantitative restrictions conditions in all ALCID loans were deemed critical and 16 percent of all trade policy conditions (in total) in all ALCID loans were deemed critical.

Source: ALCID database. Numbers may not add due to rounding.

External trade reforms in the agricultural sector also typically entail harmonizing effective protection rates between agricultural subsectors and in relation to other sectors so as to reduce distortions in the allocation of resources. The ASAL in Cote d'Ivoire (FY90), for example, sought to equalize effective rates of protection granted to agricultural and agro-industrial products. The ASAL in Kenya supported conditions to establish export and import parity principles in official prices for the agricultural sector.

- *Institutional Trade Policy Reforms.* Other external trade policy reforms supported by adjustment loans include:
 - Import/export financing and credit conditions;
 - Reforms of export incentives and regimes;
 - Conditions involving export institutions and promotion; and
 - Other trade policies.

These institutional trade policy reforms constituted 38 percent of all trade policies in ASALs, 43 percent in SALs, and 47 percent in all adjustment lending operations in the ALCID database. Of these institutional policies, reforms involving export incentives and regimes were the most common, whereas financing and credit policy conditions were the least frequent.

- *Macroeconomic Reforms.* Given the contribution of the sector in the economy and the tradable nature of agricultural products and inputs, the agricultural sector in most developing countries is heavily influenced by macroeconomic policies, in particular the

exchange rate regime. When the real exchange rate is unstable or discriminates against tradables, agricultural production becomes risky and less profitable.

The Krueger, Schiff and Valdés study of 18 representative developing countries over a period of 25 years finds that the indirect tax on agriculture from economy-wide policies, including real exchange rates, averaged 22 percent.³⁰ In fact, indirect effects were more significant than direct effects and offset any existing subsidies, such as those typically placed on inputs. The tax on agriculture arising from economy-wide policies was close to three times greater than the impact of agricultural pricing policies.

Because exchange rate overvaluation has historically depressed the sector, adjustment programs that seek to establish an appropriate policy framework should confront distortions in these influential policy instruments. In fact, it has been argued that exchange rate reforms are necessary for agricultural policy reforms to be effective at all.³¹

Table 1 indicates that from 1979 to 1992, the majority of countries with SALs (37 out of 57 countries or 65 percent) included exchange rate policy reform conditions. Exchange rate conditionality, however, is less common in ASALs. From 1980, when ASALs were introduced, until 1992, only eight out of 31 (26 percent) countries with ASALs contained exchange rate conditions (as shown in Table 2).³² For SALs and all loans in the database, most exchange rate conditions were initiated in the late 1980s. Exchange rate reforms were primarily included in earlier ASALs: half of all exchange rate conditions in ASALs were launched between 1983-86. A relatively smaller share of exchange rate conditions (12 percent) have been part of the more recent ASALs. Roughly one-quarter of all exchange rate conditions were judged to be critical to the success of all loans in the database (including SALs and ASALs), as indicated in Table 9.

A review of President's Reports for several SALs and ASALs reveals that exchange rate policy conditionality tends to take two forms, including (a) adjustments to the level of exchange rates; and (b) structural reforms that seek to steer exchange rate regimes towards more flexible arrangements. Conditions supporting adjustments in the levels of exchange rates generally required the devaluation of overvalued currencies, either by a specific percentage, or, as in the case of two SALs in Burundi (FY86 and FY88), "as needed to maintain external equilibrium."

Structural changes tended to liberalize fixed exchange rate regimes or to link them to freer markets. For example, the first SAL in Ghana (FY87) included conditions to unify fixed and auction exchange rates. Adjustment reforms sought to link official rates to parallel markets and to limit the gap between them in both Guinea (SAL FY88) and Guinea Bissau (SAL FY89). Recent SALs in El Salvador (FY91) and Egypt (FY92) supported conditions involving a transformation of the entire exchange rate regime towards a more flexible framework.

Some SALs contained both types of conditions, including both adjustment and structural reforms. For example, the Bolivia SAL (FY80) supported an initial devaluation of the Bolivian Peso by 25 percent and the conversion of the exchange rate to a managed float regime. The Indonesia SAL (FY89) included similar conditions. Likewise, two SALs in Costa Rica (FY85 and FY89) contained conditions involving steps to devalue the Colon and the implementation of a crawling peg exchange regime.

ASALs primarily included conditions pertaining to the adjustment of exchange rate levels rather than major structural reforms. For example, the Argentina ASAL (FY86) supported a condition requiring Government commitment to periodically adjust the exchange rate. The Tunisia ASAL I (FY87) also included a condition mandating regular currency adjustments. Other ASALs, such as those in Jamaica (FY90) and Burkina Faso (FY92), simply required a macroeconomic framework and exchange rate regime consistent with the objectives of adjustment operations in the agricultural sector.

TABLE 9. EXCHANGE RATE POLICY CONDITIONALITY IN ADJUSTMENT LENDING OPERATIONS						
TYPE OF LENDING INSTRUMENT	Percent of All Exchange Rate Policy Conditions: 1980-92					Percent of All Conditions 1980-92 (percent critical) ^h
	1979-82	1983-86	1987-89	1990-92	Period ^f	
ASALS	0	50	38	12	100% ^g	1 ^h (25)
SALS	11	18	46	26	100% ^g	2 ^h (22)
ALL LOANS	8	23	44	25	100% ^g	2 ^h (24)

^a/ Row refers to percent of all exchange rate conditions (total 16) in 41 ASALs over period. For example, from 1980-82, 0% of all 16 exchange rate conditions in 41 ASALs were initiated in loans approved during that period.

^b/ Row refers to percent of all exchange rate conditions (total 125) in 105 SALs over period. For example, from 1980-82, 11% of all 125 exchange rate conditions in 105 SALs were initiated in loans approved during that period.

^c/ Row refers to percent of all exchange rate conditions (total 273) in 361 loans (all loans) over period. For example, from 1980-82, 8% of all 273 exchange rate conditions in 361 loans were initiated in loans approved during that period.

^d/ 1% of all conditions (total 1642) in 41 ASALs involved exchange rate policy conditions.

^e/ 2% of all conditions (total 5752) in 105 SALs involved exchange rate policy conditions.

^f/ 2% of all conditions (total 13889) in 361 loans in database involved exchange rate policy conditions.

^g/ Entire period refers to 100% of all exchange rate conditions for each category (ASAL, SAL, ALL LOAN) for the entire period from 1980-92.

^h/ Figures in parentheses refer to critical conditions as a share of total exchange rate conditions. Critical conditions have been designated by Bank staff as being crucial policy reforms for the success of the loan. A critical condition is defined as a condition that is central to the main objectives of the loan. For example, 25 percent of all exchange rate conditions in ASALs were deemed critical.

Source: ALCID database. Numbers may not add due to rounding.

Evaluation of Agricultural Policy Conditionality

Implementation

Assessments of the implementation of adjustment operations that address the policy stance towards the agricultural sector yield mixed results. Data from the ALCID database indicate that compliance with sector, external trade and exchange rate policy conditions was reasonable and that between 60 and 68 percent of these actions were fully implemented by the time of the final tranche release for a sample of all types of loans. An Operations Evaluations Department (OED)

overview, however, suggests more modest results in terms of the overall implementation of adjustment operations in the agricultural sector for a sample of 12 loans. A second OED review indicates that for some regions, ASALs had better results than all agricultural projects on average, but that for other regions, the share of ASALs receiving a satisfactory ranking fell below the average for projects in the sector. These somewhat conflicting results are discussed in greater detail below.

- *Evidence from the ALCID Database.* The ALCID database reports data on compliance with policy conditions for a sample of adjustment loans.³³ Implementation status is assessed for compliance at the time of the final tranche release. The implementation of each condition in the sample is classified as "none," "partial," "substantial," "full," or "more than full."³⁴ Because there is a certain degree of judgment involved in evaluating the implementation of conditionality, the results should be interpreted with caution. Nonetheless, the evidence does reveal interesting patterns in policy compliance.

Overall, implementation of conditions involving the policy stance towards the agricultural sector was reasonable and timely. Tables 10 and 11 indicate that implementation rates for exchange rate conditions were higher than those for trade and agricultural policy, although the differences were not sharp.

Over three-quarters of *agricultural policy conditions* in all types of loans were implemented at least substantially by the final tranche release and about 60 percent were implemented fully by that time. Implementation rates for agricultural policies were higher in ASALs than in SALs, which is not surprising given the more sector-specific focus of ASALs as opposed to the economy-wide nature of SALs. Compliance with agricultural policy conditions judged to be critical for the achievement of program objectives was slightly less timely (see Table 11).

Table 10 indicates that for ASALs, pricing and subsidy reforms were fully implemented in over 73 percent of all conditions in the sample and 85 percent were implemented at least substantially as of the final tranche release for each loan. Although the record for SALs is less impressive, with just under half of all pricing and subsidy conditions being fully implemented as of the final tranche release, close to 70 percent of these conditions were implemented at least substantially by that time.

For all types of loans in the sample, 58 of the conditions involving institutional reforms in the agricultural sector were implemented in full by the time of the final tranche release and 78 percent were implemented at least substantially at that time (see Table 10). Execution of these measures appears to have taken longer than compliance with other agricultural policy conditions, such as pricing reforms. This could arise due to the fact that the implementation of many of these conditions requires enacting laws or making more substantive modifications to the overall structure of the subsector.

Compliance with investment promotion and technology/research conditions was reasonable, with 87 and 80 percent of all measures being implemented at least substantially by the time of the final tranche release for investment promotion and technology/research respectively.

TABLE 10. IMPLEMENTATION OF POLICY CONDITIONALITY, 1980-92						
Percent of all policy conditions in each category for which information is available						
TYPE OF CONDITION	ASALS		SALS		ALL ALCID LOANS	
	Full	Substantial	Full	Substantial	Full	Substantial
AGRICULTURAL POLICY CONDITIONALITY						
Percent of all agricultural policy conditions in each category for which information is available						
Pricing and Subsidies	73	12	49	21	60	17
Institutional Reforms	62	21	54	16	58	20
Entry/Exit	70	30	20	20	50	29
Regulatory	30	40	87	0	61	17
Subsector Restructuring	63	16	54	15	58	19
Subsector Planning	70	4	72	14	64	8
Marketing	76	24	58	17	67	23
Other Institutional	65	12	32	32	47	24
Investment Promo/Incentives	66	24	58	25	64	23
Technology/Research	88	13	60	0	73	7
ALL AGRIC. CONDITIONS	68	15	54	18	60	17
TRADE POLICY CONDITIONALITY						
Percent of all trade policy conditions for which information is available						
Quantitative Restrictions (M/X)	70	10	55	31	64	26
Import Duties/Subsidies	57	14	69	10	67	16
Export Duties/Subsidies	80	0	76	6	72	16
M/X Financing and Credit	0	100	79	7	51	26
Other X Incentives and Regime	100	0	61	17	68	17
Other X Institutions/Promotion	75	25	43	14	49	17
Other Trade Policies	100	0	52	15	55	18
ALL TRADE CONDITIONS	78	10	60	16	61	20
EXCHANGE RATE POLICY CONDITIONALITY						
Percent of all exchange rate conditions in each category for which information is available						
EXCHANGE RATE CONDITIONS	100	0	75	8	68	18
Source: ALCID database. Numbers may not add due to rounding. X=export, M=import.						
Data refer to average percents of conditions fulfilled fully or substantially as of the final tranche release. For example, 60 percent of all pricing and subsidy reforms in all ALCID loans were judged to be implemented fully by the time of the final tranche release and 17 percent were found to have been fulfilled substantially.						

Table 10 suggests that the implementation of *trade policy conditions* has been slightly more timely than the execution of domestic agricultural policy reforms. Compliance with conditions involving the reduction of quantitative restrictions on trade has been particularly respectable, with between 81 and 88 percent of these conditions being implemented at least substantially by the time of the release of the final tranche. Table 10 reveals that implementation rates for reductions in export subsidies and duties were higher on average than those for imports. Compliance with institutional trade policy reforms in the ALCID database was fair but the results are mixed: implementation rates ranged from 66 percent of all export institutions and promotion

conditions implemented at least substantially by the final tranche release to 85 percent for conditions involving export incentives and regimes (for all loans in the database).

TABLE 11. IMPLEMENTATION OF CRITICAL CONDITIONS, 1980-92						
Percent of all critical conditions in each category for which information is available						
TYPE OF CONDITION	ASALS		SALS		ALL ALCID LOANS	
	Full	Substantial	Full	Substantial	Full	Substantial
AGRICULTURAL POLICY CONDITIONALITY						
Percent of all critical agricultural policy conditions in each category for which information is available						
Pricing and Subsidies	60	20	70	17	61	17
Institutional Reforms	26	37	65	19	58	20
Entry/Exit	na	na	na	na	na	na
Regulatory	0	100	100	0	67	33
Subsector Restructuring	33	67	57	14	50	36
Subsector Planning	20	20	100	0	38	13
Marketing	100	0	67	33	60	20
Other Institutional	67	0	100	0	75	0
Investment Promo/Incentives	33	67	0	50	33	50
Technology/Research	na	na	na	na	na	na
ALL AGRIC. CONDITIONS	48	33	67	18	56	21
TRADE POLICY CONDITIONALITY						
Percent of all critical trade policy conditions for which information is available						
Quantitative Restrictions (M/X)	75	0	47	37	60	32
Import Duties/Subsidies	100	0	71	14	70	15
Export Duties/Subsidies	50	0	83	0	50	33
M/X Financing and Credit	na	na	100	0	39	39
Other X Incentives and Regime	100	0	71	14	63	13
Other X Institution/Promotion	50	50	33	33	33	25
Other Trade Policies	na	na	na	na	50	50
ALL TRADE CONDITIONS	70	10	62	22	56	27
EXCHANGE RATE POLICY CONDITIONALITY						
Percent of all critical exchange rate conditions in each category for which information is available						
EXCHANGE RATE CONDITIONS	na	na	77	0	71	15
Source: ALCID database. Numbers may not add due to rounding. X=export, M=import.						
Data refer to average percents of critical conditions fulfilled fully or substantially as of the final tranche release. For example, 61 percent of all critical pricing and subsidy reforms in all ALCID loans were judged to be implemented fully by the time of the final tranche release and 17 percent were found to have been fulfilled substantially.						

Results from the ALCID database indicate that compliance with *exchange rate conditions* was more timely than the implementation of agricultural sector and trade policy conditions. About 68 percent of exchange rate conditions in all loans in the sample were fully implemented by the time of the final tranche release. Approximately 86 percent of these conditions had been at least substantially implemented by that time.

- *Evidence from OED Evaluations.* Although results from the ALCID database suggest that implementation of policy conditionality was fair to good, a recent OED overview of structural adjustment operations paints a more sobering picture of the performance of

adjustment operations in the agricultural sector using PCRs and PPARs for a sample of 12 completed ASALs in 11 countries.³⁵ The results of the overview indicate that half of these loans were rated as having "satisfactory" performance and half as "unsatisfactory."³⁶

A variety of reasons were given for the satisfactory performance of six agricultural adjustment loans. Two loans resulted in an increase in agricultural production. Policy reforms supported by the First Sudan Agricultural Rehabilitation Program apparently led to a resurgence in cotton production. The Kenya ASAL evidently helped the entire sector achieve a growth rate exceeding 4 percent. Another source of success was the ability of several of loans in Pakistan, Malawi and the Philippines to assure the availability of agricultural inputs. The ASAL in Morocco achieved considerable fiscal savings and strengthened borrower-Bank dialogue on sector policy issues. The OED review cites that the success of the Philippines ASAL was largely due to the introduction of useful policy reforms in the sector.

A common basis for according an unsatisfactory rating includes incomplete implementation or backsliding on key conditions. Indeed, this type of assessment was made for agricultural operations in Tanzania, Nigeria and Turkey. In some cases, program design was cited as the grounds for an unsatisfactory grade. In Tanzania and Brazil, adjustment operations were apparently too limited in scope and size. In Sudan, the Second Agricultural Rehabilitation Program was described as unsustainable: the OED report cites that "it imposed little conditionality that would ensure the longer-term viability" of the cotton subsector. The audit of the Uruguay ASAL as unsatisfactory concludes that the borrower would have implemented the same policy reforms without the loan.

Another OED Review³⁷ compares the rankings of agricultural adjustment operations with traditional agricultural projects. The findings indicate that in three regions, East Asia and the Pacific, South Asia, and Middle East and North Africa, the share of ASALs ranked satisfactory was higher than the share of all agricultural projects on average. In fact, in these regions, 100 percent of agricultural adjustment operations received a satisfactory grade. In Sub-Saharan Africa and Latin America and the Caribbean, however, the share of ASALs ranked with satisfactory performance was lower than the average for all agricultural projects. (See Table 12).

One lesson that emerges from the OED reviews of ASALs is that the performance of adjustment operations is somewhat country-specific and depends on program design. In particular, the review of 12 ASALs demonstrates the importance of clear, up-front conditionality in program design. The report also emphasizes the role of visible borrower commitment to the implementation of the policy reform program. Government commitment to agricultural adjustment operations depends on several factors including:

- An understanding and acceptance of the program at many levels of the government;
- A clear assignment of responsibilities to various implementing agencies; and
- Institutional capacity for analysis, implementation and planning.

The overview further recommends that ASALs be implemented in the context of a sound macroeconomic policy environment.

TABLE 12. OED REVIEW OF PERFORMANCE OF AGRICULTURAL OPERATIONS, BY REGION 1974-92						
Percent of Loans Ranked Satisfactory in Each Category						
	S-S. AFRICA	E.ASIA/ PACIFIC	SOUTH ASIA	EUROPE/ C.ASIA	M.EAST/ N.AFRICA	LATIN AM. CARIBBEAN
AGRICULTURE	49	71	78	77	73	59
Agr. Ind. & Proc.	22	85	65	88	86	50
ASALs	44	100	100	..	100	25
Area Development	46	65	77	75	44	38
Credit/Finance	46	76	81	79	94	74
Fisheries	40	57	75	..	75	33
Forestry	70	60	86	50	100	33
Irrigation/Drainage	35	70	79	81	76	61
Livestock	32	50	67	83	50	75
Other Agriculture	86	100	75	100	..	100
Perenn. Crops	62	79	100	100	..	25
Research & Extension	40	75	86	75
Settlement	100	67	100

Source: OED Annual Review of Evaluation Results 1992.

- *Impact of Adjustment Operations on Performance.* It is beyond the scope of this survey of lending instruments for policy-based lending in agriculture to provide a thorough assessment of the impact of policy conditionality in adjustment operations on growth in the sector. Nevertheless, preliminary estimates and existing evidence suggest that the relationship between adjustment and economic performance to be somewhat positive but that investment tended to fall under adjustment programs.

Recent assessments of country performance and effectiveness indicate that implementing adjustment programs is a lengthy process, often taking longer than the traditional two-year, quick-disbursing adjustment loan. Moreover, the translation of reforms into improved economic growth seems to occur over the long run.³⁸

In light of the lengthy nature of the process, we examined the agricultural performance of a sample of 14 countries that had received ASALs prior to 1988 in order to allow for a reasonable amount of time for adjustment programs to take effect. A rough calculation using simple "before-and-after" comparisons of real agricultural growth yields somewhat encouraging results. In countries that were recipients of ASALs, the growth of agricultural production *increased* on average from 2.3 percent for the four years preceding the loan to 3.4 percent for the four years following the loan.³⁹ Close to three-quarters of the countries in the sample showed *higher* agricultural growth rates after the introduction of agricultural operations.⁴⁰

While the simple before-and-after comparisons described above do shed light on the impact of adjustment programs on agricultural growth, they do not account for other factors that determine performance. A more thorough analysis would regress real agricultural production on

a variety of other variables. Corbo and Rojas (1992) conducted a more rigorous assessment of the contribution of adjustment programs to overall economic performance (not just agricultural). In addition to the standard before-and-after comparisons like the one described above, they construct a counterfactual scenario using a modified control-group comparison in which they account for various conditions that influence the effectiveness of adjustment measures as well as for country characteristics that play a role in determining the decision to participate in an adjustment program. They apply their analysis to three groups of countries: those with Early-Intensive Adjustment Lending (EIAL), Other Adjustment Lending countries (OAL), and No Adjustment Lending countries (NAL). They compare economy-wide performance over the period from 1985-88 with two base periods, 1970-80 and 1981-84.

Corbo and Rojas find that the simple "with and without" comparisons show that the performance of EIAL countries *improved* relative that of other countries. In the more rigorous test, in which other factors are explicitly controlled, their results reveal that adjustment operations generally *increase* the rate of growth of GDP, the ratio of exports to GDP and the ratio of savings to GDP with respect to the level reached in the early 1980s. However, adjustment programs tended to *decrease* the average ratio of investment to GDP over the level reached in the 1970s. They conclude that the challenge of the 1990s involves creating the policy environment necessary to generate a rise in the ratio of investment to GDP.⁴¹

Future Approaches To Agricultural Lending

Adjustment loans in many developing countries have been fairly successful in moving both macroeconomic and sectoral policy away from the narrow, inward-looking policies of the past towards a more liberal, open approach to economic development. In the domain of agricultural policy, adjustment operations have brought about an important shift from policies that advocate self-sufficiency and market controls to an approach that recognizes the importance of free price signals and market exchange.

Unfortunately, these initial efforts are not enough. Deeper adjustment reforms in agriculture are still necessary. Public enterprises still dominate the sector in many countries. Investment is often misdirected or suboptimal. Cumbersome procedures and state administration still overshadow the transactions of private operators. The prices and trade of many commodities remain under state control. Cost recovery of many inputs is still too low for economic efficiency and resource conservation.

Adjustment lending could still play a role in supporting a deepening of reforms in the agricultural sector. Our review of past experience with adjustment lending indicates that policy conditionality was at least superficially satisfied. For countries in which broad policy reforms have been introduced, the next steps involve deepening structural reforms and instituting measures necessary to revitalize both public and private investment. Without these steps, the

accomplishments of adjustment lending could be lost, and the supply response and productivity gains promised by the adjustment process unrealized.

In many developing countries, adjustment lending retains an important role and could be the preferable tool for launching broad reform measures. Deeper policy changes, however, require a slower process that would permit significant institutional change and strengthening. Furthermore, to reap the potential gains from these reforms, they must be backed up by investments. As experience with adjustment lending has shown, ownership of these reforms and institutional change is crucial for their success. A central challenge for the future, therefore, involves devising alternative lending instruments, that are fully owned by the Bank's borrowers, to support a deepening of policy reforms and revitalized investment in the agricultural sector.

In the following sections we describe fundamental challenges that remain in the agricultural sector and advocate sector investment lending (time-slice financing), along with rural finance and rural poverty projects to deepen reforms, revitalize public and private investment and address issues of poverty and natural resource management in the sector. We believe that these instruments bring ownership because they support the programs, institutions and investments of the borrowers. With time-slice financing, investments are not Bank projects in the traditional sense, but provide support to the borrower's own programs. Likewise, rural finance projects place the decision of private investment in the hands of the private sector, and thus entail a high degree of beneficiary ownership. Rural poverty projects that adopt a participatory approach at all stages of preparation and implementation also constitute a strong form of ownership.

Challenges

The challenges for the World Bank in the agricultural sector for the remainder of the 1990s are indeed formidable. They involve two related areas:

- Deepening policy reforms both internationally and in developing countries; and
- Revitalizing and improving the efficiency of both public and private investment in the sector.

Moreover, these challenges must be met in the face of deteriorating natural resources and extensive poverty in rural areas.

The Challenge of Deepening International and Domestic Policy Reforms

It is now an uncontested aphorism that policy matters. Although the Bank has always recognized the importance of policy, adverse policies in developing countries have been confronted only gradually.

In the 1970s, the Bank attempted to create a more favorable policy environment through traditional enclave projects with conditionality tied to standard investments. The result was general non-compliance. Through these projects, the Bank advocated broad pricing and

institutional reform, but few governments were prepared to face the political fallout of these changes in exchange for the poultry investments involved. During the policy debate of the 1970s, the Bank was much like a dog barking at a passing caravan: annoying but largely inconsequential.

In the 1980s, the Bank had greater influence in encouraging broad economy-wide reforms. The burden of the debt crisis, which was at first the responsibility of the IMF, became the leverage for the Bank's advocacy of structural reform. To complement macroeconomic adjustment, the Bank also initiated external and domestic agricultural policy reforms.

Compliance with adjustment conditionality was reasonable, but reforms were incomplete, superficial or vulnerable to "backsliding." For example, price policy reforms were primarily enacted as price *adjustments* rather than a true abolition of administrative price setting. The possibility for reform reversal, or backsliding, is particularly disturbing given the degree of "adjustment fatigue" that has been observed in many developing countries.⁴²

Moreover, policy adjustment during the 1980s was implemented in the context of an adverse international policy environment. Despite the sound economics of efforts to align domestic prices with their international counterparts, political reality and the doctrine of "fairness" in trade inhibited attempts at "getting the prices right." It was politically difficult to demand that developing country farmers compete with an international trade environment that was rampant with dumping and export subsidies. Instead, in many countries, the Bank advocated a compromise position of seeking price stabilization through the alignment of prices with a slowly moving average of international prices using either a price band (as in Chile) or a variable tariff (as in the Maghreb).

To complement direct efforts to reverse the taxation of agriculture, the Bank pushed for reductions in tariffs on manufactured goods for which international protection was more transparent and foreign export subsidies less prevalent. These efforts resulted in a more favorable policy stance toward agriculture which was justified, at least initially, by the need to compensate for overvalued real exchange rates. For some commodities, however, as exchange rates were devalued and industrial protection was reduced, this justification faded and agricultural protection actually reached high positive levels. For example in several countries in North Africa, agricultural taxation was quickly reversed, leading to high levels of positive protection, as real exchange rates were adjusted and domestic tariffs were increased. This realignment occurred at the same time general OECD subsidization and protection increased.

For the remainder of the 1990s, the Bank must press for deeper *international trade reform*. We must advocate that the best form of foreign assistance involves opening world markets for the products of developing countries. The Bank must applaud the Uruguay Round agreement but, at the same time, emphasize that it is insufficient. The accord has set the stage for a 30 percent decrease in agricultural protection, but this reduction will only take effect by the year 2005. Although the international community is weary from the arduous negotiations and political fallout of the Uruguay Round, the Bank must urge further international policy reform. With reductions in industrialized country protection and subsidies under the GATT accord, developing

country governments will no longer be able to use foreign protection as an excuse to delay the liberalization of their own markets and the reduction in their trade barriers.

The challenge of *domestic policy reform* in developing countries also will be formidable. The GATT accord requires that, by January, 1995, all non-tariff protection mechanisms be converted to fixed tariffs, which will then be decreased by 25 percent over 10 years. This conversion is complicated, however, by the numerous institutions and regulations that were established over the past 30 years to administer an obscure system of protection, price support and stabilization. Farmers in many countries will be subject to international price movements for the first time. Institutions will have to be dismantled and technological change fortified, as farmers in developing countries face increased international competition. In addition, new opportunities will require investments to reap the advantages of market openings. As the largest formal lender to the agricultural sector, the Bank will have an important role to play in guiding this transition and ensuring that the gains from freer trade regimes are realized. The Bank will need to support the deepening of the reforms initiated under adjustment lending and required by the GATT accord.

To meet these challenges, the recent "Agricultural Sector Review" (July 1993) emphasizes a sector-strategy approach and a deepening of reforms. With this strategy, the AGR paper recommends that Bank lending should assist countries in:

- Liberalizing markets;
- Phasing out or improving the targeting of subsidies;
- Privatizing marketing and agroservices;
- Closing and reducing the role of many public agencies;
- Removing barriers to market entry;
- Involving local communities;
- Undertaking targeted programs for women;
- Promoting the sustainable management of natural resources; and
- Testing market-assisted land reform.

The need for this deepening of reforms is not in dispute and is generally well-accepted. The issue is how can this be accomplished when adjustment lending for agriculture has diminished or may not be possible as many countries have "graduated" from adjustment loans.⁴³

Revitalizing Investment

As discussed in the previous section, fiscal austerity measures under adjustment programs have typically resulted in a reduction in public investment, particularly in agriculture. Corbo and Rojas (1992) found that adjustment operations tended to decrease the level of investment as a share of GDP. Their study of economic performance under structural adjustment concludes that "the challenge of the 1990s is to create conditions needed to generate a rise in the ratio of investment to GDP."⁴⁴

In a recent study, (1993) van Blarcom et. al., report that, in countries receiving structural or agricultural sector adjustment loans, public spending on agriculture declined both as a percentage of total spending and in relation to other measures, such as agricultural GDP. Taken at face value, this finding suggests that adjustment had an anti-agriculture effect on expenditures. But these results must be interpreted cautiously, as some of the reduction came in unproductive expenditures and subsidies. Furthermore, in some countries, the agricultural budget was re-instated and re-shaped after the initial stages of adjustment. For example, in Venezuela, although the agricultural budget was severely cut in the late 1980s, the public investment program was increased in the early part of the 1990s with support from the Bank and other multilateral donors.

As emphasized in the 1993 van Blarcom et. al. study, the reform of public expenditures is one of the priority areas for the future. Central government spending alone exceeds 30 percent of GDP in 40 percent of low and middle-income countries. Developing countries also spend a substantial share of public resources on agriculture (on average, 7.5 percent of total government spending). The allocation of these resources must be conducive to the sustainable recovery of these economies in the post-adjustment phase. Unfortunately, most developing countries do not possess strong public administration and wise spending conventions. Evaluation and monitoring of public expenditures is weak and overly-centralized. Budgetary processes are cumbersome and slow. Furthermore, too great a share of public expenditures is still directed at sustaining public enterprises or subsidizing inputs. Recurrent costs continue to be inadequately funded, cost recovery is dismally low, especially in irrigation, and too many support services that could be contracted out to private operators remain with the public sector.

To complement the deepening of policy reforms in a post-adjustment era, the Bank must seek means for bringing about the improvement of public expenditure – a difficult task to accomplish through project lending alone. It makes little sense to invest in a few good projects while the remaining part of the investment program continues to be wasteful and largely unproductive. Since Bank funds operate at the margin, in an indirect sense, the least productive investments are actually being financed by the Bank. A recounting of the experience with the marginal investments in the public budgets of the Bank's borrowers would indeed be a sad chronicle.

Supporting Private Investment

Deepening policy reforms and improving public expenditures are necessary but insufficient conditions for revitalizing private investment in agriculture. Private investment also requires a financial intermediation system to mobilize resources and an institutional structure that permits the sharing of farming risks. Strong financial intermediation is one means to allow farmers to manage risk: credit allows farmers to smooth consumption and thus increases the willingness to take risk. However, by transferring risk to financial institutions, banks that lend to the agricultural sector become less viable. Other risk-sharing mechanisms are needed to allow agricultural credit to be "bankable" and to permit farmers to diversify the means to dissipate risk. Without strong financial intermediation and risk-sharing mechanisms, it will be extremely difficult to encourage private investment in agriculture.

The link between investment and financial intermediation in developing countries has a solid foundation in economic literature beginning with the work of Gurley and Shaw in the 1960s.⁴⁵ More recently Binswanger et. al. (1989) found in an empirical study of India that "commercial bank expansion had a significant positive effect on farmer's fixed investments, fertilizer demand and output." The study concludes that "commercial banks also increase agricultural wages and help reduce the incidence of poverty."⁴⁶

Despite the long and robust evidence of the link between commercial lending and private investments, agricultural credit projects in the Bank have fallen on hard times. Following the famous Levy report and Operational Directive 8.30, the extreme difficulty of processing directed lines of credit has discouraged new credit projects. Instead, a new model of financing credit has been embraced: the apex loan. Based upon the analogy between goods and capital markets, this instrument advocates the auctioning of credit through an apex institution. The theory holds that by auctioning credit, support could be given to the most productive sectors and investments.

Credit markets however, typically possess the problems of adverse selection and moral hazard, which distinguish them from goods markets. These behavioral characteristics can divert credit from its most productive uses. Adverse selection occurs when there is a correlation between the willingness to pay higher interest and the unwillingness, or inability, to repay. Moral hazard is derived from the existence of explicit or implicit insurance either through direct deposit insurance or indirectly through an unwillingness on behalf of governments to allow banks, especially public financial institutions, to fail. As a result, interest rates are pushed higher, and risk-averse banks bear the burden of risk-taking banks under a system of auctioning. The existence of either phenomena destroys the allocative efficiency of auction markets for credit. Pre-selection of banks eligible to bid on the auction market is one method of attempting to avoid adverse selection. Limiting the bidding to only private banks somewhat diminishes the moral hazard risk. But even with pre-selection and exclusively private banks, the risk that bidding will lead to failure to allocate credit to productive investments prevails.

In addition, the principal-agent problem of observation and verification are inherent in banking. The principal (the government or its regulators and shareholders if private) may be unable to observe and verify the conduct of its agents (banks) and the strength of their lending portfolios. In other words, the principal may be unable to conduct a sufficiently detailed audit in order to observe risks taken by banks.⁴⁷ Although the establishment of international standards of prudential reserve would help, these standards are also fraught with difficulty.⁴⁸

The major consequence of apex lending involves a reduction in credit for rural areas where market failures or information of clients and risk-sharing would be most prevalent. In the absence of risk-sharing mechanisms in agriculture and a rural branch network in most developing country banks, the apex-type credit project would result in little credit for agriculture, especially small- and medium-scale farmers. This phenomenon would occur despite the positive economic benefits that could be reaped from commercial bank credit for the sector. In other words, credit allocation under auction would be economically suboptimal.

The challenge, therefore, involves re-establishing mechanisms to provide rural credit without recreating the dismal record of the 1970s and 1980s of de-capitalized rural banks. A balance between general and directed lines of credit should be carefully sought. In the absence of effective risk sharing mechanisms for farmers, especially those working in rainfed areas, however, some form of direct intervention by the state will be needed. The challenge facing the World Bank involves the way in which it should intervene.

The Challenges of Natural Resource Management

The 1992 World Development Report highlights the two-way relationship between development and the environment in countries around the world, and describes how serious environmental problems undermine the goals of development. The report notes that there are two ways in which this phenomenon can happen. First, deteriorating environmental quality, of potable water sources for example, is itself an impediment to the improvement in welfare that development attempts to promote. Second, environmental damage, such as the degradation of soils, the depletion of aquifers and the deforestation of timberlands, can undermine future productivity.

Addressing these natural resource issues is complicated by the fact that they cut across sectors and ministerial lines of responsibility. Water is a particular case in point, as highlighted in the World Bank "Water Resources Management" Policy Paper.⁴⁹ The uses of water are diverse and interrelated. Water management is complex and involves issues of urban and industrial water and rural and agriculture usage. Demand and quality management transcend economy-wide issues of production and trade.⁵⁰ Several ministries are usually involved, including sectoral and broader ministries such as environment and finance.

Although not as clearly broad-based as water sector policies, soil and rangeland management are also complex multi-sectoral issues. The use of these natural resources is influenced by numerous factors, including: conflicting claims for land, the need to build intruding infrastructure such as roads and dams, nomadic and tribal affairs, pricing policies for livestock and even interest rate policy. The benefits of a sound soil and rangeland management program extend beyond immediate resource users and have consequences elsewhere, for example, on the rate of siltation of reservoirs used by cities and utilities. The sector ministry with responsibility for these natural resources may not be sufficiently convinced of these externalities in designing or prioritizing its investment and expenditure programs.

The Bank should seek vehicles to support governments in dealing with these cross-cutting natural resource management issues. Clearly, traditional enclave projects that address the needs of a single beneficiary group are not sufficient. Broad inter-sectoral approaches must be sought. Similarly, a strategy must be established within the Bank's organizational structure that allows for inter-divisional and departmental cooperation in developing inter-sectoral approaches and lending.

The Challenge of Combating Rural Poverty

Alleviating poverty is one of the ultimate goals of the Bank's country assistance strategies. Rural poverty is of particular concern since poverty tends to be worse in rural areas.⁵¹ Furthermore, hunger is symptomatic of poverty. Although measures to address malnutrition need not await development, as directed mechanism can be used, the underlying and permanent solution is to provide the means or entitlements to buy or produce food.

The Bank's strategy for poverty alleviation consists of a two-pronged approach focusing on broadly-based economic growth (to generate efficient income-earning opportunities for the poor) and improved access to education, health care and other social services (so that the poor can take advantage of these opportunities).⁵² Although poverty reduction is not an explicit goal of adjustment lending, adjustment operations support policy reforms consistent with efficient resource allocation and accelerated sustainable growth.

In a recent review of adjustment operations, Maasland and van der Gaag (1992) find that the relationship between living conditions and adjustment lending is weak.⁵³ They also criticize that adjustment policies did not accelerate progress where it is needed most, and recommend that the focus on sustainable poverty reduction should be more integrated into adjustment operations.

A recent OED annual review found that the majority of Area Development projects, which concentrate largely on the alleviation of rural poverty, were not working.⁵⁴ This phenomenon can be seen in Table 11: the share of Area Development projects ranked "satisfactory" falls well below the average for all agricultural projects in all regions. In fact, their rating is the lowest for all agricultural subsectors, at 49 percent judged "satisfactory" compared with 65 percent overall.⁵⁵ OED notes that Area Development projects have proved to be overly complex, hastily prepared, and frequently located in relatively fragile agro-ecological areas in an effort to reach poor populations.

New approaches to fighting poverty and hunger need to be sought. One of the principal challenges for the Bank in the post-adjustment phase involves supporting governments in finding successful means to alleviate rural poverty – that is, to find methods of implementing successful rural and area development.

Instruments for Bank Lending: Future Approaches

These challenges are not new. Before adjustment lending, the Bank attempted to deal with some of them through traditional projects. Others were not widely recognized or were considered beyond the scope of project responsibility. Adjustment lending changed this narrowness of Bank operations and permitted an expansion into country-wide economic policies and difficult but important sectoral reforms. Although adjustment lending was not always entirely successful, as discussed above, it plunged the Bank into an irreversible emphasis on policy reform and key development issues. The notion that the Bank could revert back to simple non-policy oriented project lending is an illusion. The Bank's borrowers have appreciated the policy

emphasis and continue to seek that focus. In the absence of adjustment lending, the challenge for the Bank in making a sustainable impact involves devising lending instruments which will continue to allow it to support the issues described above.

In the following section, we propose and explore four major lending instruments to assist developing countries in meeting these challenges:

- Rural and Agricultural Sector Investment Loans,
- Resource-Specific Investment Projects,
- Rural Finance Projects, and
- Rural Poverty Projects.

Each of these lending instruments should emphasize policy reform and institutional building. Intricate problems require instruments that can deal with their complexity.

Agricultural Sector Investment Loans (ASILS)

For countries that have "graduated" from adjustment operations and in which the need for quick-disbursing funds for assistance with foreign exchange constraints has faded, the combination of deepening policy reforms and encouraging efficient investment can be supported with Agricultural Sector Investment Loans (ASILs). ASILs emerged in the early 1990s as an alternative means for achieving these dual goals.⁵⁶

ASILs typically finance a time-slice of the agricultural investment budgets of borrowers. Unlike adjustment operations or hybrid instruments, ASILs do not provide quick disbursing, direct balance-of-payments support and are intended for countries in which foreign exchange crises are not a primary concern. Policy conditions are generally tied to specific investments and disbursements are often conditional on compliance with reforms in an "action plan." In this manner, ASILs are able to support sector-wide policy reforms, in addition to their role of encouraging investment which has generally suffered under adjustment operations. Policy conditions typically include reforms in the budget and investment selection processes to improve the conditions for productive sector investments in general. They also tend to support a deepening of sector and subsector reforms that generally go beyond the standard adjustment reform formula.

The use of ASILs as a policy-based lending instrument in agriculture has many advantages. They meet the challenge of simultaneously promoting a deepening of reforms and encouraging efficient investment in the sector. ASILs allow for an overhaul of the investment process that includes establishing clear and consistent project selection criteria and improving planning and budget procedures. They draw on the knowledge and expertise developed in Public Expenditure Reviews (PERs) that are regularly conducted by the Bank and borrower. In addition, ASILs serve as vehicles for broad policy reforms and dialogue, adopting the sector-strategy approach advocated in the AGR Agricultural Sector Review.

The disadvantages associated with ASILs are procedural rather than conceptual. First, ASILs have the potential to create an operational nightmare in disbursement, procurement and auditing procedures by financing a time-slice of the public investment budget in the sector. Experience with ASILs has shown that the borrower accounting procedures are not always conducive to meeting Bank standards and guidelines in these areas. Because ASILs generally involve numerous agents throughout the borrowing country, it is unlikely that the borrower will modify entire national accounting systems to conform with Bank practices for a single project. While these difficulties present operational obstacles, they can also serve a role in initiating dialogue between the Bank and borrowers regarding efficient accounting procedures and the complexity of lending operations.

A second complication with ASILs involves the selection of expenditures for financing. Because ASILs finance a share of the public investment budget in the sector, the "project" consists of the entire budget. The borrower must, therefore, appraise each item in the budget. While this can be a cumbersome exercise, it has the benefit of expanding the project appraisal capability of the borrower using Bank technical assistance and provides an opportunity for further dialogue concerning Public Expenditure Reviews.

A third disadvantage involves a possible failure on behalf of the borrower to implement policy reforms supported by ASILs, which could result in substantial delays in disbursements for the investment program. Instead of suspending the operation, however, project design could specify procedures for reallocating funds between investment components if annual supervision reviews determine that non-compliance warrants such an action. These procedures for dealing with non-compliance must be clear and well-conceived.

To date, ASILs have been introduced in Morocco, Tunisia, Costa Rica and Venezuela. The Morocco and Tunisia ASILs have both initiated a planned chain of future ASILs which are intended to provide "seamless" financing in support of policy reforms and investments in the sector. The second ASIL in Morocco is currently under preparation and should be submitted for approval to the World Bank Board of Executive Directors in the near future. Because ASILs have only recently been introduced, it is impossible to quantify the success and effectiveness of these instruments on economic performance, agricultural investment and policy reform.

In this ASIL process, where do traditional projects fit in? Traditional projects should be used in a sense as "pilot" interventions in areas where institutions are particularly weak and need to be developed to a minimum level to handle the time-slice part of financing in ASILs, or where extra technical assistance is required for particularly sophisticated project design, and where high levels of supervision are needed to ensure implementation. These traditional projects should be implemented with the view that they eventually will fold into the ASIL process.

Resource Sector Investment Loans (RSILs)

Resource sector investment loans (RSILs) are similar to ASILs. RSILs would finance diverse sets of investments dealing with a particular resource while addressing inter-sectoral

policy and institutional issues. Currently, Water Sector Investment Loans (WSILs) are in early stages of preparation for Morocco and Tunisia.

An advantage of RSILs is their ability to support diverse investments, including some that would be too small to constitute an individual project, while providing a framework for deepening multi-sectoral resource policy and institutional reforms. RSILs also compel governments to establish coordinating bodies necessary for addressing inter-sectoral issues.

The disadvantage of RSILs, in addition to those involving operational procedures mentioned in the case of ASILs, is that they require coordination between the Bank and several ministries for their implementation and success.

Rural Finance Operations

Strong financial intermediation in rural areas is a necessary condition for encouraging private investment in the agricultural sector. The elements of effective rural financial intermediation include the following:

- A strong and well-managed principal agricultural bank that is universal but specializes in agricultural lending;
- Competition from other banks in rural finance (although in practice this is only likely to occur at the top-end of the scale, with larger and more established clients);
- Risk-sharing mechanisms to encourage productivity, protect the banking sector, and increase competition; and
- "Informal" financial intermediation institutions, such as credit unions and mutual guarantee societies, in which local populations contribute and manage their own equity.

In most developing countries, a single agricultural credit bank has historically dominated rural finance. Several factors, including poor recovery rates of loans, mismanagement, and the view that these institutions can serve as instruments for achieving social objectives, have generally driven these institutions into bankruptcy or made them dependent on periodic transfusions of capital. Low recovery rates are generally caused by the high risk of agricultural production, the practice of debt forgiveness which has destroyed financial discipline, and poor information and accounting systems which hinder efforts to systematically confront the problem of arrears. The social aspects of agricultural credit often involve attempts to compensate producers for adverse policies, such as low producer prices or overvalued exchange rates. These institutions also commonly serve as political tools to purchase the support of influential groups in rural areas.

An important aspect of the deepening of rural finance reforms involves making principal agricultural banks (usually a single institution) financially viable in order to lessen the burden placed on the state's budget. There are several prerequisites to strengthening these institutions:

- Government commitment to restore credit discipline (that is, to not use credit as an instrument of social policy);

- An effective mechanism to deal with covariance risk, such as periodic droughts, and to separate bankable risk from non-bankable uncertainty that would require government intervention (without this mechanism, it is nearly impossible to establish credit discipline); and
- Expansion of banks into broader areas of rural and agro-industrial finance to diversify risk and sources of revenue. This program also requires the normal institutional developments of modern banking, such as computer systems.

This strategy requires the establishment of a risk-sharing mechanism against calamities, such as drought, to manage covariance risk. The World Bank is currently assisting governments in Morocco and Tunisia in developing a calamity fund and an insurance scheme which will be administered by the private sector. The costs of this type of scheme are shared by farmers, banks, private insurance companies and the state. Farmers would pay premiums to private companies for calamity insurance. Banks would accept the normal credit risk of their loans. Insurance companies would accept moderate disaster risk; in the case of more severe risk, costs would be shared by the state and the private insurer.

To reduce the effects of moral hazard, losses would be determined on an area basis, through estimated yield declines for a region or through a neutral indicator such as rainfall. The benefits would be:

- Increased investments by farmers as calamity risk can now be shared;
- A more secure banking system that can be judged against standard criteria of banking performance; and
- Decreased budgetary costs to the state as moral hazard is reduced.

Once risk-sharing against non-bankable risk is established, other banks would be more likely to enter into rural and agricultural finance. During the initial phases of this transition, commercial banks wishing to enter rural finance would require technical assistance, training and lines of credit. World Bank financed rural credit operations should begin this process by opening lines of medium- and long-term credit to banks other than the principal credit institutions. As with principal institutions, these other banks could be recipients of the credit at or near market rates, so as to encourage the raising of funds on the domestic markets.⁵⁷

The financial viability of principal agricultural banks and the entry of other banks will not ensure credit to economically viable small- and medium-scale farmers. The transaction and information costs are too high to attract commercial lending without assistance. Reaching economically viable smaller farmers and rural enterprises, such as artisans, requires either a transaction cost subsidy or informal credit institutions. Although high transaction costs represent a real economic cost, they are excessive because of market failure in information. Transaction cost subsidies would be an attempt to compensate for this market failure. This subsidy would be established on a per-loan basis and would be independent of the loan amount. In essence, this subsidy would compensate for the failure of the market to establish less costly sources of information on clients. These informal banks can emerge as mutual credit unions or societies,

where management and part of the initial equity is generated in the local community. Non-Government Organizations (NGOs) can serve as agents for training and management assistance. The state can help initially endow these small financial institutions with matching grants. This form of informal credit emerged in both developed and developing countries, and is being developed in the poverty-laden mountainous regions of Tunisia.

With this form of institutional strengthening, rural finance projects play a vital role in developing sustainable financial intermediation that reaches smaller viable farmers and enterprises. This strategy can increase competition in rural finance markets. It can also level the playing field for new banks in rural finance markets by addressing interest rate policies and risk.

Rural Poverty Projects

A clear conclusion of the experience with rural development is that the top-down approach has not worked. By involving beneficiaries in program design and by creating greater local ownership of projects, the participatory approach to rural development addresses several of the problems experienced in this more traditional top-down strategy. Few World Bank projects, however, have attempted to use a participatory approach in confronting poverty. Although experience with this approach is limited, some general rules have emerged:

- Successful participation involves not only consultation and decision-making but also contributions either in kind or cash;
- Participation should attempt to involve all beneficiaries both in responsibility and decision-making to avoid free-rider problems; and
- Participation should occur early in project design and continue throughout the life of the project.⁵⁸

For traditional projects, the World Bank primarily coordinates with central governments and standard line agencies. The Bank's approach to projects generally yields turn-key investments in which all expected actions are clearly specified at the time of approval. The Bank's standard project documents, appraisal reports and legal agreements reflect this approach with detailed descriptions of easily monitored actions, costs, and legal commitments.

But these procedures are contrary to participatory operations which require continuous interaction over the course of preparation and implementation. Projects must be designed to be flexible so as to reflect changing local preferences and decisions. Bank lending instruments must adapt to this approach so that they are decentralized and process-oriented in their fight against rural poverty.⁵⁹

Lending instruments must also make poverty analysis an integral part of mainstream economic projects. Social cost-benefit analysis according to the "Squire and Van der Tak" approach has fallen out of favor in project evaluation. With the renewed emphasis on poverty, the Bank needs to find alternative methods of project analysis that allow for judgment between

standard projects and the more poverty oriented projects. Methods exist but have not been standard practice in the Bank.⁶⁰

Conclusions

The post-adjustment period of Bank lending presents formidable challenges. Following the reprimand of the Wapenhans review, the Bank has entered a difficult period of reflection on methods and approaches to development. This period should not translate into a complete abandoning of complex operations in favor of simple, enclave projects. Development is complex, and requires deep policy reforms and institutional strengthening. Simple, narrow projects are not always able to address these complex aspects of development. The Bank must seek methods of dealing with the intricacies of development while creating a favorable environment for the success of the investments it finances.

The foregoing review of policy-based lending in agriculture has found that the process of structural adjustment is far from complete. The reforms that have been accomplished are somewhat superficial and should be deepened. A new opportunity has emerged with the conclusion of the Uruguay Round that will require renewed Bank support for deep adjustment reforms through sustainable operations rather than quick-disbursing instruments. To accomplish this, we have suggested the use of sector investment loans for general agricultural investment operations and for natural resource programs. We have also recommended that rural financial operations be reinstated to encourage private investment and strengthen financial intermediation. Finally, we have suggested that rural poverty projects be promoted but with a participatory emphasis. These are all formidable challenges that will test the capacity of the World Bank in its efforts to support rural and agricultural development.

Endnotes

1. In 1989, agriculture accounted for 32 percent of GDP in low-income countries and 14 percent in lower-middle income economies. (World Development Report 1991). In Sub-Saharan Africa, agriculture was even more important, accounting for over 60 percent of GDP and close to 90 percent of employment in some countries.
2. Krueger (1992).
3. A recent World Bank study of policy stance towards agriculture conducted by Krueger, Schiff and Valdés, which spanned 18 countries and 25 years (1960-85), found that the direct taxation of exports, defined as reductions in the domestic prices of agricultural products, averaged 16 percent for the countries in the sample. Moreover, their results indicate that export taxes constituted the single most important source of revenue from government intervention in agriculture; on average, export taxes on agricultural products accounted for 10 percent of total government outlays over the period. Source: Schiff and Valdés (1992).
4. Krueger, Schiff and Valdés estimate that the direct tax on agriculture due to government price interventions on all goods averaged 8 percent over the period from 1960-84 for 18 representative developing countries.
5. Schiff and Valdés (1992) report that, on average, the direct protection of importables was about 18 percent for 18 developing countries during the period from 1964-85.
6. Krueger, Schiff and Valdés estimate that the net effect of these policies in developing countries was a 30 percent tax on the agricultural sector, including the direct tax from agricultural policies (8 percent) and the indirect tax on the sector arising from industrial protection and macroeconomic policies (22 percent). Moreover, they find that policy distortions in agriculture increased over the period covered by the study: total taxation from direct and indirect intervention rose from a positive rate of protection of 1.4 percent to a tax of 8 percent for importables and from a tax of 35 percent to a tax of close to 43 percent for exportables.
7. Goldin et. al. (1993).
8. Schiff and Valdés (1992).
9. This conversion is to begin in 1995. GATT, Multilateral Trade Negotiations: The Uruguay Round Final Act (December 15, 1993).
10. Adjustment lending involves quick disbursing loans in which borrowers agree to implement a matrix of policy conditions. A typical adjustment loan is disbursed in two payments or tranches. The borrower is generally required to implement some of the policy conditions prior to the release of the first tranche (conditions of effectiveness), some before the second tranche release, and

others, which are required as special covenants, by a specific date or at some time during the life of the loan. Webb and Shariff in Corbo, Fischer and Webb (1992).

11. Balassa (1989) and Corbo, Fischer and Webb (1992).

12. World Bank Operational Directive 1.00, Annex A: Bank Lending Instruments, September 10, 1992.

13. Ibid.

14. ALCID holds data on close to 400 loans to over 80 countries and includes all adjustment loans made between fiscal years 1980 and 1993. Each record contains information pertaining to one condition of a loan. Associated with each record is a total of 18 variables including details regarding the critical nature of the condition, a policy code identifying the corresponding area of reform, an objective code indicating the major economic variable which can be used to measure the ultimate purpose of the action, and timing codes indicating intended and actual dates of implementation. Some information may not be available for each record. In particular, the implementation timing codes are only included for a sample of records. ALCID (August 1993).

A word of caution is in order regarding the interpretation of ALCID statistics. The data set provides no indication of the pace or sequence of policy changes (it instead reveals the timing of Board approval of loans including policy conditions). Nor does it profess to assess the impact or success of these conditions. Rather, the ALCID database can be useful in examining the overall patterns in the content of conditionality relating to key reforms affecting the policy environment in the agricultural sector. To supplement the analysis and provide a more thorough understanding of trends in the content of policy-based conditions, information was derived from several other sources, including *inter alia* background papers for several loans, President's reports, Project Completion Reports, and Performance audit reports. Given the long-term nature of the effects of adjustment programs, time-series data on agricultural indicators would be necessary to examine the impact or success of these reforms. Such an analysis is most certainly warranted but is beyond the scope of this study which focuses primarily on trends in policy-based lending in agriculture.

15. The number of Bank (IBRD) members totals 176 countries as of December 1993.

16. Corbo and Rojas in Corbo, Fischer and Webb (1992). EIAL are countries that have received two SALs or three or more adjustment operations, with the first adjustment operation in 1985 or earlier.

17. These figures are categorized according to ALCID classification criteria.

18. In terms of number of adjustment-related loans since 1980. Source: ALCID database.

19. Classification according to World Bank Country Departments. Data from ALCID database as of December, 1993. Years in parentheses refer to Board approval dates. See Table 2 for a list of countries with ASALs.
20. President's Reports, PCRs and PPARs were used to supplement and verify the information used in the ALCID database.
21. The sample includes all adjustment loans approved over the period from 1979-92. There were a total of 1,860 agricultural policy conditions in 13,889 total conditions in 361 loans in the sample.
22. The ALCID database counts a total of 1,024 agricultural policy conditions in 1,642 total policy conditions in 41 ASALs during the period from 1980-1992.
23. The ALCID database includes 105 SALs approved during the period from 1979-92. There are a total of 526 agricultural policy conditions in 5,752 total conditions in the sample.
24. All except the Brazil ASAL which primarily focussed on reforms of the external trade regime.
25. Source: Schiff and Valdés (1992).
26. It is interesting that the issue of consumer food subsidies was addressed in the Tunisia SAL II (FY92) rather than in the two preceding ASALS (FY87 and 89). Indeed, consumer subsidy programs are often overseen by Economics Ministries because they commonly fall between the cracks in sectoral divisions and are thus omitted in the more sector-oriented ASALs (although ASALs in Tunisia attempted to address these issues). For more details on the self-targeting of food subsidies in Tunisia, see Tuck and Lindert (forthcoming).
27. Strengthening institutions includes subsector planning and other institutional in Table 6 and according to the ALCID database classification.
28. Encouraging Competition and Privatization includes conditions for Entry/Exit, Marketing, and Subsector Restructuring in Table 6 and according to the ALCID database classification.
29. Dethier and Knudsen (1989), Binswanger, et. al. (1989).
30. The measure of the indirect tax includes the effect of exchange rate overvaluation and industrial protection on the price of agricultural commodities relative to non-agricultural products. Krueger, Schiff and Valdés (1992).
31. Dethier and Knudsen (1989).
32. Countries with ASALs that supported exchange rate policy conditions include: Argentina, Ecuador, Malawi, Somalia, Tanzania and Tunisia.

33. Implementation codes are recorded only if a Project Completion Report (PCR) or a Project Performance Audit Report (PPAR) has been prepared for the loan in question. If both reports are available, the PPAR was used for the primary source for the coding of implementation.
34. Each group is further disaggregated into more detailed categories. NONE includes: not done, backsliding, not done due to adverse economic conditions, not done with the agreement of the Bank, and not done but good intentions for future compliance. PARTIAL includes: backsliding, weakened, partial and partial but satisfactory. SUBSTANTIAL includes: backsliding, weakened, substantial and substantial but satisfactory. FULL includes: full but backsliding, full but weakened by economic trends, and full implementation. MORE THAN FULL indicates that measures were taken that surpass the stated condition.
35. World Bank Operations Evaluation Department (June 30, 1992). These loans include two ASALs in Sudan and one in each of the following countries: Pakistan, Tanzania, Malawi, Nigeria, Brazil, Uruguay, the Philippines, Turkey, Morocco and Kenya.
36. Specifically, loans in Sudan, Pakistan, Malawi, the Philippines, Morocco and Kenya were rated "satisfactory." Loans in Tanzania, Sudan, Nigeria, Brazil, Uruguay and Turkey received "unsatisfactory" grades.
37. World Bank Operations Evaluation Department (October 13, 1993).
38. World Bank Operations Evaluations Department (June 30, 1992); Knudsen and Nash (1991) and Corbo, Fischer and Webb (1992).
39. Calculations were based on real agricultural production data from the World Bank World Tables (1993). Countries in the sample include: Argentina (FY86), Brazil (FY86), CAR (FY88), Ecuador (FY86), Kenya (FY86), Madagascar (FY86), Mexico (FY88), Morocco (FY85), the Philippines (FY85), Somalia (FY84), Tunisia (FY87), Turkey (FY85), Uruguay (FY84) and Zambia (FY85). The loans in the sample include only first-time ASALs since most follow-up ASALs occurred after 1988.
40. Countries with higher agricultural growth following the introduction of their first ASAL include: Brazil, Ecuador, Kenya, Madagascar, Mexico, the Philippines, Somalia, Turkey, Uruguay, and Zambia.
41. In Corbo, Fischer, and Webb (1992).
42. Knudsen and Nash (1991) and Dethier and Knudsen (1989).
43. For example, Tunisia and Morocco, both recipients of a string of adjustment loans, have been considered ineligible for further adjustment operations because of their favorable balance of payments situations.

44. Corbo and Rojas in Corbo, Fischer and Webb (1992).
45. Gurley and Shaw (1960).
46. Binswanger et al. "How Infrastructure and Financial Institutions Affect Agricultural Output and Investment in India." Working Paper, March 1989.
47. See Chapter 1 of Jean Tirote's *The Theory of Industrial Organization* (1988).
48. For example, in the setting of the Cook Ratio, government guaranteed loans have zero weight, that is, need not have prudential reserves set against them. By guaranteeing the delinquent loans of public enterprises a government can dramatically improve the balance sheet of a Bank.
49. *Water Resources Management*, World Bank 1993.
50. See Goldin and Roland-Holst in Goldin and Winters (1994) that demonstrates the linkages between trade policy and water management.
51. World Development Report 1990.
52. World Bank Poverty Reduction Handbook (1992).
53. Maasland and van der Gaag in Corbo, Fischer and Webb (1992).
54. Area Development projects constitute 25 percent of agricultural projects and 15 percent of lending for agriculture. Source: The World Bank OED (October 13, 1993).
55. The World Bank OED (October 13, 1993).
56. Another response to this challenge involves the use of "hybrid" loans for countries that still require foreign exchange assistance. A hybrid loan combines and finances both an investment component and a policy component in the loan package. Like standard Bank projects, disbursements for the investment component are tied to project costs. These costs typically cover items in a time-slice of the public investment budget. Like adjustment operations, the policy component is backed by quick-disbursing tranches. Hybrids are often classified and treated as sector adjustment loans because of their quick-disbursing policy component (e.g. ASALs in Tunisia and Turkey). Hybrid loans have the potential advantage of supporting adjustment programs while at the same time encouraging investment, which has generally suffered under traditional adjustment operations. Recent experience, however, has raised some concerns. In particular, the combination of adjustment and investment operations could lead to a corruption of "best practices" in both project and policy goals in that each component could be diluted by the other. Knudsen (December 1989).

57. The termination of market rates is not simple, as there tends to be an absence of long-term domestic money markets in developing countries. Moreover, the mechanism used for sharing foreign exchange risk needs to be established. In Morocco, the on-lending rate is set at the 6 to 12 month money market rate plus a small premium. This makes Bank lines of credit as expensive as the marginal cost of short-term funds. The incentive to use the Bank money comes from the difference in the term structure of interest rates with the general scarcity of longer term money putting a premium on the Bank's line of credit.

58. See Gerson, Philip R. "Popular Participation in Economic Theory and Practice," HRO Working Paper 18, for a discussion of approaches and issues.

59. The recently approved Tunisia Northwest Mountainous Region Project follows such an approach.

60. See Scandizzo and Knudsen (1980).

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Adjustment Lending for Agriculture: Lessons and New Approaches for Economies in Transition

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Introduction

The World Bank initiated structural adjustment lending in 1980 to encourage policy reforms and finance adjustment. Adjustment lending for the agricultural sector peaked in the latter part of the 1980s (Table 1). The Former Soviet Union (FSU) countries became members of the World Bank in 1992. So far, only a few Agricultural Sector Adjustment Loans (ASALs) have been given to Eastern European countries and none to the FSU countries. Clearly, the Bank has very limited experience in adjustment lending for the agricultural sector in the "socialist countries in transition." Yet, it is these countries which need both policy reforms and resources to finance adjustment. Most of the FSU countries are middle-income or upper-middle-income countries where the agricultural sector continues to play an important role in the overall economy (Tables 2 and 3 and Figure 1). Managing transition and adjustment lending for agriculture is critical to improve its efficiency and its contribution to economic development. This paper briefly discusses broad lessons from the Bank's adjustment lending experience for agriculture and the need for new approaches in the context of "socialist countries in transition."

Lessons From Experience

Policy Conditionalities

There is a tendency to overload ASAL operations by including large numbers of diverse policy conditions which are often difficult to satisfy within the agreed time frame. In order to improve their chances of success and economic impact, the number of conditionalities must be limited to a few of the most critical ones, especially those specific to the agricultural sector. However, this requires a careful and sound policy analysis to identify the critical policy conditionalities and to provide a basis for designing the policy matrix.

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Table 1. Trends in Adjustment Lending for Agriculture^{a/}

<i>Region^{b/}</i>	<i>Number of ASALs^{a/}</i>				<i>Total</i>	<i>Number of Countries</i>
	<i>1980-83</i>	<i>1984-86</i>	<i>1987-89</i>	<i>1990-92</i>		
S-S Africa	3	7	3	10	23	18
Maghreb	0	1	3	0	4	2
Other North Africa / Middle East	0	0	0	0	0	0
Latin America / Caribbean	0	5	1	2	8	6
East Asia / Pacific	0	1	0	1	2	2
Europe / Central Asia	0	2	0	0	2	2
South Asia	1	0	1	0	2	1
Total	4	16	8	13	41	31

^{a/} Summarized from a paper by O.Knudsen and K.Lindert entitled "Agricultural Lending in Transition".

^{b/} Regional classification corresponds with World Bank regional departments.

^{a/} ASAL refers to Agricultural sector Adjustment Loan.

Table 2. Selected Economic Indicators for the ECA Region Countries

<i>Department</i>	<i>Country</i>	<i>Population Mid-1991 (millions)</i>	<i>GNP per Capita 1991 (Dollars)</i>	<i>Agriculture share in GDP 1991 (%)</i>
EC 1	Bulgaria	9.0	1840	13
	Cyprus	---	---	---
	Portugal	9.9	5930	---
	Romania	23.0	1390	19
	Turkey	57.3	1780	18
EC 2	Albania	---	---	---
	Croatia	---	---	---
	Czech Republic [∗]	15.7	2470	8
	Hungary	10.3	2720	10
	Poland	38.2	1790	7
	Slovic Republic	---	---	---
	Slovenia	---	---	---
	Successor states of Yugoslavia [∗]	23.9	---	12
EC 3	Azerbaijan	7.1	1670	---
	Kazakhstan	16.8	2470	---
	Kyrgyz Republic	4.5	1550	---
	Russian Federation	148.7	3220	13
	Tadjikistan	5.5	1050	---
	Turkmenistan	3.8	1700	---
	Uzbekistan	20.9	1350	---
EC 4	Armenia	3.4	2150	---
	Belarus	10.3	3110	---
	Estonia	1.6	3830	---
	Georgia	5.5	1640	---
	Latvia	2.6	3410	20
	Lithuania	3.7	2710	20
	Moldova	4.4	2170	---
	Ukraine	52.0	2340	---

— *Not available.*

[∗] *Czech Republic data is actually Czecho-Slovakia data.*

[∗] *Successor states of Yugoslavia data is actually Yugoslavia data.*

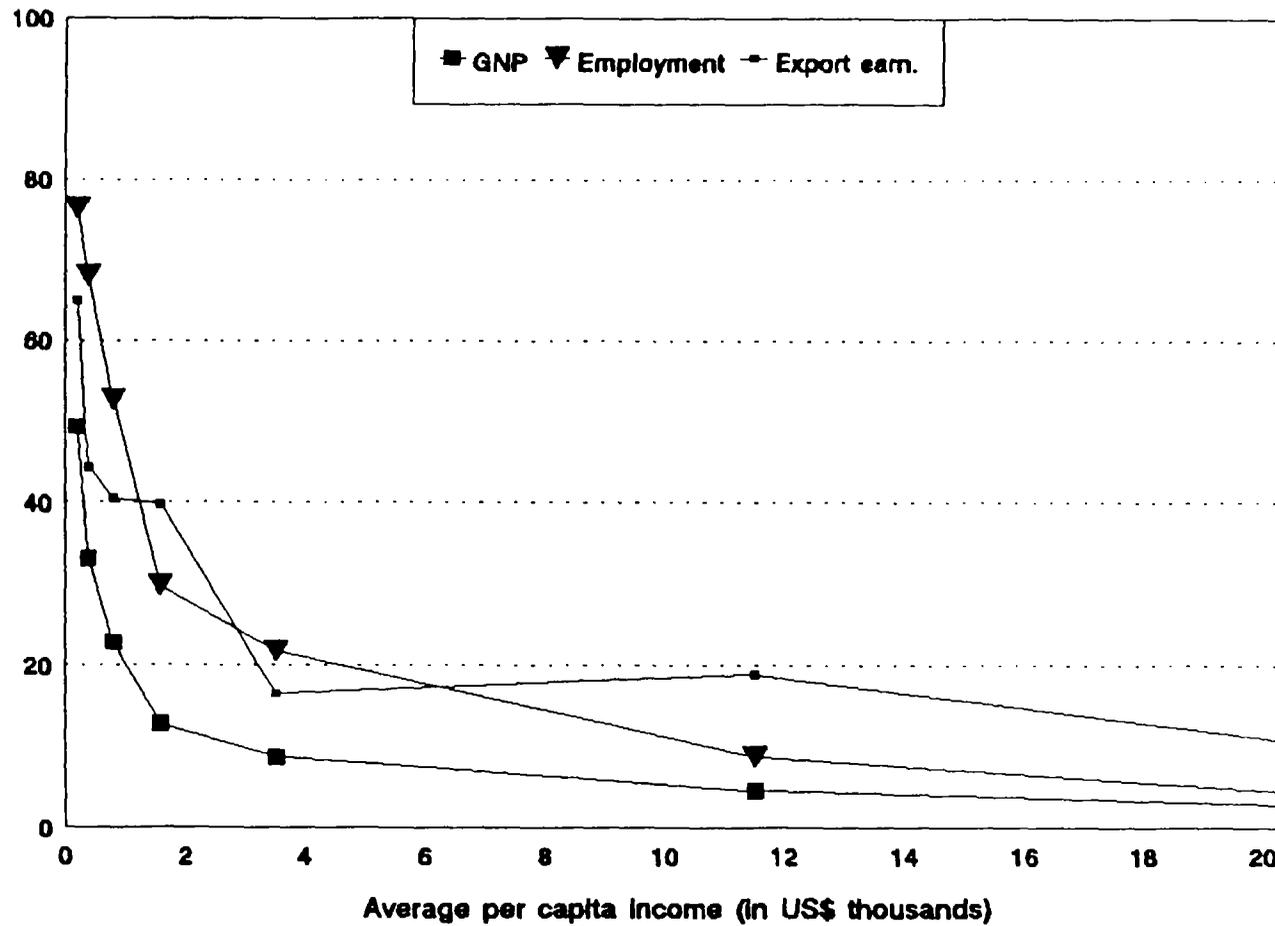
Source: World Bank. World Development Report 1993.

Table 3. Agriculture's Share in National Income, Employment, and Export Earnings by Income Groups, 1989

<i>Country by income groups (US \$ per capita)</i>	<i>Average per capita income US \$</i>	<i>Agriculture Share (%) in</i>		
		<i>GNP</i>	<i>Employment</i>	<i>Export earning</i>
Low Income				
Less than 250	190	49.3	76.5	65.0
251 - 500	380	33.1	68.2	44.3
Middle Income				
501 - 1,000	800	22.8	52.7	40.5
1,001 - 2,400	1,580	12.8	29.8	39.8
Upper Middle Income				
2,401 - 6,000	3,530	8.7	21.8	16.5
High Income				
6,001 - 16,001	11,520	4.6	8.8	18.9
Greater than 16,001	20,460	2.8	4.4	10.8

Source: World Bank. Annual Review of Evaluation Results 1992, Report No. 12403.

Figure 1. Agriculture's Share in National Income, Employment and Export Earnings by Income Groups, 1989



Source: World Bank, Annual Review of Evaluation Results 1992, Report No. 12403.

Commitment to Reform

The policy reform program must be formulated by the country. The World Bank can play an important role in this process through its Economic and Sector Work (ESW) and by sharing the international experience related to agricultural policy. Speed and sequencing of these reforms must fit the country's unique economic and political environment. Reforms must have domestic constituency and necessary political support. Ownership is critical for success. In this context, the Bank's continuous dialogue with the government on the country's agricultural policy reform agenda is essential.

Incentives for Implementation

The Government's commitment to reform must be supported by appropriate incentives for agencies responsible for the actual implementation of the reform agenda and for meeting the ASAL conditionalities. For example, if the Ministry of Agriculture does not benefit (directly or indirectly) from adjustment lending for agriculture, it has little incentive to implement difficult reforms. Historically, the primary beneficiary of SALs (Structural Adjustment Loans) and SECALs (Sector Adjustment Loans, including the agricultural sector) has been the Ministry of Finance. Funds are often justified as balance of payments support and disbursed against general imports which may or may not include imports of critical inputs for the agricultural sector.

Institutional Development

It has now been recognized that adequate institutional development and appropriate implementation capacity are critical for the success of ASALs or any other adjustment operations. This includes, among other things, strengthening of institutions; human resource development; development and enforcement of regulatory framework; and enterprise reform. Most developing countries and "socialist countries in transition," in particular, need technical assistance and training to create necessary implementation capacity and to develop supporting institutions. Yet, the fast disbursing ASALs or SECALs are not considered appropriate instruments for providing slow disbursing technical assistance and training support.

Sustained Policy Effort

Sustained policy reform effort (both broadening and deepening of reform) spread over a longer period is essential for achieving lasting and fundamental reform in the agricultural sector. This is essential because the adjustment process is complex, difficult and slow. Single operations (41 ASALs for 31 countries implies that a large number of these loans were single operations--see Table 1) are not adequate for a sustained effort to reform the agricultural sector during transition. This means there is a need not only for repeated ASALs, but these operations must be complemented by SALs and possibly by other SECALs. A less ambitious, simpler adjustment program is more likely to be successful than a more ambitious and more complex one. Front-loading with policy conditionalities is preferred over back-loading since it reduces the risk of non-compliance and implementation delays.

Creeping Urban Bias

Implementation of economic reform often results in a "profitability crisis," and hence an "investment crisis," for the agricultural sector during the initial years of reform. Furthermore, a large number of agricultural adjustment operations have focused attention on eliminating input subsidies (e.g., fertilizer) without much concern for reforming distorted output prices or the trade regime. Such a policy often leads to adverse terms of trade for agriculture, decline in its profitability and hence a further drop in private investment in agriculture. This "plundering" of agriculture to finance industrialization and provide cheap food to urban residents must be stopped. Private investment is essential to develop productive capacity for efficient agriculture and create conditions conducive for long-term supply response. Public investment is equally essential to support research and development and agricultural infrastructure. Yet, in the public sector, fiscal considerations often outweigh the need to support programs designed to improve efficiency of the agricultural sector.

Suggested Approach

Policy Analysis

Sound policy analysis is essential to define policy conditionalities and develop a policy matrix. In other words, sound policy analysis is central to adjustment lending operations. Yet many countries either do not pay adequate attention to this simple fact or do not have the capacity to carry out such analysis. The latter is particularly true for the FSU countries. One way to accomplish this is to establish a national "Agricultural Policy Group." This group could also serve as the counterpart agency to design and implement agreed policy reforms, and also provide a forum for continuous policy dialogue with the Bank. However, for this group to be effective, it must include representatives from the Ministry of Finance, Ministry of Agriculture and any other relevant agencies. Mexico, China, and now Poland are good examples of this approach in the Bank's adjustment lending program.

Policy Dialogue

While adjustment lending for agriculture is a very good vehicle, it is neither necessary nor sufficient to implement needed policy reforms. Sustained policy dialogue with the government is critical even though it may not result in an adjustment lending operation. Furthermore, the Bank must be prepared to provide policy advice even if it does not meet the "first best" policy criteria but would help the country (in Hans Binswanger's phrase) "muddle through" during the difficult period of transition. Otherwise, the Ministry of Agriculture may choose policies which are too costly, permanent in nature, across-the-board, and not fully transparent. The adoption of such inefficient policies will certainly undermine the overall reform objectives. The "muddle through" policies during the transition, on the other hand, may not be the best alternative to efficient policies but will most likely be superior to inefficient policies which are likely to be promoted by the "agricultural lobby" through the Ministry of Agriculture.

Adjustment Program

There is a need to prepare and implement a package or a program of adjustment operations which should consist of SALs and relevant SECALs. Agricultural reforms are unlikely to succeed in the absence of a stable macroeconomic environment, appropriate structural reforms, and reforms in those sectors which are considered critical to promoting efficiency in agriculture. Some of the critical components of such a package are macroeconomic stabilization policy, financial sector reform, enterprise reform and the development of social safety nets. This approach is particularly relevant for the FSU countries since the Bank is at the initial stages of program development and has the opportunity to prepare and implement such a package of adjustment operations.

Pilot Experiments

The "socialist countries in transition" do not have the experience necessary to design and implement market-oriented policies at the national level. The alternative to the national approach is the use of "pilot experiments" which have been successfully used in China and were supported by the Bank through the Rural Sector Adjustment Loan. This pilot approach takes longer but does provide important lessons and needed confidence to the government to implement appropriate policies at the national level. The advantages of this approach outweigh the potential disadvantages. Current reforms dealing with privatization and farm restructuring in Nizhny Novgorod in Russia are also good examples of this approach. The pilot approach is particularly important during the transition and initial stages of reform when the country does not have the necessary legal and institutional framework or the needed capacity to implement national programs.

Institutional Development

The process of institutional reform is complex, long-term and slow in making needed progress. However, it is so critical to the design and implementation of policy reforms that it cannot be relegated either to free-standing Technical Assistance (TA) loans (which many countries do not like) or to TA components in investment loans. Well-designed TA and training components in the adjustment operations (which may or may not involve cofinancing) can make the difference between an unsatisfactory and a satisfactory operation. If two-year and two-tranche SECAL operations are not appropriate, the Bank should consider (by increasing the length of the operation and number of tranches) operations to incorporate essential institutional development components through technical assistance and training.

Resources to Finance Adjustment

While it is important to disburse Bank funds against general imports to expedite loan disbursement, it may not facilitate the implementation of agricultural policy reforms which the operation was designed to implement in the first place. Financing imports of pre-identified critical inputs for the agricultural sector will not only make these inputs available to farmers (thus improving agriculture productivity), but also will provide necessary incentives to the Ministry of Agriculture to

continue reforming that sector. In addition, the local funds generated from such a loan could be made available for agricultural development, as is being done for the ongoing ASAL operation in Poland.

Conclusions

Agriculture is of fundamental importance in the developing countries of Asia, Africa, Latin America and even in most of the Eastern European and the Former Soviet Union countries. In Russia, for example, the agro-industrial complex is large and accounts for about 25 percent of the gross national product, employment and investment. More efficient agriculture in these countries can also contribute to achieving the Bank's institutional agenda of sustainable economic growth, reduction in poverty, environmental protection, and private sector development. The adjustment lending for agriculture therefore, must address critical policy issues designed to achieve these objectives. In this context, the ASALs can accelerate the transition to a stable economy by providing not only balance of payments support but also by reforming the agricultural sector which is an important sector in most of the socialist countries in transition.

Development Challenges and Opportunities in the Global Village

Ismail Serageldin *

Introduction

Agriculture is the most established sector of the World Bank's mandate and the one with the broadest experience. We were reminded in this symposium's opening session that the Bank's very first development loan was an agriculture loan to Chile in 1948. The work going on in agriculture is some of the most exciting work being done anywhere in the Bank today. This fact has been evidenced in the papers that were presented and the discussions that have taken place here over the past few days.

We are all privileged to be at one of the major turning points in history. The end of the Cold War is bringing about not just a political transformation in the world but also an ideological transformation. The collapse of the centrally administered socialist model is accompanied by a technological and societal transformation that merits the word revolution.

Markets have become integrated as never before. The forces of globalization seem to be unstoppable. Financial markets transact a trillion dollars a day. They buy and sell the equivalent of the whole United States economy every six days. These are such powerful forces that they have created new realities. Countries do not know how to regulate or to cope with such vast and volatile markets. In the last year or so the European countries have found how limited central bank interventions can be. Not only are the new volumes huge, but the nature of the transactions have changed. Capital flows are no longer predominantly tied to goods and services. Financial managers are constantly inventing new products--the very definitions of money and deposits are being overtaken by derivatives, forward transactions, and futures. The idea of a global village seemed quaint just a few years ago, but telecommunications, high speed computers, and financial services are making it very real everywhere.

This globalization and homogenization is not just financial and economic. A good friend of mine from Cameroon told me that he needed to visit his native country to reimmerse himself with his local culture, but when he returned to his village, he found his family watching video tapes of "Dallas." His village is part of a global village. Clearly, a movement is taking place around the world. It is creating a new civil society. It is generating a greater consciousness of environmental issues, and strengthening the momentum towards democratization and greater demand for human rights and gender equity. But it is also fueling the fragmentation of decisionmaking in governments, with the appearance of new groups--whether we call them nongovernmental

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organizations (NGOs) or special purpose groups--in every country in the world. All these developments require new thinking about institutions and functions in society.

Nevertheless, in parallel to all this positive change, the complexity of the situation we are witnessing also includes the forces of disintegration and destruction. Tremendous inequities are taking place in the world. In 1960 the richest 20 percent of the people of the world were 30 times as rich as the poorest 20 percent; they are now 60 times as rich. That today in this incredible world of plenty we still have about a billion people living on less than one dollar a day, many of them going hungry, is an unconscionable reality that we must address. People are struggling with these realities, striving to reinvent governments, to classify the role of the state in a liberal economy. This last is still inadequately understood, and that is very much part of what this symposium is concerned with. We have to be careful not to throw the baby out with the bath water. If the ruthless efficiency of the market as an allocative mechanism for resource use is absolutely recognized, we need to complement that with a nurturing and supportive hand that reaches out to the weak and the vulnerable. I do not mean taking care of them in the sense of welfare and handouts, but reaching out to them in the sense of empowering them, of giving those who have no assets opportunities for access to the rich resources of the global society.

Empowerment brings us to land reform and issues of that kind--access to the factors of production that will increase the returns of assets that are held by the poor: more credit extension, investment in education, health, and services that increase the returns of labor, the single biggest asset that the poor hold.

When they are uncertain about the future, people tend to live for the present, and everywhere today people are uncertain about the future. Technology is no longer seen as the boon that will provide everything. People are worried about the downside of technological innovations. The belief that governments will provide utopias has now, I believe, been shattered almost everywhere. People who do not look forward to the future live for the present; but when the present is uncertain and dire, as it has been because of recessions and unemployment due to sustained problems of adjustment with an inequitable burden sharing among different social groups, people regress to the past. This is not so much yearning for a mythical past that never was but a need to feel secure through closer and closer links with the family and societal bonds in the face of forces that are sweeping past them, beyond their control. In extreme cases, this alienation can lead to civil strife and even outright conflict. Hence, we see emergencies with small ethnic groups breaking down existing institutional structures in so many countries. This rending of the fabric of society is taking place not only in Yugoslavia, Africa, or central Asia, but even in places where we consider development efforts by and large success stories, such as Mexico. There we have seen the emergence of a group of rebellious Indians who felt that they have been bypassed by improvements in society. So, as some people are empowered, others feel disenfranchised.

The New Reality

There are no simple answers. Those who claim to have straightforward answers are deluding themselves. Some say markets will govern the economy; democracy à la the Western pluralistic model is the political system; environment is the program; and human rights is the governing principle. This is a simple solution. Alas, the world is much more complex than that. Michel Petit was right in reminding us that we have to navigate between the policy failures of governments and the market failures of the markets. I will add that we need to look at the differences among national governments, subnational entities, local entities, and supranational entities. We at the Bank, I think, have not yet sufficiently tackled this new multifaceted reality. We are increasingly learning, for example, that water systems need to be addressed as entire river basin systems. But the instruments, the tool kit, that we use is still highly focused at the national level. We are barely beginning to struggle with how to delegate from the national to the local level, but we have not even begun to deal with how to link at the subregional and the supranational.

This set of problems is not necessarily unique to agriculture. They affect the entire context in which we work. But agriculture in particular, I believe, has a major role to play, for it is the key to attaining these goals of environmental conservation, poverty reduction, and food security. Agriculture must be transformed if it is to cope with the needs of a growing population without destroying fragile ecosystems. This transformation must be undertaken with the interests of the poor in mind, and yours will be a major role in the transformation that is required. If poverty and inequities are among our major concerns, then, clearly, the issue of rural poverty cannot be ignored. Yes, we do have massive pockets of tremendous poverty in the cities; and, yes, children in Rio have been assassinated by squads that consider them vermin; and, yes, there are pockets of degradation and human misery in the developing country cities that are rapidly urbanizing.

However, if we look at that lowest 20 percent of humanity that I was talking about, the ones who are falling further and further behind, that one-fifth of humanity who used to be one-thirtieth as rich as the top 20 percent and are now one-sixtieth as rich in terms of income, that one-fifth of humanity who receive only 1.4 percent of the global income as compared to the 83 percent that the top one-fifth receive—the bulk of this group lives in the rural areas. Reduction of rural poverty, primarily in South Asia and Sub-Saharan Africa, running at approximately 60 percent of the rural population, is what adequate transformation of agricultural policies should help eliminate. We have to look at more than just increases in production. These are important, but more important are increases in the well-being of people. It is here that perhaps the theme of this conference becomes so relevant.

We have been reminded by Schiff and Valdez, for example, that the distortions arising from inappropriate macroeconomic and industrial policies accounted for a huge amount, almost 40 percent, of the transfers from the agriculture GDP to other sectors. Almost half of agriculture's GDP is being lost or transferred out of that neediest part of the economy. It is a

huge tax on the poorest people. As we address these problems, we need the insights that come from looking back and learning from the lessons of our experience from 1960 to 1980. These lessons need to be brought to bear on the challenges of this changing world. Structural adjustment does create challenges and opportunities. The dramatic advances in telecommunications, democratization--these, too, challenge us to think in new ways to involve stakeholders, to create new structures for decisionmaking to enable us to make the interventions that will support large scale reduction in poverty. We cannot accept the continuation of the misery that we see everywhere.

Meeting the Challenges of Change

I am happy to note that you are rising to these challenges, and that so much already is taking place. Addressing land issues, land tenure, communal property, and property rights are some of the complexities associated with the new reality. Others include the problems of dealing with a hunger agenda formed out of recognizing the role of food, food pricing, and subsidies and the link with health, and how all these link with rural poverty, marketing, food production, and incomes. We are thinking in broader frameworks. Take the sector investment loans. Whether in the Maghreb or in Zambia, such loans may be costly up front, as people have said in this symposium, but they certainly help to provide a framework for aid coordination and for implementation of new policies and practices. Revamping institutions of irrigation in Pakistan, for example, which is, after all, what institutional development is all about-- this, too, is a key to implementation, to empowerment of the poor, and to addressing rural poverty.

All of these very exciting developments are the products of the work of this group. You are addressing these issues with creativity and boldness and a recognition of the need for change. I am happy to note, too, that we are focusing on implementation. Institutional development is key to implementation, if we want implementation to change people's lives for the better, not just getting something built on time and within budget. For example, there is a real need for rural credit institutions that actually reach the rural poor. We do not need more ineffective and parasitic institutions, whereby deposits were taken from the farmers and then passed on to rich people to speculate in real estate. And when the farmers then needed credit, they were told that it had to be rationed. These kinds of institutions cannot simply be ignored; they must be replaced by real, effective institutions. The kind of work that is being done today is, in fact, focusing on building such viable institutions that will be the keys for implementation of positive change. This is what we are all about.

More effective designs, with real "ownership" by the stakeholders in the countries concerned, are essential. We must invest the time required to understand the context within which we work and to empower those who are the likely beneficiaries to take charge and to become, in fact, producers of their own welfare, not the recipients of aid or of charity.

It is not hyperbole to say that the world today is awaiting your work. Because, if, indeed, the North has the power of the money—83 percent of the world's income goes to the top 20 percent of the world's population, roughly corresponding to the OECD countries—it is equally true that 80 percent of humanity are not part of the North. Only the World Bank works everywhere with that 80 percent. Only the World Bank, even after years of declining lending to agriculture, still commits close to \$4 billion annually for agriculture, representing, in terms of total investment, between 5 and 10 billion dollars a year. Working with other donors, the World Bank has and can assemble the collection of talent needed to address the problems of the agriculture sector. The World Bank has contacts with all the donor agencies in the world. The World Bank has the capacity to link what is happening in agriculture with the macroeconomic framework, with industrial policies, with human resource policies, with issues of health and hunger, because the Bank is a global institution, not just geographically but also in terms of developmental challenges.

My friends, despite all that has been achieved, I do not think we can be complacent in this time of change. Nor can we delude ourselves that an ideal framework exists that we can just apply to solve the problems. I think that you agree. I believe the challenges are recognized by everybody here as very real, and they will need your talents, your creativity, and very much your artistry—to borrow that word from our keynote speaker. Artistry to find the suitable balance in the role of the state to fashion the wise constraints that make people free—free from hunger, free from degradation, free to be all that they can be.

If I seem to soar with you on the vision of what we can do, I know, too, that we have to be humble about what we can achieve. Ours is a supporting role, for real and lasting change must come from the people concerned. But humility in this context means that we must try. We have to dare to be bold and to recognize that we risk failure, but so what? It is better to have tried and failed than to have failed to try. I am confident that this team will rise to this challenge. And I am proud to be associated with all of you in this very important and essential enterprise.

Agriculture in Liberalizing Economies

Michel Petit*

Introduction

My purpose at the end of this Symposium is to reflect on the lessons which we in the World Bank agriculture sector can derive from this Symposium, given the radical change in the role that governments should, and begin to, play in the promotion of agricultural development. This is a real challenge because governments have a long tradition of extensive and deep intervention in agriculture. We know that, in the past, this intervention has been excessive. We also know the importance of development from the bottom up. Yet the Bank has an inherent bias for top down actions, not because of ignorance but because of its institutional character. It lends to governments or with the guarantee of governments. So clearly the change in the role of governments is a direct challenge to our ways of doing business.

Defining the relative roles governments and the private sector have to play to ensure sustainable economic growth is perhaps one of the greatest challenges facing the development community today. In particular, the ongoing transition from planned to market economies occurring in Eastern European countries and the newly independent states of the former Soviet Union has sharpened the focus of our attention on the appropriate role of the public and the private sectors in the economy. Similarly, the escalating fiscal deficits in many developing countries have increasingly redirected attention to market liberalization and privatization options.

While this issue is a matter of great urgency today, it is also the topic of one of the oldest debates in economics. Adam Smith's invention of the invisible hand was in reaction against the prevailing convictions among the mercantilists that governments had a very important role to play in determining the wealth of nations. This conviction was widespread in my own country, France. It has been historically a strong component of the national culture, from Colbert, who promoted the development of manufacturing in the 17th century, to President Pompidou who was very instrumental in bringing about the modernization of industry in the 1970s.

Between the invisible hand of Adam Smith, according to whom the pursuit of private interest leads to the public good, and the heavy hand of government intervention, the challenge is to define the proper role of government as that of a helping hand, promoting economic development. There are many examples of such a helping hand playing a critical role: from the creation of a customs union, the *zollverein*, at the beginning of the German unification process, to the modernization of Japan following the Meiji revolution. All of these demonstrate that governments do have roles to play in certain functions of a country's economic and social life,

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even if the pendulum has recently swung toward a contraction of the role of the government, leading to the current emphasis on privatization.

My presentation will be divided into two main parts: First, I would like to present a conceptual framework, which I believe can help us in conducting a clear and orderly discussion of the issues. Afterwards, I will apply this conceptual framework to the promotion of agricultural development in developing countries, and in this process draw the main lessons from this Symposium.

Conceptual Framework

The debate about the proper role of government revolves around the duality of market and government failures. Market failures legitimize government intervention but policy or government failures lead to a reassessment of the roles of government. There is indeed a contradiction between the implications of these two types of failures. Thus the conduct of policy, as we were told at the beginning of this Symposium, is indeed more an art than a science. One must choose the proper balance between the pressures for government intervention resulting from market failures and those for reducing government interventions because of government failures. Accepting the resulting ambiguities is challenging for us in the Bank for two significant reasons. First, they are opposed to the dominant internal culture of the institution. We believe that we are the best, which implies that we know what is the best to be recommended to governments. If the conduct of policy is more an art than a science, determining what is best will very much be a matter of judgment and therefore, there is no universal rule that can objectively dictate what "best" is. The second challenge comes, as our keynote speaker also indicated, from the fact that we are very dependent for the conduct of policies on the existence of good artists as policy makers in developing countries. If good artists are not conducting the policies to be implemented, there is very little we can do to improve the situation.

Market Failures

Optimally (i.e., if governments could be trusted to be effective in their pursuit of the public good) the nature and extent of their intervention would be largely dictated by the nature and magnitude of the market failures prevailing in the sector; these include (i) the case of public goods, (ii) the presence of externalities, (iii) moral hazard problems, (iv) infant industry situations, and (v) the existence of monopolies. Let me briefly touch on each one of these:

- The very nature of PUBLIC GOODS prevents private sector provision because of the difficulty of restricting use to people who have paid for them and because their supply is not reduced by the consumption of others. Since private firms find it unprofitable to produce these goods and services, it will be left to the government to provide them directly or to finance their delivery, while using its powers of taxation to make all

direct and indirect beneficiaries pay for these goods and services. Government provision becomes especially relevant in circumstances where the risks are so high that potential investors are simply unwilling to assume those risks, or in such instances when the market is inadequate to carry the ventures through into development. The inadequacy of the financial markets available to the newly-private farmers in the countries of the former Soviet Union is an example. Also, there are the more obvious public goods. In agriculture, these include most infrastructure, education, basic research and public information. But even in those cases, delivery of some services may be contracted out by the government to private entities or local user groups. In all situations, concern for general human welfare, particularly the alleviation of poverty, should be addressed with the most urgency. To paraphrase Mahbub ul Haq (1992) at a previous Bank agricultural symposium, we must not allow the demise of socialism to be the demise of our social objectives.

- When EXTERNALITIES are present, the case for government intervention (not to be confused with government ownership) is very strong because individuals will not take into account the positive or negative effects of their actions when deciding what levels of services they should produce or consume, with the result that either too little of the service is produced or consumed, in the case of positive externalities, or too much is produced or consumed, in the case of negative externalities. Government intervention can go a long way toward correcting such imbalances and resource misallocations with measures including either the enforcement of regulations and/or taxation to reduce the negative effects of particular activities. Regulatory control of environmental pollution, or the subsidization of underconsumed services – such as vaccination programs against contagious diseases – to raise usage levels to socially optimal levels are examples of positive government intervention.
- MORAL HAZARD PROBLEMS become critical for commodities whose quality cannot be explicitly evaluated, thus creating incentives for producers to supply substandard products. In most cases, substandard products can have deleterious effects on consumers, leading to the need for effective regulation and quality control.
- Similarly, government intervention to regulate MARKET MONOPOLIES are necessary, though incentives to encourage competition do not necessitate the establishment of public control over such functions.
- Finally, the promotion of INFANT INDUSTRIES provides temporary justification of government subsidies to particular industries. Such short-term government protection derives from economies of scale and time, which makes operations uncompetitive in the initial stages of the firm's or industry's development, but where there is reasonable hope of profitability in the longer term.

Government Failures

To analyze government failures, it is useful to refer to the contribution of the "new political economy," i.e., a body of literature developed in the 1970s, beginning with Stigler's theory of regulation (Stigler, 1970). The thrust of Stigler's contribution can be expressed by the following quotation: "As a rule, regulation is acquired by the industry and operated primarily for its benefit." This illustrates that even though regulations are claimed to be imposed for the sake of the public good they actually very often serve private interests. Stigler suggested that this results from the cost of information. Those having a high stake in the issues being debated and on which decisions have to be made by government authorities, find it worthwhile to seek relevant information and to act, whereas those who have limited stake in the issues do not bother to become informed and do not seek to influence public decision makers.

A second set of explanations has to do with the cost of organization. It draws heavily on the seminal work of Mancur Olson (1965) on the theory of collective actions. The key concept of Olson's theory is that of the free rider, an agent who benefits from the action of a group but who avoids paying for it. As a result of this threat, a major aspect of collective organizations' behavior is the invention of various schemes designed to minimize the "free-rider" problem. For instance, associations often sell mutual insurance services, in addition to engaging in lobbying activities, for the benefit of their members. Members could benefit from the lobbying without paying any fee, but they will not be covered by the insurance unless they pay the insurance premium. The membership fee is inclusive, it covers the cost of all the services provided by the association, including insurance and lobbying.

Another trend in the new political economy is rent seeking behavior, illustrated by such authors as Krueger (1974), Buchanan and others (1980). They have shown that it is profitable for many agents to allocate resources to, and engage in, activities designed to capture rents resulting from government interventions in the economy, through regulations, for instance. It turns out that most of the empirical evidence on Stigler's theory of regulation came from the behavior of democratic governments, particularly that of the United States. The merit of the literature on rent seeking is that it shows that such behavior has been widespread through time and across countries. The main thrust of the rent seeking literature, however, is to point out that the resources which are allocated to seeking rent are socially wasted because rent seeking activities are socially unproductive.

These various contributions are very useful as they explain that very often governments' actions, presented as seeking the public good, in fact, serve private interests. They also explain the possibilities for widespread corruption of public officials. However, they have serious limitations which, I believe, are linked to their static characteristics. A major implication of this body of literature, emphasized by its main developers, is that government intervention is generally bad. For instance, Mancur Olson, in a very ambitious book, devoted to the rise and decadence of nations (Olson, 1982), argues that the decadence of nations is essentially due to the fact that they

crumble under the weight of new regulations which are brought about by the relentless activities of rent seekers putting pressures on, and buying out, government officials. This leads to a posture very opposed to government intervention which frankly seems excessively ideological. In my own work on agricultural policies in Europe and the United States, I have found inspiration in the work of Graham Allison on the Cuban missile crisis (Allison, 1971). Allison proposes a more dynamic perspective than the authors of the new political economy. To explain what happened in that particular crisis, he combined several decision models, in particular, two models which he calls "organizational" and "bureaucratic." The main result of Allison's work is to consider policies as "resultantes" of economic and political forces in the same way as in physics several forces combine into a "resultante force". This approach provides a dynamic perspective, giving insights into why policies are what they are and also explaining why sometimes they may be good.

This can be illustrated on one example close to our hearts, by applying the general framework of the new political economy to the World Bank itself. We know very well, sometimes painfully well, that the policies of the Bank and the decisions it takes are the result of various economic and political forces, notwithstanding what the Articles of Agreement say about it. In this context, one result of these forces appears somewhat miraculous: the fact that the ultimate objective of what we do is indeed the alleviation of poverty in developing countries within, of course, a narrow margin of maneuver restricted by many constraints. That result is miraculous because it is difficult to believe that any one of the governments which are the shareholders of the Bank and which are represented on the Board gives a high priority to the alleviation of poverty in developing countries. I take this to illustrate that there is reason for hope. Similarly, when looking at individual countries, there are no doubts that progress has been made, thanks to government intervention.

But the main conclusion I want to emphasize from this intellectual framework is that defining what policies we should recommend is very often a matter of judgment between the conflicting pressures arising from the existence of market failures and government failures. Let us explore now how this conclusion helps us to understand the main lessons from this Symposium.

Application: Consequences for World Bank Activities in the Agriculture Sector

The starting point and the general consensus of this Symposium is that we should have less government but better government. This general proposition applies to, and has been specified for, a variety of areas of government intervention, which have been examined.

The Articulation of Macro and Sectoral Policies

The key lesson here is the critical need for consistency. Indeed, however necessary it is to get the macroeconomic fundamentals right in any policy reform process, this is not sufficient. The great danger is to use oversimplified models of economics and to neglect the political economy altogether. The interrelationship among economic variables through time are very complex and this explains why sequencing of reform, for instance, is essential, as Alberto Valdes reminded us of through his comparison of the reform processes in Chile and New Zealand. Similarly, Vinod Thomas demonstrated very convincingly that the choice between gradualism and "Big Bang" approaches is not a proper formulation of the choices which are really confronting decision makers in governments. Yet, this formulation of the question dominates the current political debate on aid to the countries of the former Soviet Union. The analyses presented at this Symposium, however, have demonstrated eloquently that the choices to be made are much more complex.

Different reforms involve different time lags and the dynamics of the process are critical, as relationships among economic variables change through time. For example, it is essential to recognize the importance of variations in the exchange and interest rates on agricultural policies, since these macrovariables directly affect the terms of trade faced by farmers and their evolution through time is not simple and straightforward.

We should thus understand that policy makers may, at times, be subjected to very strong pressures from agricultural interests, for special treatment and protection. The political economy process also explains why the pressures for reducing public expenditures lead to reduction in the provision of public goods such as infrastructure, social services, research and education, etc. In other words these pressures lead to less but worse government.

The lessons of this discussion are important for operational agricultural colleagues. They need to monitor very closely macroeconomic developments, the evolution of macroeconomic policies and their consequences for the agricultural sector. This has an important implication for the desirable skill mix in Sector Operation Divisions: in particular it illustrates the importance of having very good economists capable of conducting complex analyses. A second implication of this discussion is that, as emphasized in the agricultural sector review paper approved by the Board last Spring, a reorientation of public expenditures is very often called for. The World Bank is probably the outside agency which can have the greatest impact on such reorientation through policy dialogues with government officials and the leverage of its lending. We must, however, recognize that our record on this score is not very good. We have seldom been able to convince governments to make the radical shifts which would be justified.

Land Property and Land Tenure Security

In discussions of the role of governments in the promotion of economic development, land issues have long been the most controversial. For a long time, the ideological debate around agrarian reform has been extremely polarized. It is comforting to observe that, after a long delay, the time seems to be ripe to take a fresh look at the issues and to recommend actions which should be positive. The main lesson of the Symposium session devoted to these issues is that if the policy and institutional framework is adequate, allocating individual property rights to land provides a powerful tool to create gainful employment, reduce poverty and improve the nutritional status of the poor, and increase output and efficiency. Note that this statement, on which there is probably a broad consensus today, would have been almost provocative only five years ago. A more specific lesson to be derived from this Symposium confirms that collective forms of agricultural production, in contrast to service cooperatives, are not efficient. Various legal changes have been made in Eastern European countries to transform production structures. Various forms of collective and individual production units have emerged and the process remains very dynamic. But the evidence provided illustrates also that the formal change of legal framework, although necessary, is not sufficient. The behavior of economic agents depends on the incentives which they face. The changes in the legal framework alone does not lead to a "better incentive structure" if the distribution of power in the countryside is not really altered.

Thus the process of structural changes will be slow and complicated. Government interventions will continue to be necessary to ensure that the process leads to greater efficiency and equity. The examples of Sub-Saharan Africa, South Africa and Mexico, presented at the symposium, illustrate that progress is possible. It is often too slow, but it can be enhanced by judicious government intervention.

Land markets alone may not necessarily lead to efficiency-enhancing land transfers at the speed required because of the imperfections of intertemporal markets. This provides the rationale for partial grants to the poor in order to empower them to buy land, as is contemplated in South Africa. The cost for the public Treasury is, of course, an important consideration to bear in mind given the numerous other demands on the public Treasury. When framed in terms of cost-per-job created, however, the picture changes significantly. The idea of partial grants facilitating a market-friendly land reform process is interesting. It may offer a very exciting opportunity for the Bank to become active again on this matter, and the evolution of the debate in South Africa must be monitored closely.

The evidence from Africa suggests that, while security of land ownership is extremely important to increase investment and facilitate access to credit, the ability of communal tenure systems to provide such security has generally been underestimated and this, of course, has very significant policy implications. In Mexico, the land reform process has been underway for decades, since the revolution at the beginning of the 20th century. Mexico's most recent reform of the *Ejido* system will give a greater role to market mechanisms and this will facilitate

adjustments. In a sense, this reform consolidated the process of change which took place over many decades. Looking back, however, the contrast with the system which existed at the beginning of the century is striking. The political dimension of those changes, including the current provision giving important roles to the participation of local communities, cannot be overstated.

To conclude on land issues, it is worth emphasizing that they constitute an area for continued government intervention if only to ensure a good functioning of market mechanisms. Clearly those issues are highly sensitive and political considerations are overriding. However it is comforting to observe that we in the Bank may have a very useful role to play in supporting governments attempting to bring about the necessary reforms.

Decentralization of Agricultural Support Services

The main lesson of the session devoted to this theme is that the decentralized provision of support services can free up government resources and at the same time increase the efficiency of the services provided. This is an area where the analysis in terms of public good and externalities is useful. Most specifically in the case of agricultural credit, decentralization is particularly important to reducing transaction costs, if the credit needs of the poor in rural areas, including farmers, are to be satisfied. In the past, attempts to address credit needs based on subsidies, particularly interest rate subsidies, have backfired. They actually led to very high transaction costs. The real challenge is now understood to be the establishment of sustainable rural credit institutions. In this perspective, much can and should be learned from the providers of informal credit, particularly the mutual credit schemes such as the Grameen Bank. The key here is institutional development rather than subsidies or price interventions.

Water users associations can relieve government from the need to engage in day to day management of water resources. This requires an appropriate regulatory framework to deal with externalities and moral hazard problems. However experience with water users associations is very mixed. There are many failures and many successes. The consequence for us is that this is an area where identification of the best practices is important. Defining precisely the proper role of government remains an important task: I am pleased to note, however, that the evidence presented at this Symposium is fully consistent with the main orientations given by the water resources management policy paper recently approved by the Board.

For pesticide use, a regulatory framework is important not only to protect producers' health but also to maintain access to international markets for high quality produce. Pingali and Rola, the authors of the paper which was presented, recommend the use of various instruments tailored to the variations in local or even national situations. The instruments considered include the banning of highly hazardous chemicals, selective taxation to make the liberal use of chemicals expensive (i.e., to provide compensation for environment and health related externalities) and training farmers in the judicious and discriminate use of pesticides. This paper also offers two

interesting lessons about the role of research. First, the research on which the paper is based, namely the relationship between insecticide use and productivity of rice in Indonesia, is itself interesting in that it supports the policy recommendations which are made but also, as the authors are careful to point out, because it shows clearly that the results cannot be generalized to other crops in other countries, thereby illustrating the need for a strong research base for proper policy formulation. Secondly, the case of integrated pest management emphasizes the need for public research and this conclusion is strikingly similar to that derived from the paper presented on the Chinese experience where withdrawal of governments from financing basic research, an essential public good, is shown to have very deleterious long term effects. The general lesson that can be drawn from this session is that also in this traditional area of government intervention, reassessment of the role of government is needed. In many cases this will mean retrenchment but there are enough market failures, needs for public goods, needs for regulations, and externalities for the government to continue to have an important role to play.

Agricultural Market Liberalization and Privatization

The processes involved in liberalization of input and output markets as well as in the provision of the framework for such liberalization are always lengthy. But they are absolutely necessary if agricultural investment and growth are to occur. The case of Russia, which was presented, illustrates that the continued presence of subsidies and regulations propping up state monopolies, along with inefficient processors and the lack of infrastructure, can explain the slow process of market integration and the insufficient transmission of higher prices to agricultural producers. The analysis of this phenomenon also illustrates the existence of formal or informal structures protecting local markets, thereby creating institutional rents which are very difficult to eliminate.

The privatization of the sugar sector in Mexico can only be understood if it is placed within the comprehensive program of policy reforms implemented by that country. This includes privatization of property rights, phasing out of subsidies, and elimination of government controls in key sectors, including the agricultural sector. This case presents a vivid illustration of the problems and pitfalls involved. It shows the complexity of the issues and the high political stakes that are involved. In spite of these, the gains from liberalization and privatization seem to have been very high.

The main lesson to be derived from this session is that an ideological attitude on privatization and market liberalization would be totally insufficient. Indeed the general direction is not questionable, but defining the proper sequence of measures adapted to the specific situations is a delicate task. There remains considerable scope for improvement and the Bank can often play a useful role in supporting government efforts.

Conclusion

The general conclusions are worth emphasizing here. First, we first should be aware of the complexity of the issues involved and therefore be very wary of the intellectual arrogance that we are often blamed for. There is clearly no magic bullet or simple solution. Therefore, we should not be seen as ideological. But the general direction of change is clear. Actually, given the complexity of the issues emphasized throughout this conclusion, what is most striking is the existence of a wide consensus on many points, not only within the Bank but also outside. That complexity, however, should lead us to monitor closely our skill mix. We will need a diversified set of specialized and highly skilled professionals. And here we face the well known dilemma between the long term institutional interests, and the immediate needs and incentives of individual managers who have very much shorter term needs.

Finally, I want to emphasize that the challenges which have been revealed in this Symposium are indeed very exciting. Our development job is difficult because the promotion of development is difficult; development is a multi-faceted process involving many activities whereas, as indicated above, we in the Bank have a top down bias. But we also know that the Bank has a strong comparative advantage for pursuing comprehensive strategic approaches. In fact no other institution dealing with agriculture has the same capacity as we do to reach decision makers in different agencies and at various levels of government.

So we must feel privileged that we have an opportunity to make a significant contribution to agricultural development, given the importance of the stakes involved in the sustainable alleviation of poverty.

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