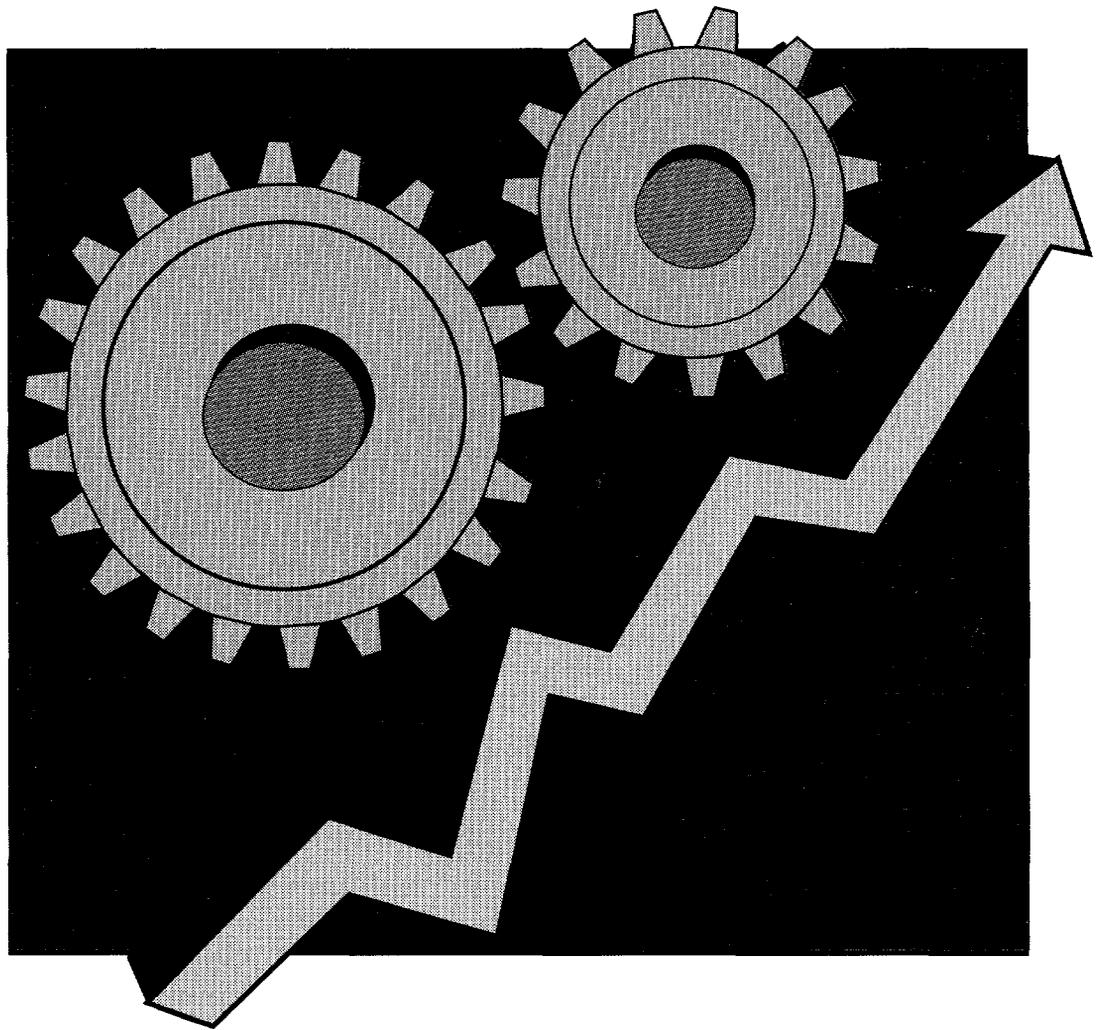


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# World Bank Support for Industrialization in Korea, India, and Indonesia



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*World Bank Support for  
Industrialization in Korea,  
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***World Bank Support  
for Industrialization in  
Korea, India, and Indonesia***

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# Foreword

The World Bank's approach to industrialization has changed over time. Through the 1950s and much of the 1960s, the Bank took for granted industrialization strategies based on import substitution, generally pursued in the framework of comprehensive planning and extensive government involvement in industrial activity. During the 1970s, the intellectual climate on industrialization strategies changed. The newly-industrializing countries (NICs) of East Asia rose to prominence and outward-oriented trade policies came to be regarded as central to success. More recently, greater attention has again been focussed on the appropriate role of government within a "market friendly" approach to development. As articulated in the Bank's 1991 *World Development Report*, this approach recognizes the role of government in improving the environment for private sector activity through stable macroeconomic policies, development of the financial sector and physical infrastructure, and human resource development.

This study was prepared by Farrokh Najmabadi, Shyamadas Banerji, and Sanjaya Lall (consultant) of the Operations Evaluation Department. It looks at the World Bank's approach to industrialization through case studies on three Asian economies: Korea, India and Indonesia. It generally commends the Bank's work on incentive issues and endorses the current emphasis on export-oriented policies and liberalization of highly-distorted economies as necessary conditions for successful industrialization. However, the study argues that not enough attention has been given to the role of capabilities and institutions. In particular, it stresses the importance of developing technological and managerial capabilities as part of a coherent industrial strategy. This strategy generally involves interventions to correct for market failures in factor markets (as for education, skills or technology) or in product markets (as when infant industries are learning difficult and complex new technologies). These interventions may involve selectivity.

The study recognizes the very real problems of govern-

ment failure, which have plagued the design and implementation of industrial policies in many countries. However, the study does not accept that these conditions inevitably apply in all countries at all times. Accordingly, the study argues that the Bank should give more attention to understanding the conditions that make interventions effective and to improving the capacity of governments to design appropriate industrial policies.

This study is being published as a contribution to the ongoing debate on industrial policy issues both within the World Bank and outside.<sup>1</sup> Many of the issues are controversial and the study does not purport to represent a "World Bank" view. Nor does the study attempt to generalize the experience of Korea, India, and Indonesia to other countries. Nevertheless, these three case studies do raise a number of important issues which warrant further discussion and study. The World Bank, for its part, is pursuing many of these issues through its projects, economic and sector work, and research agenda. In particular, a major research project on the East Asian experience with industrial policy, and the lessons for other countries, is currently being prepared under the supervision of the Chief Economist and Vice President, Development Economics.

Yves Rovani  
Director General  
Operations Evaluation  
February 1991

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1. This publication is the Overview Volume from the original study.

# Prologo

El enfoque del Banco Mundial en materia de industrialización ha variado con el tiempo. Durante el decenio de 1950 y gran parte del de 1960, el Banco dio por buenas las estrategias de industrialización basadas en la sustitución de importaciones, por lo general aplicadas en un contexto de planificación cabal y una participación amplia del Estado en la actividad industrial. En los años setenta, el clima intelectual relativo a las estrategias de industrialización experimentó un cambio. Los países de reciente industrialización de Asia Oriental comenzaron a adquirir notoriedad y las políticas comerciales orientadas hacia el exterior empezaron a ser consideradas fundamentales para alcanzar el éxito. Más recientemente, se ha vuelto a centrar la atención en la función que le cabe al Estado en el marco de un enfoque del desarrollo "propicio al mercado". Como se señala en el *Informe sobre el Desarrollo Mundial 1991* del Banco, este enfoque reconoce el papel que le corresponde a los gobiernos en el mejoramiento del entorno para las actividades del sector privado mediante la adopción de políticas macroeconómicas estables, el fomento del sector financiero, el desarrollo de la infraestructura física y el perfeccionamiento de los recursos humanos.

Este estudio fue preparado por Farrokh Najmabadi, Shyamadas Banerji, y Sanjaya Lall (consultor) del Departamento de Evaluación de Operaciones, y en el se analiza el enfoque del Banco Mundial relativo a la industrialización a través de estudios de casos prácticos sobre tres países asiáticos: Corea, India e Indonesia. En términos generales, en el estudio se encomia el trabajo del Banco en materia de incentivos y se respalda el acento que actualmente se pone en las políticas orientadas a la exportación y en la liberalización de las economías con grandes distorsiones, como condiciones necesarias para alcanzar el éxito en el proceso de industrialización. Por otra parte, en el estudio se sostiene que no se ha prestado suficiente atención al papel que desempeñan las capacidades y las instituciones. En particular, se recalca la importancia que reviste desarrollar capacidades tecnológicas y de gestión como parte de una estrategia industrial coherente. Por lo general, ésta supone adoptar medidas para corregir ineficiencias en los mercados de los factores (como en la esfera de la educación, las aptitudes y la tecnología) o en los

mercados de los productos (por ejemplo, cuando las industrias nacientes adquieren nuevas tecnologías difíciles y complejas). Tales medidas pueden ser de carácter selectivo.

En el estudio se reconocen los problemas bien reales del fracaso de las intervenciones de los gobiernos, que han afectado a la formulación y aplicación de las políticas industriales en muchos países. Sin embargo, en el estudio no se acepta el que estas condiciones sean aplicables inevitablemente a todos los países en todo momento. Por consiguiente, en el estudio se sostiene que el Banco debería prestar más atención a entender las condiciones que hacen que las intervenciones sean eficaces y a mejorar la capacidad de los gobiernos para formular políticas industriales acertadas.

Este estudio se publica como un aporte al continuo debate sobre cuestiones de política industrial, tanto dentro como fuera del Banco Mundial.<sup>1</sup> Muchos de los temas son controvertidos y el estudio no pretende presentar una "opinión del Banco Mundial". Tampoco se intenta extender la experiencia de Corea, India e Indonesia a otros países. No obstante, estos tres estudios de casos prácticos plantean una serie de cuestiones importantes que justifican un análisis y estudio más profundos. Por su parte, el Banco Mundial está abordando muchos de estos asuntos en sus proyectos, sus estudios económicos y sectoriales y su programa de investigaciones. En particular, actualmente se prepara un importante proyecto de investigación sobre la experiencia en la esfera de la política industrial en Asia Oriental y las enseñanzas que se pueden derivar para otros países, bajo la supervisión del Vicepresidente y Primer Economista, Economía del Desarrollo.

Yves Rovani  
Director General  
Evaluación de Operaciones  
Febrero 1992

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1. Esta publicación corresponde al volumen del estudio original en que se presenta el panorama general.

# Avant-propos

La position de la Banque mondiale sur l'industrialisation a évolué avec le temps. Au cours des années 50 et d'une grande partie des années 60, la Banque a accepté d'emblée les stratégies d'industrialisation axées sur le remplacement des importations, généralement poursuivies dans le cadre d'une planification globale et d'une intervention massive de l'Etat dans l'activité industrielle. Au cours des années 70, le climat intellectuel qui sous-tendait les stratégies d'industrialisation a changé. Les pays nouvellement industrialisés d'Asie de l'Est ont pris une place prééminente sur la scène mondiale et les politiques commerciales ouvertes sur l'extérieur ont commencé à être considérées comme essentielles à la réussite. Plus récemment, l'attention s'est portée à nouveau sur le rôle qui revient à l'Etat dans le cadre d'une stratégie de développement favorable au marché. Telle qu'elle a été exposée dans le *Rapport sur le développement dans le monde 1991*, cette stratégie reconnaît le rôle que peut jouer l'Etat pour créer un cadre plus propice à l'initiative privée par la poursuite d'une politique macroéconomique stable, le développement du secteur financier et des infrastructures, et la valorisation des ressources humaines.

La présente étude a été préparée par Farrokh Najmabadi, Shyamadas Banerji, et Sanjaya Lall (consultant) du Département de l'évaluation rétrospective des opérations. Elle analyse la position de la Banque sur l'industrialisation à travers des études de cas portant sur trois économies d'Asie : la Corée, l'Inde et l'Indonésie. En général, elle loue le travail effectué par la Banque sur la question des incitations et approuve la priorité qu'accorde actuellement la Banque aux politiques axées sur l'exportation et à la libéralisation des économies faussées par des distorsions graves, ces deux éléments étant indispensables au succès de l'industrialisation. Cependant, selon cette étude, on n'a pas porté une attention suffisante au développement des capacités et des institutions. En particulier, l'étude souligne l'importance, pour une stratégie industrielle cohérente, d'un renforcement des capacités gestionnelles et techniques. Une telle stratégie implique généralement des interventions—qui pourront être éventuellement sélectives—pour remédier aux défaillances des marchés, qu'il s'agisse des marchés des facteurs (en ce

qui concerne l'éducation, les qualifications ou les technologies) ou des marchés des produits (cas où des industries naissantes doivent se familiariser avec de nouvelles technologies ardues et complexes).

L'étude reconnaît que la défaillance de l'Etat est un problème très réel qui a entravé la conception et la mise en oeuvre des politiques industrielles dans de nombreux pays. Cependant, elle n'accepte pas l'idée que ces conditions s'appliquent inévitablement à tous les pays et en tout temps. En conséquence, elle soutient que la Banque doit chercher à mieux comprendre les conditions qui rendent une intervention efficace et à améliorer l'aptitude des gouvernements à mettre sur pied des politiques industrielles appropriées.

La publication de cette étude contribuera au débat que suscite actuellement la politique industrielle, à l'intérieur comme à l'extérieur de la Banque.<sup>1</sup> Les problèmes étudiés étant, pour beaucoup, sujets à controverse, l'étude ne prétend pas présenter le point de vue de la « Banque mondiale ». Elle ne cherche pas non plus à étendre à d'autres pays l'expérience de la Corée, de l'Inde et de l'Indonésie. Néanmoins, ces trois études de cas soulèvent un certain nombre de problèmes importants qui méritent d'être étudiés plus à fond. La Banque mondiale, pour sa part, poursuit l'étude de ces problèmes dans le cadre de ses projets, de ses travaux économiques et sectoriels, et de son programme de recherche. En particulier, un vaste projet de recherche, portant sur la politique industrielle des pays d'Asie de l'Est et sur les enseignements que l'on peut en tirer pour d'autres pays, est en cours de préparation sous la supervision du Vice-Président et économiste en chef, Economie du développement.

Yves Rovani  
Directeur general  
Evaluation retrospective  
des operations  
Fevrier 1992

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1. Cette publication constitue le volume « Vue d'ensemble » de l'étude initiale. Cette dernière comprenait également trois volumes donnant des renseignements plus détaillés sur les études de cas.



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## ***Abbreviations and Acronyms***

<b>BPPT</b>	<b>Badan Pengkajian Dan Penerapan Teknologi (Agency for the Assessment and Application of Technology)</b>
<b>HCI</b>	<b>Heavy and Chemical Industries</b>
<b>KHIC</b>	<b>Korea Heavy Industries Corporation</b>
<b>PUSRI</b>	<b>P.T. Pupuk Sriwidjaja (State-owned fertilizer company) (Indonesia)</b>
<b>UNDP</b>	<b>United Nations Development Program</b>

# Executive Summary

The World Bank has always regarded industrialization in developing countries as a major element of the structural transformation process that signifies economic development. Up to the end of fiscal 1990, lending to all industrial activities constituted 16.9 percent of the Bank's total cumulative lending, and came to US\$41.4 billion. Of this sum 63 percent was channeled through the financial intermediaries, and 37 percent went to industrial projects. Similarly, the mandate of the International Finance Corporation engaged it heavily in industrial development, not only by the provision of loans to private industrial enterprises, but also by participating in the equity of such enterprises. The Bank's broader support of infrastructure and human resource development also fed into industrial development.

While the Bank's support of industrialization has been consistent and significant, the nature of the support has changed over time. Through the 1950s and much of the 1960s, the Bank took for granted industrialization strategies based on import substitution, generally pursued in the framework of comprehensive planning and extensive government participation in industrial activity. The Bank saw its main objectives as institution building (in DFCs), improved project evaluation, resource mobilization, and greater freedom for private enterprise.

Over the 1970s the intellectual climate on industrialization strategies changed. The newly-industrialized countries (NICs) of East Asia rose to prominence. Outward-oriented trade policies came to be regarded as central to industrial success. During this period, the Bank's emphasis also shifted. The Bank engaged increasingly in policy dialogue with borrowers on broad issues of strategy. In the 1980s, with the culmination of this shift in a series of structural and sectoral adjustment operations, the Bank's philosophy of industrial strategy took a clear, defined, and theoretically rationalized form. It is this philosophy that is the subject of this study.

## Industrial Strategy: A Framework for Analysis

Industrial strategy can take many different forms. It can range from comprehensive planning with extensive government control and ownership at one extreme, to a high degree of reliance on unregulated markets and minimal government regulation, at the other. The choice between these extremes is often made on the basis of political ideology, history, tradition, and other non-economic factors.

Economic theory does, nonetheless, provide grounds for choosing appropriate industrial strategies. Apart from the conduct of macroeconomic policy and setting the legal framework, the role of government action in production, regulation, subsidization, support, or intermediation (broadly labeled "intervention") in industry depends on how efficiently relevant markets function. If all markets function efficiently, they can achieve optimality in resource allocation and production. With perfect markets (income distribution issues apart) the best strategy is that of the "minimalist" state. If, however, some of the conditions for efficient markets do not obtain, there is "market failure" and optimality is not guaranteed.

## Market Failures and Interventions

The case for interventions to remedy market failures depends on three things: the nature of the market failures in question; the availability of market-based solutions; and the ability of the government to design and implement correct solutions, where market-based solutions are likely to be absent or inadequate. *Market or government failures* may be partial rather than absolute. Each may also be dynamic, in the sense that the capacity of markets or governments to deal with their failures may improve (or deteriorate) over time. The particular constellation of failures and remedies varies with the country and period, and is largely an empirical question on which *a priori* generalizations are difficult.

*Factor market failures* are likely in areas such as: physical infrastructure, labor markets, human capital, science and technology, capital and financial markets; technology imports; and various industry-related support institutions. *Product market failures* may be of three types: anti-competitive behavior by large firms in oligopolistic markets; lack of information and high transactions costs in marketing; and the effects of international competition on new entrants which have to bear significant "learning" costs.

Economists distinguish between two broad categories of intervention: "functional" and "selective". *Functional interventions* are designed to remedy generic market failures without favoring one activity over another. *Selective interventions* are designed to remedy market failures for specific activities and may favor selected activities for promotion over others. Functional interventions are often preferred to selective interventions because of the risks (of "picking winners") associated with the latter. It should, however, be noted that economic theory provides valid arguments for selectivity under certain types of market failures.

In cases where selective interventions are justified, the information needs of selectivity and limitations on resources available for promotion entail that the choice of activities for promotion be limited in number and scope. Efficient selection also means that intervention in product markets be geared to the particular learning needs of each activity and its interlinkages. While economically efficient intervention has to be sharply distinguished from non-economic inefficient intervention, the levels of economically rational intervention and its forms also depend on endowments, levels of development or administrative skills and according to the economic objectives of the country concerned.

### **Incentives, Capabilities, and Institutions**

Industrial success at the national level depends on the interplay of three sets of factors: incentives, capabilities, and institutions. *Incentives* guide the allocation of resources and also the efforts invested in developing competitive capabilities; they arise from the macroeconomic environment, factor markets and product markets, with competition in world markets playing a particularly important role.

Capabilities and institutions determine the supply response to incentives. *Capabilities* arise from physical investment, infrastructure, human capital development, and technological effort. *Institutions* of various kinds facilitate capability formation and production where purely market-based forces are deficient.

Just one set of factors by itself cannot lead to industrial development. A balance of appropriate incentives, capability development and institutional support is necessary. The nature and balance depend on each country's endowments, levels of development and inherited structure and institu-

tions. Approaches that stress only one set of factors run the risk of misunderstanding industrial development and misguiding industrial strategies.

Each of the three determinants of industrialization may suffer from market failure. Market incentives may not provide correct signals for resource allocation or capability building if there are valid infant industry arguments for intervention. Capabilities may not develop adequately if skill, capital, technology, or other markets are deficient, and if institution building does not respond to such deficiencies.

Industrial strategy should address all these interrelated issues, basing itself firmly on a realistic understanding of the micro-level processes of industrial development. It must take cognizance of the fact that not all market failures need remedial action, and that market forces themselves develop institutional or other remedies for a range of failures. It must weigh the costs of intervention against its benefits. The proper mix of functional and selective interventions and the choice of instruments for these interventions must be guided by the strategic objectives of the country, by existing endowments, institutions, and markets, and by what is feasible given the capabilities of the government.

### **Government Failures and Interventions**

While it may be possible in theory to improve the functioning of imperfect markets by intervention, in practice governments often lack the skills, knowledge, objectivity, or autonomy to carry out interventions efficiently. The crucial question then becomes not the desirability of interventions but the cost of government failures versus the cost of market failure. The issue of government failure in developing countries is a very real one, and the subject is currently attracting a lot of attention.

The recent record of industrialization in developing countries is replete with government failures. Apart from mismanaging macroeconomic policy, many governments have intervened ill-advisedly in industrial development. They have often pursued unrealistic objectives, oriented activities to domestic markets behind high and haphazard protective barriers, misdirected resources by licensing, credit controls and fiscal measures, chosen the wrong firms or technologies to promote, restricted access to new technologies, held back competitive growth or diversification, pushed public ownership where private enterprise was available and so on.

Some cases of remarkably successful interventionist industrialization strategies, however, have developed alongside this uninspiring record of past distortions. Thus, the record of unsuccessful interventions and government failure is relative rather than absolute. Some interventions have produced desirable results, but these have sometimes

been overlaid by adverse effects of other, uneconomical, interventions.

The consideration of government failures should clearly be an integral part of industrial strategy. Neither markets nor governments can be assumed to be perfect. Nor can it be assumed that all interventions are doomed to failure. There are conditions in which some interventions can be successfully undertaken, and these can generally embody some degree of selectivity. In view of learning costs and related market failures, the cost of not exercising selectivity may be a shallow, undynamic, or technologically backward industrial structure. Whether the degree of selectivity can be usefully increased depends on dynamically changing political and administrative considerations.

The existence of some highly successful cases of economic intervention suggests that under certain circumstances government failure can be minimized and market failures remedied. The existence of many more unsuccessful cases suggests that these circumstances are not readily found in developing countries. However, there are costs of not intervening and these costs may be rising in a world of rapid technological progress and dynamically evolving comparative advantage. The ability to intervene is also changing constantly, and generalizations on the role of government in industrialization are difficult to make.

Any current strategy must also take into account the structure of policies accumulated over the past. In many cases, this structure is highly interventionist, irrational, non-economic, poorly designed and implemented, and riddled with vested interests and rent seeking. To launch a new strategy in such circumstances will first require an extensive dismantling of controls, regulations, protection and investments. Such liberalization is often a necessary condition for successful industrialization. In addition, there may be a case for effective promotion of industry to remedy market failures and restore efficient market forces.

### **The Case of Korea**

The Republic of Korea is the most successful of the Bank's borrowers in terms of industrial development and is widely regarded as a role model by other developing countries. Prior to 1963, Korea pursued a predominantly import-substitution strategy that covered some heavy as well as labor-intensive light industry. From 1963, it switched to a primarily export-oriented strategy, providing strong incentives and support for exports while pursuing import-substitution in a range of new, increasingly complex, industries. Its drive into these new industries, while largely in the private sector, was strongly directed by the Government. Its policies to this end included high and variable rates of effective protection, central allocation of credit, a deliberate policy to create large conglomerate enterprises, minimal re-

liance on foreign direct investment, and close coordination by the Government on the pace and direction of industrial development. It is generally agreed that the Government's interventions played a central role in guiding, shaping, and promoting Korea's industrial development.

The drive was supported by a rapid build up of skills at all levels and by extensive development of the science and technology infrastructure. Firms were required to invest heavily in worker training and encouraged to launch R&D. They were given liberal access to foreign technologies but primarily in the form of new equipment and licensing rather than by the setting up of foreign controlled ventures. Interventions in the technology markets were designed to strengthen local absorptive and later innovative capabilities. Unlike most 'classic' import-substituting regimes, however, Korea applied protection selectively, encouraged domestic competition, and forced early entry into export markets. It maintained a distinction between a relatively mature, competitive sector, which operated in export markets under near free trade conditions, and a set of new activities that were more highly protected, undergoing "learning", and aimed primarily and initially at domestic markets.

### **The Bank's Analysis of the Korea Experience**

The Bank has only partially fulfilled the function of correctly analyzing Korea's experience with industrialization. The strong point of its work on Korea has been its analysis of the nature and benefits of export orientation and the attention given to strengthening rather than ignoring market forces. The weak points in its analyses are:

- First, while the Bank has accepted the Heavy and Chemical Industries (HCI) Program to be consistent with emerging changes in Korean comparative advantage, it has used this experience as an argument against the strategy of selective intervention. The evidence from Korea does not support this conclusion. Although some HCI investments had to be pruned or restructured, there was a constant transfer of activities from import substitution to export orientation, and by the 1980s over half of manufactured exports were originating in heavy industry.
- Second, the restrictive framework underlying the Bank's analysis of industrialization has led it to underplay and overlook the micro-level process of capability acquisition which underpins industrial success. Bank reports merely pointed to the availability of disciplined, educated and trainable labor and to incentives provided by export orientation. The entire area in between, of capability development, technological search and effort, interaction with other firms and institutions, was left almost wholly blank.
- Third, the Bank's general analytical stance does not conform to its project work in Korea, which shows a much clearer appreciation of capability building, selectivity,

and institutions. The general policy analysis of the Bank seems to be broadly in line with "liberal" views on trade strategy and (undesirability of) government interventions, while at the project level its practice is more "structuralist" and favorable to intervention.

## **The Case of India**

The India case is significant for the Bank for reasons quite different from Korea. India has traditionally been the largest borrower of Bank resources and has a long history of broad-based industrialization. For some time it was regarded as a model of successful planned economic development. Its strategy involved wholesale import substitution behind high and permanent barriers to import competition, a growing public sector, a highly constrained private sector, and tight controls on the entry of foreign capital and technology. Over time its highly inward-looking, strongly interventionist policies turned its industrialization into an example of relative failure.

The rigor of the system waxed and waned, but in broad terms the Indian system was probably unique in the extent, restrictiveness, and non-selective nature of controls. The objective of many controls was not to remedy market failures in achieving efficiency, but to force industry to conform to the ideals of self-reliance and social justice, as conceived by the policy makers. In the terminology of this study, Indian interventions were neither economic nor efficiently implemented. They were driven by political objectives, poorly designed, and prone to widespread rent-seeking behavior.

A sluggish export performance has been a prominent feature of Indian manufacturing since the 1960s through the early 1980s. While exports have declined over time as a proportion of manufacturing output, the deepening of the industrial structure in India has not resulted in a dynamic growth and diversification of manufactured exports. This has been mainly due to the bias in incentives toward the domestic market; large areas of inefficiency, poor quality and technological obsolescence in industry; infrastructural bottlenecks; undeveloped marketing skills; and inadequate institutional support.

The mix of Indian policies, with some selective and functional elements overlaid by a number of non-selective and non-economic interventions, does, nevertheless, exhibit the benefits expected of economically selective interventions (the protection of difficult learning periods, the development of a supplier and service network, and the improved provision of skills and technological support) in promoting industrial capabilities. However, the fact that protection was over-extended, exporting rendered unattractive, domestic competition and growth restrained, local content raised regardless of cost and quality, and technology and

infrastructure inadequately provided, took a severe toll on development and in the exploitation of those capabilities. Ultimately, the effects of non-economic interventions were seen clearly in the uncompetitiveness of Indian industry. The most pressing need for policy reform in India, therefore, is now in the areas of incentives and deregulation.

India's industrialization strategy proved very persistent (though the late 1980s witnessed some reform). This persistence led the Bank to mount more effort into policy and subsector analysis of Indian industry than for any other member country. There is, therefore, a much greater wealth of Bank material on India than on Korea and it tends to be richer and fuller in its content.

## **The Bank's Analysis of the India Experience**

In general, the quality of the Bank's work on Indian industry was very high. Considerable effort and analytical skills went into deciphering the nature and effects of the extremely complex policy regime. The broad thrust of recommendations to the government was sensible, well argued, and consistent over time. In general, India summoned some of the best of the Bank's industry sector work.

The limitations of this work arose from the underlying approach to industrialization and industrial strategy employed by the Bank, and from the mismatch between this general approach and the micro-level analyses. The general approach reflected a belief in the efficiency of markets and a pessimistic view of government capabilities. The subsector analyses, on the other hand, had realistic appraisals of market failures and the concomitant need for supportive, selective interventions. The dichotomy between the Bank's micro and general policy work, noted earlier for Korea, appeared more strongly in its work on India.

The Bank's approach to industrialization in India did not fully incorporate the role and determinants of factors like human capital, technical effort, and supporting institutions. Finally, the positive achievement of the Indian strategy did not receive sufficient attention. This is not to argue that the Bank should have supported India's non-economic and poorly implemented set of interventions. While the Bank has been right in its insistence on deregulation and outward-looking policies, it is arguable that had the Bank distinguished analytically between economic and non-economic interventions, it would have been able to formulate clearer and more persuasive strategies for the Indian Government.

## **The Case of Indonesia**

Indonesia does not have a long industrial history, and manufacturing still contributes a small proportion of Indonesia's GDP (about 12.8 percent in 1987). This is smaller than comparable countries in the region. Much of the in-

dustry is concentrated in simple traditional activities, based largely on the abundant base of local raw materials. Indonesia has, nevertheless, invested a great deal recently in building up its human capital base for industrialization, and now has an educational structure similar to those of Korea and Taiwan, China, in the mid-1960s. However, it is still weak in higher level technical education, and the quality of training is poor. Skill shortages are endemic to Indonesian industry.

The trade and industrial regime of Indonesia had many of the features of the cumbersome, restrictive and economically irrational Indian system. Inward orientation and high and variable levels of protection were accompanied by controls on entry, growth, and diversification. Foreign investment was restricted; domestic competition was constrained several ways; and rent seeking was rife.

Major trade and industry policy reforms were launched in 1985 and have continued since. These reforms stimulated industrial growth, investment (local and foreign), and manufactured exports. Indonesian performance in all these respects was very impressive and seems likely to be sustained. In particular, the catalytic role played by foreign investors in boosting skill and technology transfer to simple manufacturing industries and leading the growth of new industrial exports, was remarkable.

### **The Bank's Analysis of the Indonesia Experience**

The Bank's analysis and advice have been major inputs into the reform process launched by the Indonesian Government. Indonesia is clearly the most successful of the three case studies in terms of the Bank's contribution to industrial strategy in the past decade.

The primary emphasis of the Bank's policy guidance was on reforms to the incentive framework, which was correct in the context of the Indonesian situation at the start of the 1980s. The Bank's analyses did not, however, develop sufficient in-depth understanding of Indonesian industry at the subsectoral level. The overall impression that "getting the prices right" was all that mattered in liberalization was much stronger for Indonesia than for India. The weight of disapproval of interventions was much heavier. The conflict between general prescription and subsectoral analysis noted for India and Korea emerged also for Indonesia. Selective intervention in factor markets continued to be urged when similar interventions was criticized in product markets. There was a negative view of government capabilities to undertake interventions in the area of industrial policy. The policy stance of the Bank was apparently based on a fairly standard approach which tended to assume rather than analyze government failure in general.

The Bank's general stance coexisted with a practical approach that was better geared to the needs of particular activities during the liberalization process. The gradual

dismantling of regulations, the initial emphasis on enhancing export incentives, all revealed realistic and non-dogmatic advice by the Bank. The Bank showed a proper awareness of the skill and technological deficiencies of Indonesian industry. The analysis of Indonesia's "big push"-technology strategy should, however, have been more forceful and critical. The Bank should have guided the Government's capability building efforts more explicitly into areas of emerging comparative advantage for Indonesia.

### **Synthesis: The Bank's Approach**

The Bank's approach to industrial policy may be described as "moderate neoclassical", which accepts that factor and product markets are not fully efficient in developing countries and that there is a role for government interventions. However, it strongly prefers functional to selective interventions: governments should make markets more efficient in a neutral way.

Selective intervention, which supports the growth of chosen activities over others, is regarded as undesirable for two sets of reasons. First, the incidence of market failures that call for selective promotion is supposed to be limited in practice. Second, even where market failures of this type exist, the Government is often taken to be prone to failure in exercising selectivity, and market failure can be less costly than government failure.

The Bank's approach stands squarely in the mainstream of current development thinking, which has been dominated by the analysis of trade strategy. This broad approach has several consequences for the Bank's analysis and advice.

First, there is a tendency to focus heavily on incentive factors and to ignore (or underplay) the role of capabilities and institutions (structural factors) in industrial policy. Second, the Bank's approach to remedying failures in factor and product markets is strongly oriented to maintaining neutrality among activities. Third, there seems to be little role for positive "industrial strategy". "Strategy" in this context refers to an interlinked set of interventions across various aspects of industrial activity to achieve certain broad objectives. Fourth, there seems to be a propensity not to distinguish between economic and non-economic intervention.

### **The Principal Issues**

*Structural versus Incentive Factors.* The three country studies showed a systematic tendency on the Bank's part to underestimate the significance of structural factors and overstress that of incentive factors. Despite its considerable work on education, for instance, the industrial performance of Korea was rarely related directly to the interactions between its export-oriented incentives and the build up of human capital. Similarly, technology and institutional

development (except in financial institutions) did not receive sufficient emphasis as vital elements of successful industrialization. Again, the Korean case study shows that Korea's R&D investment was due not just to its export orientation, but also to its strategy to enter heavy industry, to build up national technological capabilities and to rely on large conglomerate firms. In other words, Korea's industrialization drive could be sustained only by its massive technological efforts and investments in skill building, each requiring specific government policies and promotion.

The Bank's work on incentives has consistently been of very high quality. Such work was exceptionally good where the incentive structure was highly distorted as in India and Indonesia. The Bank's emphasis on export-orientation, deregulation and promotion of market competition was entirely valid. Its criticisms of non-economic and irrational intervention were salutary and justifiable. Its prescriptions of liberalization were beneficial when they guided governments away from massive, non-selective and costly intervention to a greater reliance on market forces. These benefits, however, do not fully justify the Bank's analytical approach which still tends to concentrate on "getting prices right", ignoring the insights gained from its research work and failing to integrate policy issues related to skill, technology and institutional development.

*Industrial Strategy.* The choice of a set of strategic objectives, such as the transformation of the industrial structure by entry into heavy industry or the choice between public and private sector agents to develop technology, imposes a corresponding set of requirements on industrial policies. If well-conceived and internally consistent (in economic terms), a variety of different strategies can be implemented successfully. Market-oriented policies by themselves do not provide a number of strategic answers. In general, the Bank displays an ambiguous attitude to issues of industrial strategy. Recommendations on policy (such as greater export-orientation, import liberalization, more internal competition, increasing access to foreign capital and technology) are clear and forceful. However, they are not based on strategies in the above sense and may not be specific enough to help governments make choices on objectives or implementation.

*Industrial Development at the Micro Level.* An understanding of the micro-level process of acquiring efficiency is critical to the formulation of industrial policy. This is a complex process which takes time and investment in creating skills and information. The Bank's general approach tends to neglect these complexities. As far as factor markets are concerned, this implies improving the functioning of markets in such a way that no activity is favored over others even when interventions are directed at particular industries or institutions. As to the product markets, the Bank proposes that infant industry promotion may only be offered by low and uniform rates of effective protection regardless of technolog-

ical differences between activities or differences in levels of market development in different countries.

However, some of the Bank's detailed reports on subsectors show a greater appreciation of the complexities of industrial capability building. While they do not thoroughly analyze how existing good firms built up their competitive strengths, they are fairly clear in describing the technological, input, scale and institutional constraints facing their future development. The analysis of the dynamics of capability acquisition would thus help many aspects of Bank work on industry. It would help it to advise governments on support measures needed for various industries: on the desirable structure and phasing of protection or liberalization; on the likely nature of its evolving competitive advantages, taking due account of technological progress internationally; specific skill, technological and institutional needs of important activities; and so on.

*Selectivity and the Risk of Government Failure.* The three case studies suggest that the Bank had not fully appreciated the true scope and incidence of market failures in both factor and product markets that call for selective remedies. The emphasis of the Bank on non-selective interventions seem to undermine a potentially valid case for selective promotion to help countries tackle the next state of their learning process. Industrial and technological deepening necessarily involve higher costs and risks, and some assistance may be necessary to help overcome them where markets and institutional structures are imperfect.

The risk of government failure haunts all discussions of selectivity, and may be the strongest reason for the Bank's reluctance to accept it as an integral part of industrial strategy in developing countries. The risk is very real and development experience offers many extremely dismal examples. This does not, however, constitute a case for assuming that government failure is inevitable. Selective intervention does not necessarily conflict with liberalization; on the contrary, the burden of non-economic interventions has to be removed before a more rational policy is implemented. However, given market failures, the liberalization process should move the country towards desirable selective interventions rather than to minimal intervention. The level and content of policy should reflect the abilities of the government and the nature of the activities concerned. The Korean case study clearly shows that the risk of selective promotion can be reduced in several ways related to the level and the design of interventions, safeguards to reduce potential damage and guidance for better programs.

## Recommendations

The recommendations for Bank work apply at the level of general strategy, policy advice, lending as well as at the project level.

As to its *approach to industrialization*, the Bank should:

- Broaden its industrial sector work in order to come up with industrialization strategies based on its accumulated knowledge of successful cross-country industrialization practices.
- Adopt a more integrated approach to industrialization by including more fully in its analysis the issues related not only to infrastructure, regulatory, and business environment and the financial sector, but also capabilities and institutions.

*Understanding competitiveness at the micro level* would enhance the Bank's practical advice to the developing countries. Therefore, the Bank should:

- Include in its research program the in-depth study of successful cases in capability acquisition at the activity and firm level; and successful cases in institutional development that have improved the working of markets and the development of capabilities in manufacturing enterprises.
- Address the relevance of government to the process of capability acquisition and institutional development.
- Study the impact on capability development of liberalization programs, to assess how competitiveness develops in response to rapid exposure to world competition.

*In promoting efficient policy* and in order to avoid the tendency to recommend fairly similar policies for different countries and to take strategic differences into account, the Bank should:

- Develop a systematic framework for analyzing industrialization and collect information to guide industrial policy.
- Help governments design appropriate industrial policies by collecting, analyzing, and disseminating information such as on micro-level capability acquisition and infant industry development.
- Consider selective policies, where economically desirable, as an integral part of a package of policies to promote industrial development.
- Help countries overcome or minimize the risks of government failure.
- Study how inefficient administrations can be reformed and how policy-making capabilities can be enhanced.

It is essential that the analytical work of the Bank and the studies of the successful cases and practices be widely disseminated and absorbed by the operational staff.

In conclusion, liberalization is often a necessary condition for successful industrialization. But it may not be sufficient. The Bank also needs to look at other aspects of industrial policy: e.g., human capital, technology and institutional development. Some forms of functional or selective intervention may be justified in these areas to improve international competitiveness. The costs and benefits of these interventions will be influenced by government capabilities, and need to be assessed on a case-by-case basis.

# Resumen

## Enfoque del estudio

El Banco Mundial siempre ha considerado que la industrialización de los países en desarrollo constituye un elemento fundamental del proceso de transformación estructural que el desarrollo económico significa. Hasta el cierre del ejercicio de 1990, el financiamiento otorgado por el Banco para todas las actividades industriales ascendía a US\$41.400 millones y representaba el 16,9% del financiamiento total acumulado del Banco. El 63% de ese monto se canalizó a través de intermediarios financieros y el 37% se destinó a proyectos industriales. Del mismo modo, de conformidad con su mandato, la Corporación Financiera Internacional (CFI) propició activamente el desarrollo industrial, no sólo a través del otorgamiento de préstamos a empresas industriales privadas, sino también mediante su participación en el capital accionario de dichas empresas. El apoyo más amplio del Banco en materia de mejoramiento de la infraestructura y perfeccionamiento de los recursos humanos también contribuyó al desarrollo industrial.

Si bien el apoyo que el Banco ha brindado a la industrialización ha sido coherente y significativo, la naturaleza de esa asistencia ha ido cambiando con el tiempo. Durante el decenio de 1950 y gran parte del de 1960, el Banco dio por buenas las estrategias de industrialización basadas en la sustitución de importaciones, por lo general aplicadas en el contexto de una planificación cabal y una participación amplia del Estado en la actividad industrial. El Banco consideró como sus objetivos principales el fortalecimiento institucional (en las instituciones financieras de desarrollo), el mejoramiento de la evaluación de los proyectos, la movilización de recursos y una mayor libertad para la iniciativa privada.

En los años setenta, el clima intelectual relativo a las estrategias de industrialización experimentó un cambio. Los países de reciente industrialización de Asia Oriental comenzaron a adquirir notoriedad y las políticas comerciales orientadas hacia el exterior empezaron a ser consideradas

fundamentales para alcanzar el éxito industrial. En ese período, el énfasis del Banco también registró un cambio, propiciando en medida creciente el diálogo con los prestatarios sobre cuestiones generales de estrategia. En el decenio de 1980, con la culminación de este cambio en una serie de operaciones de ajuste estructural y sectorial, la filosofía del Banco en materia de estrategia de desarrollo industrial adoptó una forma clara, definida y teóricamente racionalizada. El tema del presente estudio es precisamente esa filosofía.

## Estrategia industrial: un contexto para el análisis

La estrategia industrial puede adoptar muchas formas diferentes. Puede ir desde una planificación cabal, con amplio control y propiedad por parte del Estado en un extremo, hasta un elevado nivel de confianza en mercados liberalizados y una reglamentación estatal mínima en el otro. La elección entre ambos extremos suele hacerse teniendo en cuenta la ideología política, los antecedentes históricos, la tradición y otros factores no económicos.

No obstante, la teoría económica ofrece fundamentos para la elección de las estrategias industriales idóneas. Aparte de la gestión de la política macroeconómica y el establecimiento del marco jurídico, la función del Estado en la producción, reglamentación, subvención, respaldo o intermediación (denominada, en términos generales, "intervención") en la esfera industrial depende de la eficiencia con que funcionen los mercados pertinentes. Si todos los mercados funcionan en forma eficiente, pueden alcanzar el punto óptimo en la asignación de los recursos y en la producción. Con mercados perfectos (dejando de lado las cuestiones relativas a la distribución del ingreso), la estrategia mejor es la del Estado "minimalista". En cambio, si no se dan algunas de las condiciones para lograr mercados eficientes, se produce una situación de "ineficiencia del mercado" y no se garantiza el óptimo.

## Ineficiencias del mercado e intervención

Tres son los factores que determinan la intervención para paliar las ineficiencias del mercado, a saber, la índole de tales ineficiencias, la disponibilidad de soluciones basadas en el mercado y la capacidad del gobierno para formular y aplicar medidas acertadas en los casos en que es probable que no haya soluciones basadas en el mercado o en que éstas serían inadecuadas. Las *ineficiencias del mercado o del gobierno* pueden ser parciales, más bien que absolutas. Además, en ambos casos la situación puede ser dinámica, en el sentido de que la capacidad de los mercados o de los gobiernos para hacer frente a sus ineficiencias puede mejorar (o empeorar) con el tiempo. En cada caso particular, el conjunto de ineficiencias y soluciones variará según el país y el período por el que éste atraviese y, en gran medida, constituye un asunto empírico respecto del cual es difícil establecer generalizaciones *a priori*.

Hay probabilidades de que existan *ineficiencias del mercado de los factores* en esferas tales como infraestructura física, mercados de trabajo, capital humano, ciencias y tecnología, mercados financieros y de capitales, importaciones de tecnología y diversas instituciones de apoyo vinculadas al sector industrial. Las *ineficiencias del mercado de los productos* pueden ser de tres tipos: comportamiento anticompetitivo por parte de las empresas de gran tamaño en mercados oligopolísticos, falta de información y costos elevados de las transacciones de comercialización, y las repercusiones de la competencia internacional en las industrias recién incorporadas, que tienen que afrontar costos de "aprendizaje" significativos.

Los economistas hacen una distinción entre dos categorías amplias de intervención, a saber, la intervención "funcional" y la "selectiva". Las *intervenciones funcionales* tienen por objeto solucionar ineficiencias genéricas del mercado, sin favorecer a ninguna actividad en particular. Las *intervenciones selectivas* tienen por objeto remediar ineficiencias del mercado relacionadas con actividades específicas y pueden inclinarse a favor de la promoción de unas en particular, en vez de otras. Se suelen preferir las intervenciones funcionales a las selectivas, debido a los riesgos (de "elegir ganadores") inherentes a estas últimas. Sin embargo, es preciso señalar que, cuando se dan ciertos tipos de ineficiencias del mercado, la teoría económica ofrece argumentos válidos para optar por la selectividad.

En los casos en que se justifica optar por intervenciones selectivas, las necesidades de información que implica la selectividad y la limitación de los recursos disponibles para promoción imponen restricciones a la cantidad y alcance de las actividades de promoción. Además, una selección eficiente supone amoldar la intervención en los mercados de los productos a las necesidades particulares de aprendizaje de cada actividad y a las vinculaciones entre éstas. Si bien

es preciso hacer una distinción bien marcada entre intervención económicamente eficiente e intervención no económicamente eficiente, los niveles de intervención económicamente racional y sus formas también dependen de los recursos, el nivel de desarrollo o los conocimientos administrativos existentes en el país en cuestión, y deben ajustarse a los objetivos económicos de éste.

## Incentivos, capacidades e instituciones

El éxito industrial en el plano nacional depende de la interacción de tres grupos de factores, a saber, los incentivos, las capacidades y las instituciones. Los *incentivos* guían la asignación de los recursos, así como los esfuerzos que se despliegan para desarrollar las capacidades competitivas; surgen del entorno macroeconómico, de los mercados de los factores y de los mercados de los productos, y en ellos juega un papel especialmente importante la competencia en los mercados mundiales.

Las capacidades y las instituciones determinan la reacción de la oferta a los incentivos. Las *capacidades* surgen de la inversión en activos fijos, la infraestructura, el perfeccionamiento de los recursos humanos y las iniciativas en materia tecnológica. Las *instituciones* de diversos tipos facilitan el desarrollo de las capacidades y la producción en aquellos casos en que las fuerzas basadas exclusivamente en los mercados son deficientes.

Un grupo de factores no puede conducir por sí solo al desarrollo industrial. Se requiere una combinación equilibrada de incentivos, desarrollo de capacidades y apoyo institucional. La naturaleza de los factores y su combinación dependen de los recursos, el nivel de desarrollo y la estructura e instituciones heredadas con que cuente cada país. Con los enfoques que insisten solamente en un grupo de factores se corre el riesgo de interpretar mal el desarrollo industrial y orientar equivocadamente las estrategias industriales.

Cada uno de los tres determinantes de la industrialización puede estar expuesto a la ineficiencia del mercado. Cuando existen argumentos válidos para intervenir en industrias nacientes, puede ocurrir que los incentivos del mercado no proporcionen señales correctas para la asignación de los recursos o el fortalecimiento de las capacidades. El desarrollo de estas últimas puede ser inadecuado si los conocimientos, el capital, la tecnología o los otros mercados son deficientes, y si el fortalecimiento institucional no responde a tales deficiencias.

La estrategia industrial debería abordar todas estas cuestiones interrelacionadas, basándose firmemente en una comprensión realista de los microprocesos del desarrollo industrial. En ella tiene que considerarse debidamente el hecho de que no todas las ineficiencias del mercado requieren medidas correctivas y que las propias fuerzas del

mercado generan soluciones institucionales o de otro tipo para una variedad de ineficiencias. La estrategia tiene que sopesar el costo de la intervención con respecto a los beneficios de ésta. La combinación acertada de intervenciones funcionales y selectivas, así como la elección de los mecanismos para tales intervenciones, deben guiarse por los objetivos estratégicos del país, por los recursos, instituciones y mercados existentes y por aquello que resulte factible dadas las capacidades del gobierno.

### **Ineficiencias e intervenciones del gobierno**

Si bien en teoría se puede mejorar el funcionamiento de los mercados imperfectos mediante la intervención, en la práctica los gobiernos a menudo no tienen la preparación, los conocimientos, la objetividad o la autonomía necesarios para llevar a cabo las intervenciones de manera eficiente. En consecuencia, la cuestión crucial no es ya la conveniencia de las intervenciones, sino el costo de las ineficiencias del gobierno frente al costo de la ineficiencia del mercado. La cuestión de la ineficiencia del gobierno en los países en desarrollo es una muy real y actualmente se le presta mucha atención.

El historial reciente de los países en desarrollo en materia de industrialización está repleto de casos de ineficiencias gubernamentales. Aparte de la mala gestión de la política macroeconómica, muchos gobiernos han intervenido en forma desacertada en el desarrollo industrial. A menudo han perseguido objetivos poco realistas, orientado las actividades a los mercados internos —protegiéndolos mediante elevadas barreras establecidas en forma aleatoria—, asignado equivocadamente los recursos mediante la concesión de licencias, el control del crédito y medidas fiscales, elegido erróneamente las empresas o tecnologías que se han de promover, restringido el acceso a nuevas tecnologías, detenido el crecimiento competitivo o la diversificación, impulsado la propiedad pública cuando existía iniciativa privada, etc.

Sin embargo, simultáneamente con estos antecedentes poco alentadores de distorsiones ocurridas en el pasado, se han dado algunos casos de estrategias de industrialización intervencionistas que han tenido notable éxito, por lo que el historial de intervenciones infructuosas y fracasos de los gobiernos es más bien relativo que absoluto. Algunas intervenciones han producido resultados acertados, pero éstos a veces se han visto contrarrestados por las consecuencias adversas de otras intervenciones antieconómicas.

Sin duda, la consideración de las ineficiencias gubernamentales debería formar parte integral de la estrategia industrial. No se puede suponer que los mercados o los gobiernos vayan a ser perfectos. Tampoco se puede suponer que todas las intervenciones están condenadas al fracaso. Existen condiciones en las que algunas intervenciones pueden tener éxito y éstas, por lo general, comprenden al-

gún grado de selectividad. Dado el costo de aprendizaje y las ineficiencias del mercado conexas, el hecho de no ejercer la selectividad puede traducirse en una estructura industrial atrasada desde el punto de vista tecnológico, poco dinámica o superficial. El que la selectividad se pueda aumentar o no en un grado que sea útil dependerá de que se modifiquen dinámicamente las consideraciones políticas y administrativas.

La existencia de algunos casos de intervención económica fructífera indica que en ciertas circunstancias es posible minimizar las ineficiencias gubernamentales y corregir las del mercado, pero la existencia de un número mucho mayor de fracasos indica que tales circunstancias no se dan fácilmente en los países en desarrollo. No obstante, la no intervención tiene un costo y éste puede ir en aumento en un mundo de rápido avance tecnológico y ventajas comparativas que evolucionan dinámicamente. La capacidad para intervenir también está en constante cambio, por lo que resulta difícil hacer generalizaciones sobre la función del Estado en el proceso de industrialización.

En cualquier estrategia actual se tiene que tomar en cuenta además la estructura de las políticas acumuladas en el pasado. En muchos casos, esta estructura es muy intervencionista, irracional y no económica, está mal concebida y aplicada, plagada de intereses creados y orientada a la captación de rentas. En tales circunstancias, introducir una estrategia nueva requerirá en primer lugar el desmantelamiento extensivo de controles, reglamentaciones, protecciones e inversiones. Tal liberalización suele ser una condición necesaria para lograr el éxito en la industrialización. Además, puede haber argumentos que justifiquen la promoción efectiva del sector industrial para solucionar las ineficiencias del mercado y restituir la eficiencia de las fuerzas del mismo.

### **El caso de Corea**

La República de Corea es el prestatario del Banco que ha registrado los mayores éxitos en términos de desarrollo industrial, y los países en desarrollo en general ven en esa nación un ejemplo digno de imitar. Con anterioridad a 1963, en Corea se siguió predominantemente una estrategia de sustitución de importaciones que comprendía algo de industria pesada, además de la industria liviana con gran intensidad de mano de obra. A partir de 1963, Corea cambió de estrategia, pasando a una orientada principalmente a las exportaciones, con fuertes incentivos y apoyo a éstas, al tiempo que se mantenía la sustitución de importaciones en una gama de industrias nuevas, cada vez más complejas. Si bien esta incursión en tales actividades tuvo lugar en gran medida en el sector privado, se efectuó bajo la dirección decidida del Gobierno. Las medidas adoptadas con tal objetivo comprendieron coeficientes de protección efectiva elevados y variables, asignación centralizada del crédito, una política

deliberada de creación de grandes conglomerados empresariales, una dependencia mínima de la inversión extranjera directa y la estrecha coordinación del ritmo y la dirección del desarrollo industrial por parte del Gobierno. Existe un consenso general en cuanto a que las intervenciones estatales jugaron un papel principal en la orientación, configuración y promoción del desarrollo industrial de Corea.

La iniciativa estuvo respaldada por una rápida intensificación de la capacitación a todos los niveles y por el desarrollo generalizado de la infraestructura científica y tecnológica. Se exigió a las empresas realizar cuantiosas inversiones en la capacitación de los trabajadores y se alentó a emprender actividades de investigación y desarrollo. Se les permitió el libre acceso a las tecnologías foráneas, aunque básicamente mediante la adquisición de equipos nuevos y la obtención de licencias, en vez de por medio del establecimiento de empresas con participación mayoritaria de capital extranjero. Las intervenciones en los mercados tecnológicos tuvieron por objeto fortalecer la capacidad de absorción local y posteriormente la capacidad de innovación. No obstante, a diferencia de la mayoría de los regímenes "clásicos" de sustitución de importaciones, en Corea la protección se aplicó selectivamente, se alentó la competencia interna y se urgió a ingresar lo antes posible en los mercados de exportación. Se mantuvo la distinción entre un sector competitivo, relativamente maduro, que funcionaba en los mercados de exportación en condiciones muy próximas al libre comercio, y un conjunto de actividades nuevas mucho más protegidas, en proceso de "aprendizaje" y orientadas principal e inicialmente a los mercados internos.

### **La experiencia coreana analizada por el Banco**

El Banco ha cumplido sólo en parte la función de analizar con acierto la experiencia de Corea en materia de industrialización. El aspecto positivo de su trabajo relativo a Corea es el análisis que ha hecho de la naturaleza y las ventajas de la orientación a la exportación y de la atención prestada a fortalecer, en vez de ignorar, las fuerzas del mercado. Los aspectos de los análisis que dejan de desear son los siguientes:

- En primer lugar, si bien el Banco reconoce que el programa de fomento de la industria pesada y la industria química aplicado en Corea ha sido coherente con los cambios que se han ido produciendo en la ventaja comparativa de ese país, ha usado esta experiencia como un argumento en contra de la estrategia de intervención selectiva. Las pruebas recogidas de la experiencia coreana no respaldan esta conclusión. A pesar de que fue necesario recortar o reestructurar algunas inversiones de ese programa, hubo una transferencia constante de actividades de la sustitución de importaciones hacia la orientación a la exportación, y ya en el decenio de 1980 más de

la mitad de las exportaciones de bienes manufacturados provenían de la industria pesada.

- En segundo lugar, el contexto restrictivo que sustenta el análisis de la industrialización que el Banco ha realizado lo ha llevado a restar importancia y pasar por alto el proceso de adquisición de capacidades a nivel microeconómico, que constituye la base del éxito industrial. Los informes del Banco se limitaron a tomar nota de la disponibilidad de mano de obra disciplinada, instruida y susceptible de recibir capacitación, y los incentivos que proporciona la orientación a la exportación. Se dejó prácticamente intacta toda la esfera intermedia, es decir, el desarrollo de las capacidades, la búsqueda e iniciativa tecnológicas y la interacción con otras empresas e instituciones.
- En tercer lugar, la actitud analítica general del Banco se contradice con su labor en materia de proyectos en Corea, en la cual se aprecia una valoración mucho más clara del fortalecimiento de las capacidades, la selectividad y las instituciones. El análisis general de las medidas de política que hace el Banco parece estar ampliamente de acuerdo con las opiniones "liberales" sobre la estrategia comercial y (la inconveniencia de) las intervenciones del Estado, mientras que en el plano de los proyectos su forma de proceder es más "estructuralista" y favorecedora de la intervención.

### **El caso de la India**

El caso de la India es importante para el Banco por razones muy diferentes a las de Corea. Tradicionalmente, la India ha sido el mayor prestatario de recursos del Banco y tiene una larga historia de industrialización generalizada. Por algún tiempo se la consideró un ejemplo de desarrollo económico planificado con resultados satisfactorios. La estrategia aplicada en la India consistía en la sustitución generalizada de importaciones, con la protección de barreras elevadas y permanentes frente a la competencia de los productos de importación, un sector público cada vez mayor, un sector privado muy restringido y rigurosos controles al ingreso de capital y tecnología extranjeros. Con el tiempo, esta estrategia tan orientada hacia el interior y fuertemente intervencionista convirtió la industrialización del país en un ejemplo de fracaso relativo.

El rigor del sistema aplicado en la India tuvo altibajos, pero en términos generales probablemente fue único en su especie en cuanto al alcance, grado de restricción y naturaleza no selectiva de las intervenciones. El objetivo perseguido con muchos de los controles no era corregir las limitaciones del mercado para alcanzar la eficiencia, sino obligar a la industria a ajustarse a los ideales de autosuficiencia y justicia social formulados por las autoridades. En la terminología empleada en este estudio, las intervenciones en la India no fueron económicas ni se aplicaron de forma eficiente; más bien, estuvieron impulsadas por obje-

tivos políticos y mal concebidas, inclinándose hacia un comportamiento generalizado de captación de rentas.

A partir de los años sesenta y hasta principios del decenio de 1980, la industria manufacturera de la India se caracterizó por la escasa actividad de sus exportaciones. La proporción que éstas representan en la producción manufacturera ha ido disminuyendo con el tiempo, pero la modernización de la estructura industrial india no se ha traducido en un crecimiento dinámico de las exportaciones de bienes manufacturados ni en su diversificación. Esto se ha debido principalmente a la tendencia de los incentivos hacia el mercado interno; la existencia de amplias esferas de ineficiencia, mala calidad y obsolescencia tecnológica en la industria; estrangulamientos de infraestructura; comercialización deficiente, y apoyo institucional insuficiente.

La *mezcla* de políticas aplicadas en la India —con algunos elementos selectivos y funcionales entremezclados con una serie de intervenciones no selectivas y no económicas— reporta, no obstante, los beneficios que se pueden esperar de las intervenciones económicamente selectivas (protección en períodos difíciles de aprendizaje, establecimiento de una red de proveedores y servicios y mejoramiento del suministro de aptitudes y de apoyo tecnológico) en el fomento de las capacidades industriales. Sin embargo, el alcance exagerado de la protección, el desaliento de las exportaciones, las restricciones a la competencia interna y al crecimiento, el aumento del contenido nacional sin considerar el costo ni la calidad y la insuficiencia del suministro de tecnología e infraestructura se cobraron un fuerte precio en términos de desarrollo y del aprovechamiento de esas capacidades. Por último, las repercusiones de las intervenciones no económicas se vieron claramente en la nula competitividad del sector industrial de la India. En consecuencia, la necesidad más apremiante en cuanto a reforma de las políticas en esa nación se encuentra en las esferas de los incentivos y la liberalización.

Esta estrategia de industrialización de la India se mantuvo por largo tiempo (aunque hacia fines del decenio de 1980 se introdujeron algunas reformas). Ello llevó al Banco a abocarse con más esfuerzo al análisis de las políticas y de los subsectores de la industria india que el desplegado en relación con ningún otro país miembro. Por tal razón, hay mucho más material sobre la India que sobre Corea y su contenido tiende a ser más amplio y completo.

### **La experiencia de la India analizada por el Banco**

En términos generales, el trabajo del Banco relativo al sector industrial de la India fue de muy buena calidad. Se dedicaron considerables esfuerzos y conocimientos analíticos a descifrar la naturaleza y los efectos del régimen de políticas extremadamente complejo de este país. Las recomendaciones formuladas al Gobierno fueron razonables y bien fundamentadas, y demostraron coherencia en el transcurso del

tiempo. En general, la India fue objeto de algunos de los mejores estudios del Banco relativos al sector industrial.

Las limitaciones de esta labor se originaron en el enfoque fundamental de la industrialización y la estrategia de desarrollo industrial aplicado por el Banco, así como en el desajuste entre ese enfoque general y los microanálisis. El primero fue reflejo de la creencia en la eficiencia de los mercados y de una opinión pesimista de las capacidades del Gobierno. Por el contrario, los análisis subsectoriales presentaron evaluaciones realistas de las ineficiencias del mercado y la necesidad concomitante de efectuar intervenciones de apoyo selectivas. La dicotomía del Banco entre los análisis microeconómicos y los estudios generales de políticas —mencionada anteriormente en el caso de Corea— se hizo más evidente en su trabajo relativo a la India.

El enfoque del Banco respecto de la industrialización en la India no incorporó por completo el papel y los determinantes de factores tales como el capital humano, las iniciativas en el plano técnico y las instituciones de apoyo. Por último, no se prestó suficiente atención a los logros que permitió alcanzar la estrategia india. Con esto no se pretende decir que el Banco debería haber respaldado el conjunto de intervenciones no económicas y mal aplicadas de la India. Si bien la posición del Banco de insistir en la liberalización y la aplicación de políticas orientadas hacia el exterior ha sido acertada, cabe aducir que, de haber establecido analíticamente una distinción entre intervenciones económicas y no económicas, hubiese podido formular y presentar al Gobierno de la India estrategias más claras y persuasivas.

### **El caso de Indonesia**

Indonesia no tiene una larga historia industrial y el sector manufacturero sigue representando un porcentaje pequeño del producto interno bruto (alrededor de 12,8% en 1987). Tal contribución es más reducida que la de otros países comparables de la región. Gran parte de la industria se concentra en actividades tradicionales sencillas, basadas fundamentalmente en la amplia gama de materias primas nacionales. Sin embargo, últimamente Indonesia ha invertido en forma significativa en el fortalecimiento de su base de capital humano para la industrialización y hoy día cuenta con una estructura educacional similar a la que tenían Corea y Taiwan (provincia de China) a mediados del decenio de 1960. No obstante, aún existen deficiencias en la esfera de la educación técnica de nivel superior y en cuanto a la calidad de la capacitación. La insuficiencia de aptitudes es un problema endémico en la industria indonesia.

El régimen comercial e industrial de Indonesia tenía muchas de las características del sistema engorroso, restrictivo y económicamente irracional de la India. A la orientación hacia el interior y los niveles de protección elevados y vari-

ables se agregaban controles sobre el acceso a la industria, el crecimiento y la diversificación. La inversión extranjera estaba restringida, se habían impuesto diversos obstáculos a la competencia interna y la captación de rentas era un objetivo corriente.

En 1985 se emprendieron importantes reformas en materia de políticas comerciales e industriales, que han continuado hasta ahora. Tales medidas tenían por objeto alentar el crecimiento industrial, la inversión (tanto nacional como extranjera) y las exportaciones de manufacturas. El desempeño de Indonesia en todas estas esferas fue muy significativo y parece probable que se mantenga. Especialmente notable fue el papel de catalizador que jugaron los inversionistas extranjeros en el incremento de la transferencia de conocimientos y tecnología a industrias manufactureras sencillas y en dirigir el crecimiento de nuevas exportaciones industriales.

### **La experiencia de Indonesia analizada por el Banco**

El análisis del Banco y las recomendaciones formuladas por éste han sido un aporte importante para el proceso de reforma iniciado por el Gobierno de Indonesia. Sin duda, este país constituye el ejemplo de mayor éxito de los tres estudiados en términos de la contribución del Banco a la estrategia industrial en el decenio pasado.

En el asesoramiento en materia de políticas que proporcionó el Banco, el acento principal se puso en la reforma del sistema de incentivos, que era acertado en el contexto de la situación de Indonesia a principios del decenio de 1980. Sin embargo, en los análisis del Banco no se llegó a una comprensión suficientemente profunda de la industria indonesia en el plano subsectorial. La impresión general de que "conseguir precios sin distorsiones" era lo único importante para la liberalización fue mucho más fuerte en el caso de Indonesia que en el de la India. La insistencia en la desaprobación de las intervenciones fue mucho mayor. En Indonesia también se dio el conflicto entre la prescripción general y el análisis subsectorial, mencionado en los casos de la India y Corea. Se siguió instando a aplicar una intervención selectiva en los mercados de los factores, en tanto que se criticaban intervenciones similares en los mercados de los productos. Hubo una opinión negativa de las capacidades del Gobierno para emprender intervenciones en la esfera de la política industrial. La posición del Banco en materia de políticas aparentemente se fundamentó en un enfoque bastante corriente que, más que analizar, tendía a suponer la ineficiencia gubernamental en general.

La posición general del Banco coexistió con un enfoque práctico dirigido más bien a las necesidades de determinadas actividades durante el proceso de liberalización. El desmantelamiento gradual de las reglamentaciones, así como el acento inicial que se puso en el mejoramiento de los incentivos para exportar, dejaron en claro que el asesoramiento prestado por el Banco era realista y no dogmático. El

Banco mostró estar consciente de las deficiencias de la industria indonesia en materia de aptitudes y tecnología. No obstante, el análisis de la estrategia de Indonesia de darle un "gran impulso" a la tecnología debería haber sido más enérgico y crítico. El Banco debería haber orientado más explícitamente las iniciativas estatales relativas al fortalecimiento de las capacidades hacia esferas en que pudiera surgir una ventaja comparativa para Indonesia.

### **Síntesis: el enfoque del Banco**

Se puede decir que el enfoque del Banco relativo a la política industrial es "neoclásico moderado", es decir, acepta el que los mercados de los factores y de los productos no son totalmente eficientes en los países en desarrollo y que las intervenciones estatales tienen una función que cumplir. No obstante, se prefieren decididamente las intervenciones funcionales a las selectivas; los gobiernos deberían velar por la eficiencia de los mercados de una manera más neutral.

No se considera conveniente la intervención selectiva, que respalda el crecimiento de determinadas actividades con preferencia a otras, por dos tipos de razones. En primer lugar, se presupone que, en la práctica, la incidencia de ineficiencias del mercado que requieren una promoción selectiva es limitada. En segundo lugar, incluso cuando se produce este tipo de ineficiencias del mercado, se suele pensar que los gobiernos tienen propensión a fracasar en el ejercicio de la selectividad y que la ineficiencia del mercado puede ser menos costosa que la ineficiencia gubernamental.

El enfoque del Banco se sitúa firmemente en la corriente principal del pensamiento actual en materia de desarrollo, que ha estado dominado por el análisis de la estrategia comercial. Este enfoque general tiene varias consecuencias para el análisis que hace el Banco y el asesoramiento que brinda.

Primero, hay una tendencia a centrarse en gran medida en los factores relativos a los incentivos y a ignorar (o desestimar) el papel que les cabe a las capacidades e instituciones (factores estructurales) en la política industrial. Segundo, el enfoque del Banco para solucionar las ineficiencias de los mercados de los factores y de los productos se orienta marcadamente a mantener la neutralidad entre las actividades. Tercero, parece que a la "estrategia industrial" positiva se le asigna una función muy pequeña. En este contexto, el término "estrategia" se refiere a un conjunto interrelacionado de intervenciones en diversos aspectos de la actividad industrial para alcanzar determinados objetivos generales. Cuarto, parece haber una propensión a no establecer una distinción entre intervención económica y no económica.

### **Cuestiones principales**

*Factores estructurales frente a factores relacionados con los incentivos.* En los tres estudios sobre países se observa una ten-

dencia sistemática de parte del Banco a subestimar la importancia de los factores estructurales y a sobrestimar los factores relacionados con los incentivos. A pesar de lo mucho que se ha hecho en materia de educación, por ejemplo, el desempeño industrial de Corea rara vez se vinculó directamente a las interacciones entre los incentivos orientados a las exportaciones y la acumulación de capital humano. Del mismo modo, no se dio suficiente importancia a la tecnología y el fortalecimiento institucional (excepto en el caso de las instituciones financieras) como elementos de importancia fundamental para el éxito de la industrialización. Nuevamente, el estudio de Corea muestra que la inversión de ese país en investigación y desarrollo no obedeció únicamente a su orientación a las exportaciones, sino también a su estrategia de ingresar en la industria pesada, fortalecer las capacidades tecnológicas nacionales y apoyarse en grandes conglomerados de empresas. En otras palabras, el impulso de la industrialización de Corea sólo podía ser duradero en la medida en que se desplegaran esfuerzos masivos en materia tecnológica y de inversiones en formación de aptitudes, dos elementos que requerían políticas específicas y promoción por parte del Gobierno.

La calidad del trabajo del Banco en lo referente a los incentivos ha sido siempre muy buena, y fue excepcional en los casos en que la estructura de los incentivos estaba muy distorsionada, como en la India e Indonesia. La insistencia del Banco en la orientación a las exportaciones, la liberalización y el fomento de la competencia del mercado fue absolutamente válida. Las críticas formuladas a la intervención no económica e irracional fueron útiles y justificables. Las recetas relativas a la liberalización fueron beneficiosas en los casos en que alejaron a los gobiernos de una intervención masiva, no selectiva y costosa, guiándolos hacia una mayor dependencia de las fuerzas del mercado. Sin embargo, esos beneficios no justifican plenamente el enfoque analítico del Banco, que todavía tiende a concentrarse en "conseguir precios sin distorsiones", ignorando los conocimientos adquiridos en sus investigaciones y dejando de integrar las cuestiones de políticas relativas a la capacitación, el desarrollo tecnológico y el fortalecimiento institucional.

*Estrategia industrial.* La selección de un conjunto de objetivos estratégicos, como la transformación de la estructura industrial mediante el ingreso en la industria pesada o la elección entre agentes del sector público o privado para desarrollar la tecnología, impone a las políticas industriales el correspondiente conjunto de condiciones. Si están bien concebidas y tienen coherencia interna (en términos económicos), es posible aplicar con éxito una variedad de estrategias diferentes. Las políticas orientadas al mercado por sí solas no ofrecen muchas respuestas estratégicas. En general, el Banco muestra una actitud ambigua frente a cuestiones de estrategia industrial. Las recomendaciones en materia de políticas (como una mayor orientación a las ex-

portaciones, la liberalización de las importaciones, el aumento de la competencia interna y mayor acceso al capital y la tecnología extranjeros) son claras y resueltas, pero no se basan en estrategias —entendidas éstas en el sentido señalado antes— y pueden no ser suficientemente específicas para ayudar a los gobiernos a tomar decisiones en materia de objetivos o de aplicación de medidas.

*Desarrollo industrial a nivel microeconómico.* Para la formulación de la política industrial es fundamental comprender el proceso de adquisición de eficiencia a nivel microeconómico. Se trata de un proceso complejo que requiere tiempo e inversión para generar aptitudes e información. El enfoque general del Banco tiende a descuidar estas complejidades. En lo que respecta a los mercados de los factores, esto supone mejorar el funcionamiento de los mercados de tal manera que no se favorezca a ninguna actividad respecto de las demás incluso cuando las intervenciones se dirijan a determinadas industrias o instituciones. En cuanto a los mercados de los productos, el Banco plantea que sólo se puede promocionar a las industrias incipientes mediante la aplicación de coeficientes de protección efectiva bajos y uniformes, independientemente de las diferencias tecnológicas existentes entre las actividades o de las diferencias en los niveles de desarrollo de los mercados en los distintos países.

No obstante, en algunos de los informes detallados del Banco sobre subsectores se presta mayor atención a las complejidades del fortalecimiento de la capacidad industrial. Si bien en ellos no se analiza en profundidad la forma en que las actuales empresas eficientes acumularon sus puntos fuertes en cuanto a competitividad, se describen con bastante claridad los obstáculos tecnológicos, de insumos, escala e institucionales que deberán enfrentar para su desarrollo en el futuro. Por lo tanto, el análisis de la dinámica de la adquisición de capacidades sería de utilidad para muchos aspectos del trabajo del Banco en materia de industria. Tal análisis le ayudaría a asesorar a los gobiernos en lo relativo a las medidas de apoyo para las diferentes actividades industriales, a saber: la estructura y graduación aconsejables de la protección o la liberalización; la naturaleza posible de sus ventajas comparativas en evolución, tomando debidamente en cuenta los progresos tecnológicos a nivel internacional; los requisitos específicos en materia de aptitudes, así como las necesidades tecnológicas e institucionales de las actividades importantes, etc.

*Selectividad y riesgo de que fracasen las intervenciones gubernamentales.* Los tres estudios sugieren que el Banco no reconoció completamente el verdadero alcance e incidencia de las ineficiencias del mercado, tanto en los mercados de los factores como en los de los productos, que requieren intervenciones selectivas. El acento que el Banco pone en las intervenciones no selectivas debilita al parecer el argumento, posiblemente válido, a favor de efectuar una promoción

selectiva para ayudar a los países a abordar la etapa siguiente de su proceso de aprendizaje. La modernización industrial y tecnológica supone necesariamente mayores costos y riesgos, y es posible que se requiera asistencia para ayudar a hacerles frente si los mercados y las estructuras institucionales son imperfectos.

El riesgo de que fracasen las intervenciones gubernamentales está presente en todos los debates sobre la selectividad, y quizás ésta sea la razón más poderosa de la renuencia del Banco a aceptarla como parte integral de la estrategia industrial de los países en desarrollo. El riesgo es muy real y la experiencia en materia de desarrollo ofrece muchos ejemplos en extremo lamentables. Sin embargo, esto no debe llevar a suponer que la ineficiencia gubernamental sea inevitable. La intervención selectiva no se contradice necesariamente con la liberalización; por el contrario, antes de aplicar una política más racional es preciso eliminar la carga de las intervenciones no económicas. No obstante, dadas las ineficiencias del mercado, el proceso de liberalización debería llevar a los países a efectuar intervenciones selectivas convenientes, más bien que una intervención mínima. El nivel y el contenido de las políticas deberían reflejar la capacidad gubernamental y la naturaleza de las actividades en cuestión. El estudio de Corea muestra claramente que hay varias maneras de reducir el riesgo de una promoción selectiva que tienen relación con el nivel y el diseño de las intervenciones, las salvaguardias para reducir los posibles daños y la orientación para formular programas mejores.

## Recomendaciones

Las recomendaciones relativas a los estudios del Banco son aplicables tanto a nivel de la estrategia general, el asesoramiento en materia de políticas y el financiamiento, como a nivel de los proyectos.

En términos de su *enfoque de la industrialización*, el Banco debería:

- ampliar sus estudios sobre el sector industrial a fin de formular estrategias de industrialización basadas en los conocimientos adquiridos sobre las prácticas de industrialización que han resultado exitosas en diferentes países;
- adoptar un enfoque más integral de la industrialización, incluyendo más cabalmente en sus análisis no sólo las cuestiones relativas a infraestructura, fiscalización y entorno empresarial y al sector financiero, sino también las relativas a las capacidades e instituciones.

*Entender la competitividad a nivel microeconómico* permitiría mejorar el asesoramiento práctico que brinda el Banco a los países en desarrollo. Por lo tanto, el Banco debería:

- incluir en su programa de investigaciones el estudio en profundidad de casos exitosos de adquisición de capacidades a nivel de la actividad industrial y las empresas, así como ejemplos positivos de fortalecimiento institucional que hayan permitido mejorar el funcionamiento de los mercados y el desarrollo de las capacidades de las empresas manufactureras;
- abordar la cuestión de la pertinencia del Estado en el proceso de adquisición de capacidades y desarrollo institucional;
- estudiar las repercusiones de los programas de liberalización en el desarrollo de las capacidades, con el objeto de evaluar la evolución de la competitividad en respuesta al rápido contacto con la competencia a nivel mundial.

En cuanto a *la promoción de políticas eficientes*, y a fin de evitar la tendencia a recomendar políticas bastante similares a distintos países y de tomar en cuenta las diferencias estratégicas, el Banco debería:

- establecer un plan sistemático para el análisis de la industrialización y la recopilación de datos a fin de orientar la política industrial;
- ayudar a los gobiernos a formular políticas industriales acertadas mediante la recopilación, el análisis y la divulgación de datos sobre esferas tales como adquisición de capacidades a nivel microeconómico y el fomento de industrias incipientes;
- cuando sea económicamente aconsejable, considerar políticas selectivas como parte integral de un conjunto de medidas para fomentar el desarrollo industrial;
- ayudar a los países a superar o a minimizar los riesgos de que fracasen las intervenciones estatales;
- estudiar la manera de reformar las administraciones ineficientes y de perfeccionar las capacidades de formulación de políticas.

Es fundamental que el personal de operaciones dé a conocer ampliamente y asimile los trabajos analíticos del Banco, así como los estudios sobre casos y prácticas que hayan dado buenos resultados.

En conclusión, la liberalización es a menudo una condición necesaria para el éxito de la industrialización, pero puede no ser suficiente. El Banco también tiene que considerar otros aspectos de la política industrial, por ejemplo, el capital humano, la tecnología y el fortalecimiento institucional. En estas esferas se pueden justificar algunas formas de intervención funcional o selectiva con objeto de mejorar la competitividad en el plano internacional. Los costos y beneficios de tales intervenciones estarán determinados por las capacidades de los gobiernos, por lo que deberán ser evaluados caso por caso.

# Résumé Analytique

## Conception de l'étude

La Banque a toujours considéré l'industrialisation des pays en développement comme l'un des éléments principaux du processus de transformation structurelle qui constitue le développement économique. Jusqu'à la fin de l'exercice 90, les prêts à l'ensemble des activités industrielles ont représenté 16,9 % du montant cumulé des prêts de la Banque et ont totalisé 41,4 milliards de dollars, dont 63 % canalisés par des intermédiaires financiers et 37 % destinés à des projets industriels. De même, en raison de sa mission, la SFI s'est engagée très activement dans le développement industriel, non seulement en octroyant des prêts à des entreprises industrielles privées, mais en prenant des participations dans leur capital. L'appui plus vaste apporté par la Banque au développement des infrastructures et des ressources humaines était censé également contribuer au développement industriel.

Si l'appui de la Banque à l'industrialisation a été constant et important, la nature même de cet appui a évolué au fil des ans. Au cours des années 50 et d'une grande partie des années 60, la Banque a accepté d'emblée les stratégies d'industrialisation axées sur le remplacement des importations, généralement poursuivies dans le cadre d'une planification globale et d'une intervention massive de l'Etat dans l'activité industrielle. Pour la Banque, les principaux objectifs étaient de renforcer les institutions (les sociétés de financement du développement, SFD), d'améliorer l'évaluation des projets, de mobiliser des ressources et de donner une plus grande liberté à l'entreprise privée.

Au cours des années 70, le climat intellectuel sous-tendant les stratégies d'industrialisation a évolué. Les pays nouvellement industrialisés d'Asie de l'Est ont pris une place prééminente sur la scène mondiale et les politiques commerciales ouvertes sur l'extérieur ont commencé à être considérées comme essentielles au développement de l'industrie. C'est durant cette période que l'orientation de la

Banque a changé. Dans son dialogue avec les emprunteurs, elle s'est de plus en plus intéressée aux grandes questions de stratégie. Au cours des années 80, lorsque ce changement d'orientation a abouti à une série d'opérations d'ajustement structurel et sectoriel, la façon dont la Banque concevait la stratégie industrielle s'est précisée et a pris appui sur des bases rationnelles. C'est cette conception qui fait l'objet de la présente étude.

## La stratégie industrielle : un cadre d'analyse

Une stratégie industrielle peut prendre maintes formes différentes qui peuvent aller d'une planification globale assortie d'un contrôle très étroit de l'Etat sur les moyens de production, à un système caractérisé par la déréglementation des marchés et une intervention minimale de l'Etat. Le choix entre ces deux extrêmes est souvent influencé par l'idéologie politique, l'histoire, la tradition et autres facteurs non économiques.

La théorie économique fournit néanmoins des bases permettant de choisir des stratégies industrielles appropriées. En dehors de la conduite de la politique macroéconomique et de l'établissement du cadre juridique, le rôle que joue l'Etat dans l'industrie production, réglementation, subvention, appui ou intermédiation (ce qu'on entend en gros par le terme « intervention ») dépend de l'efficacité des marchés concernés. Si tous les marchés fonctionnent efficacement, ils peuvent assurer une répartition et une production optimales des ressources. Avec des marchés parfaits (sans tenir compte des problèmes de répartition du revenu), la meilleure stratégie est celle de l'Etat « minimaliste ». Cependant, si les conditions préalables au bon fonctionnement des marchés ne sont pas toutes réunies, il y a « défaillance du marché » et l'optimisation n'est pas garantie.

## Défaillance du marché et intervention de l'Etat

Trois facteurs peuvent justifier une intervention pour remédier aux défaillances du marché : la nature de la défaillance en question; l'existence de solutions fondées sur le marché; et l'aptitude de l'Etat à concevoir et à appliquer les mesures qui s'imposent lorsque les solutions faisant intervenir le marché ont peu de chances d'exister ou sont inadéquates. *La défaillance du marché ou de l'Etat* peut être partielle et non absolue. Elle peut aussi avoir un effet dynamique en ce sens qu'à la longue le marché ou l'Etat peut devenir mieux à même (ou moins à même) d'y remédier. La configuration exacte des défaillances et des remèdes varie suivant le pays et l'époque, et cette question revêt essentiellement un caractère empirique qui se prête mal à des généralisations *a priori*.

*En ce qui concerne les marchés des facteurs*, des défaillances sont susceptibles de survenir dans les domaines suivants : infrastructure matérielle, marchés du travail, capital humain, sciences et technologie, marchés des capitaux et marchés financiers, importations de technologies et diverses institutions d'appui à l'industrie. *Pour les marchés des produits*, les défaillances peuvent être de trois types : comportement anticoncurrentiel des grandes sociétés sur des marchés oligopolistiques; manque d'information et coût de transaction élevé au niveau de la commercialisation; et effets de la concurrence internationale sur les nouveaux entrants qui doivent supporter des coûts d'« apprentissage » élevés.

Les économistes distinguent deux grandes catégories d'intervention : les interventions « fonctionnelles » et les interventions « sélectives ». Les *interventions fonctionnelles* visent à remédier aux défaillances génériques du marché sans favoriser une activité par rapport à une autre. Les *interventions sélectives* visent à remédier aux défaillances du marché dans certains secteurs d'activité et peuvent viser à promouvoir certaines activités par rapport à d'autres. On préfère généralement les premières en raison des risques associés aux secondes (en particulier le fait de miser sur les secteurs gagnants). Il convient cependant de noter que, pour certains types de défaillance du marché, la théorie économique présente des arguments valables en faveur de la sélectivité.

Dans les cas où des interventions sélectives sont justifiées, les besoins d'information qu'elles entraînent et le manque de ressources disponibles sont des facteurs qui limitent le nombre et le champ des activités à promouvoir. Pour que le choix soit efficace, il faut aussi que l'intervention sur les marchés des produits tienne compte des besoins d'apprentissage propres à chaque activité et de leurs interactions. Bien qu'il soit nécessaire de faire une distinction très nette entre les interventions économiquement efficaces et celles qui sont inefficaces et non économiques, le niveau

des interventions économiquement rationnelles et la forme qu'elles revêtent dépendent également des ressources dont le pays est doté, de son stade de développement, de ses moyens administratifs, ainsi que de ses objectifs économiques.

## Incitations, capacités et institutions

A l'échelon national, le développement de l'industrie dépend de l'interaction de trois groupes de facteurs : les incitations, les capacités et les institutions. Les *incitations* guident la répartition des ressources ainsi que les efforts investis pour mettre en place des capacités compétitives; ces incitations émanent de l'environnement macroéconomique, des marchés des facteurs et des marchés des produits la concurrence sur les marchés mondiaux jouant à cet égard un rôle particulièrement important.

Ce sont les capacités et les institutions qui déterminent la réaction de l'offre aux incitations. Les *capacités* naissent des investissements matériels, des infrastructures, de la valorisation des ressources humaines et des efforts technologiques. Divers types d'*institutions* facilitent la formation des capacités et la production lorsque les mécanismes du marché à eux seuls s'avèrent insuffisants.

Aucun de ces trois groupes de facteurs ne peut assurer à lui seul le développement de l'industrie. Un bon dosage est nécessaire entre les incitations, le développement des capacités et l'appui institutionnel. Ce dosage dépend des ressources dont le pays est doté, de son niveau de développement, et des structures et institutions dont il a héritées. A vouloir mettre uniquement l'accent sur un seul groupe de facteurs, on risque de se méprendre sur la nature du développement industriel et de ne pas suivre la bonne stratégie.

Chacun de ces trois déterminants de l'industrialisation peut être affecté par une défaillance du marché. Par exemple, si une intervention est justifiée pour protéger une industrie naissante, il se peut que les incitations du marché ne donnent pas les signaux voulus pour l'affectation des ressources ou le renforcement des capacités. Il se peut aussi que les capacités ne se développent pas comme il faut si les marchés personnel qualifié, ressources financières, technologies, ou autres sont déficients et si le renforcement des institutions ne compense pas ces déficiences.

La stratégie industrielle doit s'attaquer simultanément à tous ces problèmes interdépendants en s'appuyant sur une perception réaliste des processus de développement industriel à l'échelon microéconomique. Elle doit admettre que les défaillances du marché ne nécessitent pas toutes une action corrective et que, dans bon nombre de cas, les marchés eux-mêmes trouvent les moyens, institutionnels ou autres, d'y remédier. La stratégie doit donc évaluer le coût des interventions au regard de leurs avantages. Le dosage approprié d'interventions fonctionnelles et sélectives ainsi que le

choix des moyens d'intervention doivent être guidés par les objectifs stratégiques du pays, par les ressources, les institutions et les marchés qu'il possède, et par les capacités administratives de l'Etat.

### Défaillance et intervention de l'Etat

Bien qu'il soit théoriquement possible, par des interventions, d'améliorer le fonctionnement de marchés imparfaits, en pratique, les gouvernements n'ont pas souvent les compétences, les connaissances, l'objectivité ou l'autonomie voulues pour mener à bien ces interventions. La question cruciale alors est de savoir non pas si une intervention est souhaitable, mais quel serait le coût d'une défaillance de l'Etat par rapport à celui d'une défaillance du marché. La question des défaillances de l'Etat est très réelle dans les pays en développement, et c'est un sujet qui retient actuellement beaucoup l'attention.

Le bilan récent de l'industrialisation dans les pays en développement offre maints exemples de défaillances de l'Etat. Sans parler des erreurs de gestion de la politique macroéconomique, nombreux sont les gouvernements qui sont intervenus à mauvais escient dans le développement industriel. Souvent, ils ont poursuivi des objectifs peu réalistes, orienté l'activité vers des marchés intérieurs protégés par des barrières hautes et peu rationnelles, faussé l'affectation des ressources par un régime de licences, un contrôle du crédit et des mesures budgétaires, mal choisi les firmes ou les technologies à encourager, restreint l'accès aux technologies nouvelles, freiné le développement de la concurrence ou la diversification, ou étendu le contrôle de l'Etat alors que le secteur privé pouvait assurer la prise en charge.

Face à ce bilan de distorsions peu encourageant, on peut cependant faire état de quelques stratégies d'industrialisation interventionnistes qui ont remarquablement réussi. Le bilan global des interventions ratées et des défaillances de l'Etat est donc relatif plutôt qu'absolu. Certaines interventions ont produit les effets souhaités, mais ces effets ont parfois été neutralisés par les effets négatifs d'autres interventions non économiques.

Toute stratégie industrielle doit évidemment prendre en compte l'éventualité d'une défaillance de l'Etat. Ni les marchés, ni l'Etat ne peuvent être présumés parfaits. On ne peut pas non plus supposer que toutes les interventions sont vouées à l'échec. Dans certaines conditions, elles peuvent réussir et, en général, celles qui réussissent sont celles qui comportent un certain degré de sélectivité. Etant donné les coûts d'apprentissage et les défaillances du marché, un manque de sélectivité peut aboutir à une structure industrielle superficielle, rigide ou technologiquement dépassée. Quant à savoir si l'on peut accroître utilement le degré de sélectivité, cela dépend de considérations politiques et administratives changeant constamment.

L'existence de ces cas d'intervention économique très réussis donne à penser que, dans certaines circonstances, on peut minimiser les défaillances de l'Etat et remédier à celles des marchés. Les échecs étant beaucoup plus nombreux que les réussites, on peut penser que ces circonstances ne sont pas souvent réunies dans les pays en développement. Cependant, la non-intervention a elle aussi ses coûts et, dans un monde où le progrès technologique est rapide et où l'avantage comparatif évolue constamment, ces coûts risquent de croître. La capacité d'intervenir évolue elle aussi rapidement, et il est difficile de faire des généralisations sur le rôle de l'Etat dans l'industrialisation.

La stratégie envisagée doit aussi tenir compte de l'ensemble des structures mises en place au fil des années. Dans bien des cas, on se trouve devant un système hautement interventionniste, irrationnel, contraire à la logique économique, mal conçu et mal appliqué, et dominé par les intérêts en place et la recherche de l'avantage personnel. Dans ces conditions, on ne peut lancer une nouvelle stratégie sans procéder au préalable à un démantèlement général des contrôles, réglementations, protections et investissements. Un tel processus de libéralisation constitue souvent l'une des conditions nécessaires à la réussite de l'industrialisation. En outre, il peut être indiqué de promouvoir effectivement l'industrie pour remédier aux défaillances du marché et rétablir son fonctionnement efficace.

### Le cas de la Corée

La République de Corée est l'emprunteur de la Banque qui a le mieux réussi au plan du développement industriel, et elle est généralement considérée par les autres pays en développement comme un modèle à suivre. Avant 1963, la Corée a poursuivi une stratégie essentiellement axée sur le remplacement des importations qui couvrait certaines industries lourdes ainsi que des industries légères à forte intensité de main-d'oeuvre. A partir de 1963, elle est passée à une stratégie tournée avant tout vers l'extérieur qui consistait à encourager et à appuyer fortement les exportations, tout en poursuivant une politique de remplacement des importations dans une gamme d'activités nouvelles de plus en plus complexes. Les efforts déployés pour développer ces nouvelles activités, bien que largement le fait du secteur privé, étaient vigoureusement dirigés par l'Etat. Les mesures prises à cet effet comprenaient des taux de protection effective élevés et variables, une allocation centrale du crédit, une politique délibérée de création de grands conglomérats, un recours minime à l'investissement direct étranger, et un contrôle étroit exercé par les pouvoirs publics sur le rythme et l'orientation du développement industriel. Il est généralement admis que les interventions de l'Etat ont joué un rôle central pour guider, influencer et promouvoir le développement industriel du pays.

Cette campagne d'industrialisation a été accompagnée d'un renforcement rapide des compétences à tous les niveaux et par le développement général de l'infrastructure scientifique et technologique. Les firmes étaient tenues d'investir largement dans la formation de leurs employés et encouragées à lancer des programmes de recherche-développement. Elles ont eu facilement accès aux technologies étrangères, mais surtout par l'achat de nouveaux équipements et des accords de licence, plutôt que par la création de coentreprises sous contrôle étranger. Les interventions sur les marchés technologiques étaient destinées à renforcer les capacités d'absorption puis les capacités d'innovation locales. Cependant, à la différence de la plupart des régimes « classiques » de remplacement des importations, la Corée a appliqué la protection de manière sélective, encouragé la concurrence intérieure et forcé les entreprises à pénétrer très tôt sur les marchés d'exportation. Elle a maintenu une distinction entre un secteur concurrentiel déjà relativement mûr, opérant sur les marchés d'exportation dans des conditions proches du libre-échange, et un ensemble d'activités nouvelles qui étaient fortement protégées, encore en « apprentissage » et orientées principalement et initialement vers les marchés intérieurs.

### **Analyse de l'expérience de la Corée par la Banque**

La Banque ne s'est que partiellement bien acquittée de sa tâche d'analyse de l'expérience d'industrialisation coréenne. Le point fort de ses travaux réside dans l'analyse de la nature et des avantages de l'ouverture vers l'exportation et de l'attention que les autorités ont portée au renforcement des mécanismes de marché, au lieu de les ignorer. Par contre, l'analyse de la Banque est faible dans les domaines suivants :

- Premièrement, si la Banque a accepté l'idée que le programme d'industries lourdes et chimiques répondait à l'évolution de l'avantage comparatif coréen, elle s'est servie de cette expérience comme argument contre la stratégie d'intervention sélective. Or, les faits relevés en Corée n'étaient pas cette conclusion. Bien que certains investissements dans ces industries aient dû être réduits ou restructurés, il y a eu un transfert constant d'activités du secteur de remplacement des importations vers le secteur d'exportation et, dans les années 80, plus de la moitié des exportations de produits manufacturés provenait de l'industrie lourde.
- Deuxièmement, le cadre restrictif qui sous-tend l'analyse de l'industrialisation faite par la Banque l'a conduite à sous-estimer, voire à négliger, le processus d'acquisition des capacités à l'échelon microéconomique sur lequel repose le développement de l'industrie. Les rapports de la Banque se contentaient de mentionner l'existence d'une main-d'oeuvre disciplinée, instruite et facile à former,

ainsi que les incitations résultant de l'ouverture vers l'exportation. Tous les autres facteurs intermédiaires développement des capacités, recherche et effort technologiques, interactions avec d'autres firmes et institutions sont restés pratiquement ignorés.

- Troisièmement, la position analytique générale de la Banque ne cadre pas avec le type de projets qu'elle a exécutés en Corée, projets qui font preuve d'une meilleure appréciation de la formation des capacités, de la sélectivité et des institutions. La position générale de la Banque semble s'aligner largement sur les conceptions « libérales » de la stratégie commerciale et des interventions de l'Etat (celles-ci étant jugées malencontreuses), alors qu'au niveau des projets ses pratiques sont plus « structuralistes » et plus favorables à l'intervention.

### **Le cas de l'Inde**

Pour des raisons tout à fait différentes de celles évoquées pour la Corée, le cas de l'Inde est, lui aussi, intéressant pour la Banque. L'Inde a toujours été le plus gros emprunteur de la Banque et son industrialisation est déjà ancienne et diversifiée. Pendant un certain temps, elle a été considérée comme un modèle de développement économique dirigé. Sa stratégie comportait un remplacement des importations à grande échelle, à l'abri de barrières élevées et permanentes, un secteur public en expansion, de fortes restrictions à l'activité du secteur privé et des contrôles stricts sur l'entrée des capitaux et technologies étrangers. A la longue, cette politique fortement introvertie et interventionniste a fait de l'industrialisation un échec relatif.

Le système de l'Inde était tantôt souple, tantôt rigoureux, mais il était probablement unique quant à la nature étendue, restrictive et non sélective des contrôles. L'objectif de la plupart de ces contrôles était non pas de remédier aux défaillances du marché sur le plan de l'efficacité, mais de forcer l'industrie à se conformer aux idéaux d'autonomie et de justice sociale, tels qu'ils étaient conçus par les décideurs. Pour reprendre la terminologie de l'étude, les interventions en Inde n'étaient ni économiques, ni menées efficacement. Motivées surtout par des objectifs politiques, elles étaient mal conçues et propres à encourager la recherche de l'avantage personnel à tous les niveaux.

Des années 60 jusqu'au début des années 80, les résultats médiocres à l'exportation ont été une caractéristique dominante du secteur manufacturier indien. Si les exportations ont diminué progressivement par rapport à la production manufacturière, l'intégration plus poussée de la structure industrielle du pays ne s'est pas traduite par une croissance dynamique et diversifiée des exportations de produits manufacturés. Cette situation a été due principalement à plusieurs facteurs, dont les incitations tendant à favoriser le marché intérieur; l'inefficacité, la médiocrité et l'obsoles-

cence technologique existant encore dans de grands secteurs d'activité; les blocages au niveau des infrastructures; l'insuffisance des compétences commerciales; et le manque d'appui institutionnel.

L'éventail des moyens d'actions utilisés en Inde, avec des éléments sélectifs et fonctionnels accompagnés d'interventions non sélectives et non économiques, a néanmoins produit les avantages qu'offrent normalement des interventions économiquement sélectives (protection pendant la période difficile d'apprentissage, mise en place d'un réseau de fournisseurs et de services, et amélioration des compétences et de l'appui technologique) pour promouvoir les capacités industrielles. Cependant, le fait que la protection a été excessive, que l'exportation est devenue peu attrayante, que la concurrence et la croissance intérieures ont été freinées, que les apports locaux ont été accrus sans considération de coût ni de qualité, et que l'accès à la technologie et aux infrastructures a été insuffisant, a sévèrement freiné le développement et l'exploitation de ces capacités. En fin de compte, c'est le manque de compétitivité de l'industrie indienne qui a reflété le mieux les effets des interventions non économiques. En conséquence, c'est dans les domaines des incitations et de la déréglementation que les besoins de réforme sont maintenant les plus pressants en Inde.

La stratégie d'industrialisation de l'Inde s'est avérée très persistante (même si des réformes ont été entreprises vers la fin des années 80). Cette persistance a conduit la Banque à consacrer plus d'effort à l'analyse de l'industrie indienne au plan des grandes orientations et des sous-secteurs qu'elle n'en a consacrés à tout autre pays membre. C'est pourquoi elle possède une documentation beaucoup plus vaste sur l'Inde que sur la Corée, et cette documentation est généralement plus riche et plus complète.

### **Analyse de l'expérience de l'Inde par la Banque**

En général, les travaux réalisés par la Banque sur l'industrie indienne sont de très bonne qualité. Il a fallu beaucoup d'efforts et de talents d'analyse pour élucider la nature et les effets d'un régime aussi complexe. Dans l'ensemble, les recommandations faites au Gouvernement ont été judicieuses, bien argumentées et cohérentes. En général, on peut dire que l'Inde a fait l'objet de quelques-uns des meilleurs travaux sectoriels de la Banque.

Les faiblesses de ces travaux venaient de la position que la Banque avait adoptée à l'égard de l'industrialisation et de la stratégie industrielle et du fait que cette position générale ne cadrait pas avec l'analyse microéconomique. Cette position générale partait de la conviction que les marchés étaient efficaces et d'une conception pessimiste des capacités de l'administration. Par contre, les analyses subsectorielles évaluaient de façon réaliste les défaillances du marché et la nécessité concomitante d'interventions

d'appui sélectives. Cette dichotomie, déjà notée à propos de la Corée, entre l'analyse microéconomique et les travaux de politique générale de la Banque est devenue plus manifeste dans ses travaux sur l'Inde.

Les travaux de la Banque sur l'industrialisation en Inde n'ont pas tenu pleinement compte du rôle joué par des facteurs tels que le capital humain, l'effort technique et les institutions d'appui. Enfin, les résultats positifs de la stratégie indienne n'ont pas reçu une attention suffisante. On ne veut pas dire par là que la Banque aurait dû appuyer les interventions non économiques et mal exécutées de l'Inde. Si la Banque a eu raison d'insister sur la déréglementation et une politique d'ouverture sur l'extérieur, on peut avancer que si, dans ses analyses, elle avait fait une distinction entre les interventions économiques et celles qui ne l'étaient pas, elle aurait pu formuler des stratégies plus claires et plus convaincantes à l'intention du Gouvernement indien.

### **Le cas de l'Indonésie**

L'industrialisation de l'Indonésie est de date encore assez récente, et son secteur manufacturier n'apporte encore qu'une contribution modeste à son PIB (environ 12,8 % en 1987). Cette proportion est plus faible que dans les pays comparables de la région. L'industrie est encore centrée sur des activités traditionnelles simples, fondées largement sur une base abondante de matières premières locales. L'Indonésie a néanmoins beaucoup investi récemment dans la constitution d'un capital humain formé pour l'industrialisation, et elle a maintenant des structures éducatives analogues à celles qu'avaient la Corée et Taiwan (Province de Chine) au milieu des années 60. Cependant, elle est encore faible dans le domaine de l'enseignement technique supérieur et la qualité de la formation est médiocre. L'industrie indonésienne souffre d'une pénurie endémique de personnel qualifié.

A l'instar de celui de l'Inde, le régime commercial et industriel de l'Indonésie était caractérisé par la lourdeur, les restrictions et l'irrationalité économique. La politique de repli et les niveaux élevés et variables de protection étaient accompagnés par une politique de restrictions à l'entrée, à la croissance et à la diversification. L'investissement étranger était limité; la concurrence intérieure était bridée de diverses manières; et la recherche de l'avantage personnel sévissait partout.

Des réformes majeures de la politique commerciale et industrielle ont été lancées en 1985 et se poursuivent depuis. Ces réformes ont stimulé la croissance industrielle, l'investissement (local et étranger) et les exportations de produits manufacturés. Les résultats obtenus par l'Indonésie dans ces trois domaines ont été remarquables et ils semblent devoir durer. A cet égard, il convient de louer le rôle de catalyseur qu'ont joué les investisseurs étrangers pour stimuler les transferts de compétences et de technologies en faveur

des activités manufacturières simples, et pour animer la croissance de nouvelles exportations industrielles.

### **Analyse de l'expérience de l'Indonésie par la Banque**

L'analyse de la Banque et les conseils qu'elle a donnés ont puissamment contribué au processus de réforme lancé par le Gouvernement indonésien. Si l'on considère les trois cas étudiés ici, c'est sans doute en Indonésie que la Banque a le mieux contribué à la stratégie industrielle au cours de la dernière décennie.

Dans ses conseils, la Banque a insisté principalement sur la réforme du cadre des incitations, ce qui était justifié dans le contexte de la situation indonésienne du début des années 80. Cependant, les analyses de la Banque n'ont pas fourni une connaissance suffisamment approfondie de l'industrie indonésienne au niveau des sous-secteurs. Pour l'Indonésie, beaucoup plus que pour l'Inde, on a l'impression générale que la seule chose importante dans la libéralisation était d'« avoir de justes prix »; l'opposition de la Banque à l'intervention a également pesé beaucoup plus lourd. La dichotomie entre les préceptes généraux et les résultats des analyses subsectorielles, déjà notée dans le cas de l'Inde et de la Corée, est apparue également dans le cas de l'Indonésie. La Banque a continué de préconiser des interventions sélectives sur les marchés des facteurs alors qu'elle critiquait celles-ci dans le cas des marchés des produits. Elle avait une vision négative de l'aptitude du Gouvernement à intervenir dans le domaine de la politique industrielle. La position de la Banque était apparemment fondée sur une approche assez courante qui tendait à présumer les défaillances de l'Etat au lieu de les analyser.

Pendant le processus de libéralisation, la position générale de la Banque a coexisté avec une attitude pragmatique, mieux adaptée aux besoins de chaque secteur d'activité. Le démantèlement progressif des réglementations, l'accent mis initialement sur le renforcement des incitations à l'exportation, attestaient des conseils réalistes et non dogmatiques de la Banque. Celle-ci a montré qu'elle était parfaitement consciente des déficiences de l'industrie indonésienne en matière de compétences professionnelles et de technologies. Cependant, son analyse de la stratégie de la grande poussée technologique de l'Indonésie aurait dû être plus vigoureuse et plus critique. La Banque aurait dû guider plus explicitement les efforts de renforcement des capacités du Gouvernement vers les domaines où l'Indonésie commençait à jouir d'un avantage comparatif.

### **Synthèse : l'approche de la Banque**

La position de la Banque à l'égard de la politique industrielle peut être qualifiée de « néoclassique modérée »,

c'est-à-dire qu'elle accepte l'idée que les marchés des produits et des facteurs ne sont pas parfaitement efficaces dans les pays en développement et qu'il y a place pour des interventions de l'Etat. Cependant, la Banque préfère nettement les interventions fonctionnelles aux interventions sélectives car elle estime que l'Etat doit employer des moyens d'action neutres pour rendre les marchés plus efficaces.

Les interventions sélectives, qui favorisent la croissance de certaines activités par rapport à d'autres, sont considérées comme peu judicieuses, et ce pour deux grandes raisons. Premièrement, l'incidence des défaillances du marché qui justifieraient une promotion sélective est centrée être limitée dans la pratique. Deuxièmement, même quand il y a des défaillances de ce type, on suppose bien souvent que l'Etat est porté à se tromper lorsqu'il fait preuve de sélectivité et que la défaillance du marché peut être moins coûteuse que celle de l'Etat.

La position de la Banque s'inscrit parfaitement dans la lignée des conceptions actuelles du développement qui sont dominées par l'analyse de la stratégie commerciale. Cette approche assez large a plusieurs conséquences pour l'analyse et les conseils offerts par la Banque.

Premièrement, on note une tendance à privilégier les facteurs incitatifs et à ignorer (ou sous-estimer) le rôle des capacités et des institutions (facteurs structurels) dans la politique industrielle. Deuxièmement, pour remédier aux défaillances des marchés des facteurs et des produits, l'approche de la Banque tend fortement à maintenir la neutralité entre les activités. Troisièmement, il semble qu'elle fasse peu de place à une « stratégie industrielle » positive. Dans ce contexte, on entend par « stratégie » un ensemble étroitement imbriqué d'interventions, touchant divers aspects de l'activité industrielle, qui vise à atteindre certains grands objectifs. Quatrièmement, il semble que cette approche ait tendance à ne pas faire de distinction entre les interventions économiques et celles qui ne le sont pas.

### **Les problèmes clés**

*Facteurs structurels et facteurs incitatifs.* Les trois études de cas révèlent une tendance systématique de la part de la Banque à sous-estimer l'importance des facteurs structurels et à exagérer celle des incitations. Par exemple, malgré les efforts considérables de la Corée en matière d'éducation, ses performances industrielles n'ont été que rarement directement liées aux interactions existant entre ses incitations à l'exportation et la constitution de son capital humain. De même, le développement technologique et institutionnel (sauf dans le cas des institutions financières) n'a pas reçu l'attention qu'il méritait en tant qu'élément essentiel au succès de l'industrialisation. Là encore, l'étude du cas de la Corée montre que ses investissements en recherche-développement étaient motivés non seulement par

sa politique d'ouverture vers l'exportation, mais aussi par sa stratégie consistant à bâtir une industrie lourde, à renforcer les capacités technologiques nationales et à constituer de grands conglomerats. En d'autres termes, la campagne d'industrialisation de la Corée ne pouvait se poursuivre que par sa poussée technologique et ses investissements massifs en faveur du capital humain, lesquels nécessitaient chacun des mesures et des incitations spécifiques de la part de l'Etat.

Les travaux de la Banque sur les incitations ont toujours été d'un très haut calibre. Ils ont même été exceptionnellement bons quand la structure des incitations était très faussée, comme c'était le cas en Inde et en Indonésie. L'accent mis par la Banque sur l'ouverture vers l'exportation, la déréglementation et l'encouragement de la concurrence était parfaitement justifié. Ses critiques des interventions irrationnelles et non économiques étaient salutaires et justifiables. Ses recommandations de libéralisation ont été bénéfiques lorsqu'elles ont amené les gouvernements à s'écarter des interventions massives, non sélectives et coûteuses pour s'appuyer plutôt sur les mécanismes du marché. Ces côtés positifs ne justifient cependant pas totalement la démarche analytique de la Banque qui tend encore à se concentrer sur la « recherche du juste prix », ignorant les enseignements tirés de ses travaux de recherche et omettant d'intégrer les problèmes de fond liés au développement des compétences, des technologies et des institutions.

*Stratégie industrielle.* A un ensemble donné d'objectifs stratégiques par exemple, la transformation de la structure industrielle par la création d'une industrie lourde ou le choix entre secteur public et secteur privé pour développer la technologie correspond un ensemble de mesures à prendre sur le plan de la politique industrielle. Diverses stratégies peuvent être menées à bien, à condition d'être bien conçues et intrinsèquement cohérentes (en termes économiques). Une politique orientée vers le marché n'offre pas par elle-même de réponses stratégiques. En général, la Banque a une position ambiguë sur les questions de stratégie industrielle. Les recommandations qu'elle fait sur la marche à suivre (par exemple, ouverture sur l'exportation, libéralisation des importations, encouragement de la concurrence interne, élargissement de l'accès aux technologies et capitaux étrangers) sont claires et vigoureuses. Mais elles ne sont pas fondées sur des stratégies au sens où nous les entendons plus haut, et elles ne sont peut-être pas assez spécifiques pour aider les gouvernements à choisir des grands objectifs ou des modes d'exécution.

*Développement industriel au niveau microéconomique.* Pour formuler une politique industrielle, il est essentiel de bien comprendre comment s'acquiert l'efficacité au niveau microéconomique. Il s'agit d'un processus complexe car il faut du temps et des investissements pour constituer les com-

pétences et l'information nécessaire. L'approche générale de la Banque tend à négliger ces aspects complexes. En ce qui concerne les marchés des facteurs, ceci implique qu'il faut améliorer le fonctionnement des marchés de manière qu'aucune activité ne soit favorisée par rapport à d'autres, même quand les interventions visent des industries ou des institutions particulières. En ce qui concerne les marchés des produits, la Banque est d'avis que la promotion des industries naissantes ne peut se faire que par des taux de protection effective faibles et uniformes, quelles que soient les différences technologiques entre les activités ou le degré de développement des marchés dans les différents pays.

Cependant, certains rapports détaillés de la Banque au niveau des sous-secteurs montrent une meilleure appréciation des complexités associées à la constitution de capacités industrielles. S'ils n'analysent pas à fond comment les bonnes entreprises parviennent à renforcer leur compétitivité, ils sont relativement clairs lorsqu'ils décrivent les contraintes technologie, intrants, échelle et appui institutionnel qui pèseront sur leur développement futur. Une analyse de la dynamique de l'acquisition des capacités enrichirait donc, à bien des égards, les travaux de la Banque sur l'industrie. Elle l'aiderait à conseiller les gouvernements sur les mesures d'appui que nécessitent diverses industries, par exemple, sur la structure et l'échelonnement souhaitables des mesures de protection ou de libéralisation; l'évolution probable de l'avantage comparatif du pays, compte tenu du progrès technologique à l'échelle internationale; les besoins spécifiques des principaux secteurs d'activité en matière de compétences, technologies et soutien institutionnel, etc.

*Sélectivité et risque de défaillance de l'Etat.* Les trois études de cas indiquent que la Banque n'a pas pleinement mesuré la portée et l'incidence véritables des défaillances des marchés — marchés des facteurs ou des produits — qui appellent des remèdes sélectifs. L'accent mis par la Banque sur les interventions non sélectives semble affaiblir les arguments potentiellement valables qu'on pourrait avancer en faveur d'une promotion sélective qui aiderait les pays à se lancer dans l'étape suivante de leur processus d'apprentissage. Le processus d'intégration industrielle et technologique implique inévitablement des coûts et des risques plus élevés et une assistance peut s'avérer nécessaire pour y remédier quand les marchés et les structures institutionnelles sont imparfaits.

Le risque de défaillance de l'Etat hante toutes les discussions sur la sélectivité et c'est peut-être la raison principale pour laquelle la Banque hésite à l'accepter comme faisant partie intégrante de la stratégie industrielle des pays en développement. Ce risque est très réel et l'expérience du développement en offre bien des exemples peu réconfortants. Cependant, il ne faut pas en déduire pour autant que la défaillance de l'Etat est inévitable. Une intervention sélec-

tive n'est pas nécessairement incompatible avec la libéralisation; au contraire, le fardeau des interventions non économiques doit être éliminé avant qu'une politique plus rationnelle puisse être mise en oeuvre. Toutefois, vu les défaillances des marchés, le processus de libéralisation devrait orienter le pays vers des interventions sélectives souhaitables plutôt que vers une intervention minimum. Le niveau et la nature des interventions dépendront des capacités de l'administration et du type d'activités concernées. L'étude du cas de la Corée montre clairement qu'on peut réduire de plusieurs façons le risque lié à la promotion sélective, par exemple par des interventions bien dosées et bien conçues, par des sauvegardes permettant de réduire les dommages potentiels et par des directives destinées à améliorer les programmes.

## Recommandations

Les recommandations concernant le travail de la Banque s'appliquent aux niveaux de la stratégie d'ensemble, des conseils de politique générale et des opérations de prêt, ainsi qu'au niveau des projets.

En ce qui concerne son *approche de l'industrialisation*, la Banque devrait :

- Elargir ses travaux sur le secteur industriel en vue de concevoir des stratégies d'industrialisation fondées sur les connaissances qu'elle a acquises sur les pratiques qui ont donné de bons résultats dans différents pays.
- Adopter une approche mieux intégrée de l'industrialisation en incorporant dans son analyse non seulement l'infrastructure, le cadre réglementaire, le climat des affaires et le secteur financier, mais aussi les capacités et institutions.

*Le fait de comprendre la nature de la compétitivité au niveau microéconomique* améliorerait les conseils pratiques que la Banque donne aux pays en développement. En conséquence, la Banque devrait :

- Inclure dans son programme de recherche une étude approfondie des exemples concluants d'acquisition de capacités au niveau des secteurs d'activité et des firmes, ainsi que des cas de renforcement institutionnel qui ont amélioré le fonctionnement des marchés et le développement de capacités dans les entreprises manufacturières.
- Chercher dans quelle mesure l'Etat a un rôle à jouer dans

le processus d'acquisition des capacités et de développement institutionnel.

- Etudier l'impact des programmes de libéralisation sur le développement des capacités en vue d'évaluer comment un secteur d'activité devient compétitif lorsqu'il est exposé rapidement à la concurrence internationale.

*Pour promouvoir des politiques rationnelles* et pour éviter la tendance à recommander des politiques relativement similaires à des pays différents, et tenir compte des différences de stratégie, la Banque devrait :

- Mettre au point un cadre systématique d'analyse de l'industrialisation et rassembler l'information nécessaire pour guider la politique industrielle.
- Aider les gouvernements à concevoir des politiques industrielles appropriées en rassemblant, analysant et diffusant des informations sur des sujets tels que l'acquisition de capacités au niveau microéconomique et le développement des industries naissantes.
- Considérer les mesures sélectives, quand elles sont économiquement souhaitables, comme faisant partie intégrante du programme d'action destiné à promouvoir le développement industriel.
- Aider les pays à surmonter, ou à minimiser, les risques de défaillance de l'Etat.
- Etudier les moyens de réformer les administrations inefficaces et de renforcer les capacités d'élaboration des politiques.

Il est essentiel que les travaux analytiques de la Banque et les études portant sur les cas de réussite et les pratiques efficaces soient largement diffusés et assimilés par le personnel des services opérationnels.

En conclusion, la libéralisation est souvent une condition nécessaire au succès de l'industrialisation, mais elle n'est peut-être pas suffisante. La Banque a également besoin d'envisager d'autres aspects de la politique industrielle, et en particulier le capital humain, la technologie et le développement institutionnel. Certaines formes d'interventions fonctionnelles ou sélectives peuvent être justifiées dans ces domaines en vue d'améliorer la compétitivité au plan international. Les coûts et avantages de ces interventions dépendront des capacités de l'administration et devront être évalués au cas par cas.



# 1. Objectives and Framework

The World Bank has always regarded industrialization in developing countries as a major element of the structural transformation process that signifies economic development. In the early days of its reconstruction operations, the Bank made loans to industrial projects in the war-ravaged economies of Europe. In the developing world, loans to industry date from 1952 when the Bank financed an expansion in the Indian Iron and Steel Company. Since then loans in support of industrial development have formed an important part of the Bank's portfolio. Up to the end of FY90, lending to all industrial activities (including development finance companies and small-scale enterprises) constituted 16.9 percent of the Bank's total cumulative lending, and came to US\$41.4 billion. Of this sum, 63 percent was channeled through financial intermediaries (50.7 percent to development finance corporations (DFCs) and 12.3 percent to small scale enterprises), and 37 percent went to industrial projects. Similarly, IFC's mandate engaged it heavily in industrial development, not only by the provision of loans to private industrial enterprises, but also by participating in the equity of such enterprises. The Bank's broader support of infrastructure and human resource development also fed into industrial development.

While the Bank's support of industrialization has been consistent and significant, the nature of that support (apart from loan finance) has changed over time. Through the 1950s and much of the 1960s there was little debate about industrial strategy. Reflecting the prevailing ethos of the time, the Bank took for granted industrialization strategies based on import substitution, generally pursued in the framework of comprehensive planning and extensive government participation in industrial activity. The Bank saw its main objectives as institution building (in DFCs), improved project evaluation, resource mobilization and greater freedom for private enterprise. As the intellectual climate on industrialization strategies changed over the 1970s, the newly-industrializing countries (NICs) of East

Asia rose to prominence, and outward-oriented trade policies came to be regarded as central to industrial success, the Bank's emphasis also shifted. Based on its reading of the experience of larger East Asian NICs, in particular the Republic of Korea, and on a considerable volume of in-house research, the Bank engaged increasingly in policy dialogue with borrowers on broad issues of strategy. In the 1980s, with the culmination of this shift in a series of structural and sectoral adjustment operations, the Bank's philosophy of industrial strategy took a clear, defined and theoretically rationalized form. It is this philosophy that is the subject of this study.

The objective of the study is to examine the Bank's approach to industrial strategy in a selection of three Asian countries with differing policy regimes, with a view to drawing lessons that could enhance the appropriateness and efficacy of Bank efforts in this area: India, with its long history of inward-looking, highly regulated policies; Korea, with its export-led and strongly interventionist strategy; and Indonesia, an intermediate case of initial import substitution and interventionism followed by a shift to greater export orientation. Bank reports for the past two decades or so related to industry were examined, and leading policy makers and analysts in the three countries were interviewed. The aim was not so much to assess the impact of Bank lending or policy advice on the borrowers as to evaluate the comprehensiveness, relevance, objectivity and consistency of the Bank's approach to industrial strategy, both in analytical terms and as perceived by the borrowers.

This study builds on and extends earlier work by the Bank's Operations Evaluation Department on the sustainability of development finance institutions in smaller, less industrialized countries. However, the focus here is much broader than DFCs. The financial sector is covered in the present study, but as part of the examination of the Bank's general approach to industrial strategy.

## Industrial Strategy: A Framework for Analysis

The industrialization process is affected by a variety of policies. The most direct influences arise from domestic policies on competition, growth, ownership, pricing and location of industrial enterprises and external policies on trade, direct foreign investment and flows of technology. Less direct, but perhaps equally significant, influences arise from the macroeconomic environment, the functioning of factor markets (capital, labor, skills, science and technology), the provision of physical infrastructure and other forms of institutional support for industry. "Industrial strategy", the set of policies aimed specifically at guiding and promoting industrial development, may be defined to include the direct influences (industrial and trade policies) as well as most indirect ones (factor markets, infrastructure and institutional support for industry). While accepting the importance of macroeconomic policies, these are too broad to fall under this definition.

Industrial strategy can take many different forms. It can range from comprehensive planning with extensive government control and ownership at one extreme, to a high degree of reliance on unregulated markets and minimal government regulation, at the other. The choice between these extremes is often made on the basis of political ideology, history, tradition and other non-economic factors. Economic theory does, nonetheless, provide grounds for choosing appropriate industrial strategies. Apart from the conduct of macroeconomic policy and setting the legal framework, the role of government action in production, regulation, subsidization, support or intermediation (broadly labelled "intervention") in industry depends on how efficiently the relevant markets function. If all markets function efficiently, they can achieve optimality in resource allocation and production. With perfect markets (income distribution issues apart) the best strategy is that of the "minimalist state".

The requirements for efficient markets are stringent. Among others, they include perfect competition (a large number of producers, with free entry and exit, operating under constant returns to scale and selling to a large number of buyers), full (and instant) diffusion and absorption of technology, perfect knowledge and foresight, no externalities, no missing or segmented markets, no transaction costs and no "lumpy" (indivisible) factors. Under these conditions, all factors of production and consumers, given their initial endowments of assets and abilities, enter freely into individual arrangements that lead the economy as a whole to an optimal position. If, however, some of these conditions do not obtain, and markets fail to operate efficiently, there is "market failure" and optimality is not guaranteed.

Some interventions to correct for market failure are generally considered necessary, in developed or developing countries: apart from defense, law and order and basic legal

frameworks, these include the provision of "public goods" (infrastructure, certain forms of education, basic science and so on, where the pursuit of private profit is unlikely to induce sufficient investment), the regulation of monopolies and anti-competitive behavior, or the protection of economically disadvantaged groups. Other market imperfections may not require corrective action: certain forms of oligopolistic competition, uncertainty, some externalities, or proprietary ownership of technology, are inherent features of market economies in real life and do not detract from their efficient functioning. In particular, where imperfections are associated with scale economies, dynamic technological growth, and the evolution of market institutions that compensate for missing or faulty markets, the case for official intervention may be negligible: the costs of market failure may, in other words, be outweighed by its benefits.

This may still leave significant areas of factor and product markets subject to failures and in need of intervention for economic efficiency (examples are given below). These failures are likely to be much greater in developing than developed countries (Chenery, *et al.*, 1986, Stiglitz, 1989), because the process of development tends, over time, to produce the skills, and institutions needed to solve many costly market failures (though many of the institutions may require interventions to launch, especially in the fields of education, training, science, technology and information flows). Less developed economies, by contrast, are generally characterized by missing, fragmented or poorly functioning markets. They also tend to lack the skills, institutions, and administrative capabilities to remedy these deficiencies: there is, therefore, a risk of "government failure" in attempting desirable interventions, which may be inversely related to levels of development.

The case for interventions to remedy market failures thus depends on three things: the nature (and the economic cost) of the market failures in question; the availability of market-based solutions; and the ability of the government to design and implement correct solutions, where market-based solutions are likely to be absent or inadequate. To some extent, each is a matter of degree: market or government failures may be partial rather than absolute. Each may also be dynamic, in the sense that the capacity of markets or governments to deal with their failures may improve (or deteriorate) over time. The particular constellation of failures and remedies varies with country and period, and is largely an empirical question on which *a priori* generalizations are difficult. The two sorts of failures are taken in turn.

### Market Failures

Market failures may affect factor markets or product markets. As far as *factor markets* are concerned, failures are likely in the following areas: physical infrastructure (e.g. due to

lumpiness and public good characteristics); labor markets (lack of mobility, failure of information, market segmentation); human capital (public good characteristics of some levels of education, risk of underinvestment by individuals, control of quality and curriculum content, underinvestment by firms in employee training because of externalities, and so on); science and technology (public good characteristics of the basic science and technology infrastructure, lumpiness, risk of underinvestment in technological effort by firms, on which more below, risk of failure of information flows, externalities caused by non-appropriability and interlinkages, etc.); capital and financial markets (missing or segmented markets, adverse selection, high transaction costs, risk aversion); technology imports by foreign direct investment, licensing and other means (asymmetric information, lack of local complementary skills, missing or fragmented markets); and various industry-related support institutions (for training, quality assurance, small-scale industry support, technology diffusion, again because of public good characteristics, lumpiness and missing markets). Much of development policy is in fact concerned with remedying failures in each of these markets, and there is general consensus on the need to support their development along lines that enhance competitiveness and capabilities. Many such failures are also acknowledged even in advanced industrial countries (especially in education, training and technology support), and a large part of the explanation of differing productivity performances is often traced to these factors (Dertouzos, *et al.* 1989, OECD, 1987, OTA, 1990).

In *product markets*, failures may be of three types: from anti-competitive behavior by large firms in oligopolistic markets; from lack of information and from high transactions costs in marketing (especially related to new exports); and from the effects of international competition on new entrants which have to bear significant "learning" costs. The first type is the basis of anti-monopoly regulation in all countries, and does not need discussion. The second relates primarily to the difficulties involved in breaking into international markets, even by cost-competitive producers, and may be overcome by institutional assistance (export information), financial assistance (to exporters) and market mediation (by foreign buyers for certain categories of exporters, by multinational enterprises, or by local firms themselves as they grow larger and accumulate experience). The third, the basis of the classic infant industry argument, is more controversial, and needs further analysis.

The infant industry argument is based on the need to offset (by protection or subsidies) the additional costs faced by a new entrant in relation to established producers overseas. Traditionally, these costs are associated with "running in" the plant, achieving scale economies and some "learning by doing" (which occurs largely automatically in the process of production). Such costs are taken to be relatively predict-

able, short in duration and similar across activities as well as across countries. To offset these, interventions are only required if enterprises cannot raise the finance needed to bear the costs of learning (i.e. when there are capital market failures). These interventions should be relatively mild, and relatively uniform across activities to minimize distortions to resource allocation.

In developing countries, however, the process of learning and its costs may be very different. A great deal of micro-level research (much of it sponsored by the Bank) shows that the process of becoming internationally competitive in industrial activities often requires far more than setting up a plant, running it in, and acquiring simple operational skills. Most industrial technologies, and the organizational skills that go with it, are not easily "embodied" in equipment, manuals or blueprints; they are "tacit", and require a deliberate process of building up new skills, work practices, knowledge and experience ("capabilities" for short). The process is, in other words, neither automatic nor fully predictable; it is cumulative, gradual, and uncertain, with the length of learning depending on the complexity of the technology, the skills available to the enterprise and its own investments in capability building (Dahlman, *et al.*, 1987, Bell, *et al.*, 1984, Fransman, 1986, Katz 1987, Lall, 1987, Pack and Westphal, 1986, Teitel, 1984, Westphal, 1990).

Enterprises do not, moreover, generally become efficient in isolation. Where a lot of inputs and services are procured locally, the linked enterprises also have to invest in their own learning, and an economical division of labor between enterprises has to emerge over time. Where information has to be collected, training carried out, tests conducted, designs made, standards established, or exports promoted, a number of supporting institutions also have to be created to facilitate the learning process. Capability building thus requires internal efforts (by the firm) and external efforts (by linked enterprises and institutions). The initial absorptive base for capabilities is given by the level of managerial, technical, and worker skills already available in the economy. This is determined in turn by the efficiency of the education and training systems, the past experience of industry, and the science and technology infrastructure.

As far as the individual enterprise is concerned, the costs of such a learning process may create a need for promotional support in four circumstances: when there are capital market failures (as noted above); when it underinvests in its capability building because it cannot appropriate all the returns on its investments (when trained workers leave or knowledge leaks out, Arrow, 1962); when it is exceptionally risk averse or lacks knowledge of the future benefits of capability investment (what is termed "learning to learn", Stiglitz, 1987); or when it is unable to anticipate learning in vertically-linked suppliers ("technological" externalities, Pack and Westphal, 1986). These market failures, deriving

essentially from the costs, leakages and unpredictability of the capability acquisition process, may be overcome by several means: improving capital markets (a long-term institutional solution), protection against competing imports, or subsidies. Historically, the most important measure, used by practically every developed country in its early stages of industrialization and every developing country that has gone into complex, scale and technology-intensive industry, has been import protection (Vernon, 1989); however, other promotional measures may also fulfill this purpose.

Subsidizing or protecting the manufacturer is not the only way to help the process of capability acquisition. To the extent that high initial costs arise from factors external to the manufacturer (e.g. from deficiencies in education, training, technology, infrastructure or other markets), protection may do little to bring down these costs. The appropriate policy response here is to address such market failures directly. The subsidization of the manufacturer's learning costs is only necessary when there are factors internal to the firm leading to underinvestment in capability acquisition (an exception being failures in capital markets, which create, in the interim, a case for financing the process directly). Some enterprise-level subsidization may, nevertheless, help bring down external costs, when the deficient markets are "internalized" by the manufacturer (e.g. by taking over training, technological activity, infrastructure provision, financial activity). Thus, the promotion of large size, or conglomerate expansion, by firms can provide a remedy for some market failures. This is, however, only a partial remedy and has to be set against the risks of reducing competition by encouraging large firms and of "picking winners" at a detailed level (see below).

Improvements to factor markets can clearly reduce the costs, and accelerate the process, of achieving competitiveness. In some activities, where internal capability building is relatively easy (where the skills or organizational structures required are simple, technologies are highly embodied in equipment or the relevant skills are available in the market), interventions in factor markets may be sufficient, with no further need for promotion. In others, where capability building is difficult and the learning period protracted, factor market intervention may have to be accompanied by promotion of the manufacturer. One without the other may be insufficient or ineffective in achieving competitiveness. The balance between them will differ from case to case, depending on the country, activity and policy context.

While the process of achieving competitiveness may be costly and uncertain in complex activities, it is, like all investments, highly sensitive to market incentives and the macroeconomic environment. Macroeconomic stability is clearly relevant to industrial development. Industrial development is crucially dependent on sustained and high levels of savings and investments to meet the demand growth.

Low interest and inflation rates facilitate efficient industrial decision-making. A realistic exchange rate is fundamental in ensuring competitiveness of industrial products in the international markets. Adoption of appropriate fiscal, monetary and exchange rate policies by the Government and its quick response to internal and external imbalances is, therefore, one of the cornerstones of successful industrialization. As far as market incentives are concerned, capability building is particularly sensitive to incentives arising from competition in product markets. Competition (or market "contestability") provides one of the most important spurs, among a range of others, to investments in developing new skills and knowledge, and competition in world markets (either from export activity or from imports to domestic markets) may be its most stimulating form. Thus, the need to help firms bear the costs of learning by protection or subsidy can conflict with incentives for investing in learning: import protection may, in other words, itself retard capability building, especially if domestic competition is relatively weak. Protection can also affect the competitiveness of downstream industries (for the period that domestic prices exceed those in world markets), and can impose welfare losses on consumers to the extent that it affects the prices of final products. To ensure that the benefits and externalities from promoting industrial diversification and growth outweigh the costs of promotion, it is necessary that the period of protection be limited, that the relevant factor market improvements be undertaken and offsetting safeguards be instituted. Safeguards can arise from increasing domestic competition (to the extent scale economies permit), permitting downstream industries with export potential access to world price inputs and, most important, providing incentives to the protected industries to enter export markets as quickly as the learning process permits.

Export orientation (equal incentives to sell in foreign and domestic markets) can thus provide a powerful impetus to capability development. It not only gives competitive incentives to building up skills and technologies geared to world markets, it also permits the realization of scale economies (in capital-intensive activities), furnishes the foreign exchange needed to import new technologies (embodied in equipment or disembodied in licenses or technical experts), and provides free access to valuable information flows from buyers and competitors in advanced countries. These benefits of export-orientation are widely recognized (Balassa, *et al.*, 1982, 1989, Bhagwati, 1988, Krueger, 1983, Pack, 1988, World Bank, 1987), but it is important to note that it can go together with a lot of intervention in factor and product markets and is not necessarily the mark of a liberal (non-interventionist) economic regime. Where the sustained expansion and diversification of exports entail the continuous creation of new skills, technological knowledge (even to absorb imported technologies) and the mastery of difficult

new activities, interventions in factor and product markets may be necessary to success (Cohn and Leventhal, 1989, Pack and Westphal, 1986, Westphal, 1990, Lall, 1990, 1991). However, the nature and extent of interventions would depend on initial resource, skill and institutional endowments, the strategy of the country (see below) and the ability of the government to design and implement interventions.

Approaching the problem of industrial development from the firm-level perspective of capability acquisition thus provides several useful insights into issues of industrial strategy. To synthesize the main points:

- The process of capability building is highly specific by activity and firm. Different firms can respond differently to the same environment, and end up with different levels of “technological mastery.” Firm-level differences apart, industrial activities differ in their skill, scale, technological, organizational and linkage characteristics and so may have different learning periods and costs.
- Where market failures occur, the process may require interventions in factor as well as product markets, which will differ by country and by activity. In some cases, factor market and institutional interventions may be sufficient to ensure competitiveness; in others, protection or subsidization of the internal learning process may be necessary. The latter need rises, *ceteris paribus*, with the complexity, scale and skill intensity of the activity. The need for intervention may extend to several linked firms (suppliers and users or competing firms) where there are significant technological externalities between them (e.g. in the development of some new basic technologies in developed countries where cooperative R&D efforts seem to be necessary).
- Protection or subsidization may be inefficient unless costs arising from external market failures are tackled at source: both types of intervention thus have to be undertaken together, their relative importance varying by country and activity.
- Investments in capability building are highly sensitive to external incentives. Measures to help firms bear its costs may themselves reduce the pressures to undertake capability building measures, as well as imposing other costs on the economy.
- Where industrial diversification and deepening are expected to yield net benefits, the costs of protection or subsidy can be contained by introducing limits and safeguards and implementing it selectively and flexibly (so that it can be reversed). Export orientation may be a very effective safeguard, as well as offering other benefits to capability development; export orientation may go together with significant interventions to remedy market failures.
- As markets and supporting institutions develop, and firms grow larger, accumulate experience and can bear

more risk, the need for promotion declines. It may, however, never disappear.

It is necessary to consider interventions in more detail. Economists distinguish between two broad categories of intervention: “functional” and “selective” (Pack and Westphal, 1986). Functional interventions are designed to remedy generic market failures without favoring one activity over another; selective interventions are designed to remedy market failures for specific activities, and may favor selected activities for promotion over others. Functional interventions are often preferred to selective interventions because of the risks (of “picking winners”) associated with the latter. While the question of government failure is taken up later, it should be noted that economic theory provides valid arguments for selectivity under certain types of market failures (Grossman, 1990).

While there is a tendency to associate functional interventions with interventions in factor markets and selectivity with interventions in product markets, especially in international trade, interventions in either set of markets may be selective or functional. For example, in skill markets, the support of primary and much of secondary schooling could be functional, while vocational training could be selective in providing inputs to particular industries, the training of engineers could be even more selective, and the provision of specialized training could be geared to specific technologies. Similarly with support of technology institutions, which may range from helping a large set of industries to one particular product or firm. Infant industry protection can also be very general (at uniform rates) or extremely selective. “Picking winners” can thus take place at many levels and by many forms of intervention, and by a mixture of functional and selective interventions.

In cases where selective interventions are justified, the information needs of selectivity and limitations on resources available for promotion entail that the choice of activities for promotion be limited in number and scope. Given the evolutionary nature of learning and the existing base of skills and technologies, the choice should be based on activities that have a good chance of reaching international competitiveness in a reasonable period (i.e. present net values should be positive, to the extent that quantification is possible). Efficient selection also means that interventions in product markets be geared to the particular “learning” needs of each activity and its interlinkages. Thus, some activities may only need a short period of protection, directed only at those activities (e.g. garment manufacture based on imported textiles); others may need years and may encompass linked suppliers (e.g. automobile manufacture with substantial local content).

“Selectivity” is a broad term, and can be exercised at several levels: the whole sector, a particular industry, a branch

of an industry, a group of firms, one product, one particular firm, or one product made by one firm. The risks and skills involved in selectivity rise with the degree of selectivity and the novelty of the technology involved: it is easier to predict a broad set of activities that should be promoted than a particular firm or product. The risks and skills involved in selection are also likely to rise with the level of development: at a relatively low level, it is easy to collect information on what the likely lines of progress are, because of the experience of those who have gone before (much of development practice does just this). At the frontiers of technology, on the other hand, "picking winners" can become uncertain and hazardous.

There may be a conflict between the need for undertaking functional or selective interventions (greatest in the least developed countries) and the ability to undertake such interventions. Intervening requires information and implementation capabilities (and a degree of political stability and continuity), which may themselves be correlated with levels of institutional development and education that usually go with per capita income. As the ability to intervene grows, the need to intervene declines (though it may never disappear) and the difficulties of selectivity increase. Problems of government failure thus appear in different forms at different stages (Biggs and Levy, 1990), and are considered below.

The levels of economically rational intervention and its form depend not only on endowments, levels of development or administrative skills, but also according to the economic objectives of the country concerned. Thus, one country may decide on a strategy to develop heavy, high-technology industries, another to develop light, skill-based activities; one may opt for high levels of national ownership, another for extensive foreign participation; one may decide to build up its own innovation and research capabilities, another to concentrate on utilizing efficiently technologies generated abroad, and so on. Given the extensive nature of market failures and the range of interventions available, each strategy may turn out to be successful in its own way if carried out coherently. Thus, each of the four successful East Asian NICs has adopted different industrial deepening, reliance on foreign investment and national technological capabilities. Each has, in consequence, adopted different forms of intervention (Lall, 1990, Westphal, 1982). It is possible to debate which industrial strategy is better in the long term, but it is evident that the most interventionist of the four, Korea, has achieved the most advanced, diversified and technologically capable industrial structure. The country study undertaken here analyses industrial deepening, reliance on foreign investment and national technological capabilities. Each has, in consequence, adopted different forms of intervention (Lall, 1990, Westphal, 1982). It is possible to debate which industrial

strategy is better in the long term, but it is evident that the most interventionist of the four, Korea, has achieved the most advanced, diversified and technologically capable industrial structure. The country study undertaken here analyzes in more detail the nature of its strategy and interventions.

While different national objectives affect which market failures are addressed and how selectivity is exercised, this does not justify strategies directed to objectives that are unrealistic or very costly given the skill, technological and institutional resources available and their alternative uses. If a least-developed country decides to "make a leap" into a high technology, volume-based industry far beyond its current capabilities, and draws financial and human resources away from more economical uses, this would count as grossly inefficient intervention. Economically efficient intervention has to be distinguished sharply from non-economic, inefficient intervention. Given the cumulative nature of capability development and knowledge of the skill, technology and scale needs of particular activities, it is possible to guide economic and efficient intervention towards rational objectives. A Sub-Saharan African country may efficiently promote the next stage of industrialization by encouraging simple tools or bicycles, while a country like Korea may promote avionics or biotechnology. Governments do not often behave economically when devising or implementing industrial strategies for a variety of reasons (discussed below) but this does not necessarily mean that they are incapable of doing so.

To conclude this section, the foregoing reasoning suggests that industrial success at the national level depends on the interplay of three sets of factors: incentives, capabilities, and institutions. Incentives guide the allocation of resources and also the efforts invested in developing competitive capabilities; they arise from the macroeconomic environment, factor markets and product markets, with competition in world markets playing a particularly important role. Capabilities and institutions determine the supply response to incentives. Capabilities arise from physical investment, infrastructure, human capital development and technological effort. Institutions of various kinds facilitate capability formation and production where purely market-based forces are deficient. Just one set of factors by itself cannot lead to industrial development. A balance of appropriate incentives, capability development and institutional support is necessary, the nature and balance depending on each country's endowments, levels of development and inherited structure and institutions (Lall, 1990). Approaches that stress only one set of factors (incentive structures or capabilities) run the risk of misunderstanding industrial development and misguiding industrial strategies.

Each of the three determinants of industrialization may suffer from market failure. Market incentives may not provide correct signals for resource allocation or capability building if there are valid infant industry arguments for intervention. Capabilities may not develop adequately if skill, capital, technology or other markets are deficient, and if institution building does not respond to such deficiencies. Industrial strategy should, therefore, address all these interrelated issues, basing itself firmly on a realistic understanding of the micro-level processes of industrial development. It must take cognizance of the fact that not all market failures need remedial action, and that market forces themselves develop institutional or other remedies for a range of failures. It must weigh the costs of intervention against its benefits. The proper mix of functional and selective interventions, and the choice of instruments for these interventions, must be guided by strategic objectives of the country, by existing endowments, institutions and markets and by what is feasible given the capabilities of the government.

### Government Failures

While it may be possible in theory to improve the functioning of imperfect markets by intervention, in practice governments often lack the skills, knowledge, objectivity or autonomy to carry out interventions efficiently. The crucial question then becomes not the desirability of interventions but the costs of government failure versus the costs of market failure. The issue of government failure in developing countries is a very real one, and the subject is currently attracting a lot of attention (for instance, Streeten, 1991, Stiglitz *et al.*, 1989, Shapiro and Taylor, 1990, Killick, 1990, Biggs and Levy, 1990, Krueger, 1990).

The recent record of industrialization in developing countries is replete with government failures. Apart from mismanaging macroeconomic policy, many governments have intervened ill-advisedly in industrial development. The interventions undertaken have been both functional and selective and directed at all markets (though most analysis of policy errors has concentrated on selective interventions in product markets). They have often pursued unrealistic objectives, oriented activities to domestic markets behind high and haphazard protective barriers, misdirected resources by licensing, credit controls and fiscal measures, chosen the wrong firms or technologies to promote, restricted access to new technologies, held back competitive growth or diversification, pushed public ownership where private enterprise was available, and so on: the list is long and familiar.

However, this uninspiring record of past interventions has gone together with some cases of good, even brilliant, interventionist industrialization strategies. The record of poor interventions is also somewhat mixed: government

failure is relative rather than absolute. Some interventions have produced desirable results, but these have sometimes been overlaid by adverse effects of other, uneconomical, interventions. Many functional interventions have not been very efficient, but they have provided some of the basic infrastructure, education and other essentials of economic life. It is the more selective interventions which have tended to create the major distortions that hold back development. The outcome of selectivity by government is a very complex issue, on which *a priori* generalizations are difficult. A pragmatic view of the determinants of government success or failure should be based on the circumstances of each case. As one distinguished analyst puts it:

*... governments are neither monolithic nor impervious to outside pressures (including pressures for rational policies and altruism). If there is scope for a positive sum game and if a government can hold on long enough to tax the sum, rationality pays... Power is divided among the legislature, the judiciary, and the executive. The obstacle to "correct" policy-making is neither solely stupidity nor solely cupidity, neither solely ignorance nor solely political constraints or monolithic selfishness... There are large areas in which a better analysis and a clearer sense of direction would help, just as there are areas where it is fairly clear what should be done, but vested interests, whether those of the policy makers or of pressure groups on whose support they depend, prevent it from happening. (Streeten, 1991, p. 425.)*

Interventions can be classified into types depending on their objectives, implementation and, where relevant, causes of poor implementation. The first distinction is between economic and non-economic objectives. Economic objectives can be defined as those directed to remedying market failures to achieve efficiency in industry, based on a realistic view of existing incentives, capabilities and institutions. Non-economic objectives are those not directed at remedying market failures but at bypassing markets and replacing them with administrative rules that do not seek to promote competitive markets. This distinction may not always be clear-cut in practice, as governments generally have mixtures of economic and non-economic objectives in their industrial policy. Moreover, as governments learn lessons and respond to persuasion and pressure, non-economic objectives may be transformed to economic objectives. The pursuit of non-economic objectives can be the first cause of complete or partial government failure, and its determinants may lie outside the realm of economics.

Governments pursuing economic objectives may intervene relatively efficiently or inefficiently. Implementation may be inefficient if it is wrongly designed, poorly implemented in practice, or both. These may, in turn, be due to one or more of the following factors: lack of economic, tech-

nical or administrative skills; lack of information on which to base policy; lack of political will or autonomy in policy making or implementation; corruption; and the "hijacking" of policies by vested interests.

Government failures resulting from inefficient implementation may or may not be remediable, depending on where the basic fault lies. Lack of skills and information may, in some cases, be remedied by education, training, research, recruitment and external assistance. Hijacking by vested interests (if not accompanied by corruption) may be partially safeguarded against by imposing clear, time-bound interventions and other pressures to "deliver". On the other hand, a lack of political commitment or corruption may be very difficult to remedy, since the agency responsible for remedying is itself affected. A range of further possibilities exist here, depending on the dynamics of how power is generated and distributed.

The risk of government failure is thus largely an empirical question, and it is also largely a matter of degree. Few governments fail so absolutely that they cannot undertake any interventions successfully. All governments need to improve their implementation capabilities by enhancing their skills and knowledge, and by being more open and accountable (Stiglitz *et al*, 1989). As noted, certain basic interventions at the functional level are necessary for all governments, whether or not they do them well. Beyond this, which interventions can be carried out well or poorly depends on the circumstances, the nature of the intervention, and the inherited structure of past interventions. These are taken in turn.

Governments that are intent on pursuing non-economic objectives, or are subject to pressures that subvert economic policies, would be generally ill-advised to undertake interventions that are selective or require frequent adjustment to economic changes. Corruptibility calls for minimizing discretionary rules and direct control over resources. Governments that are (economically) well-intentioned but have low levels of design or implementation capabilities may successfully exercise rather general levels of selectivity, but not those requiring very detailed information, intensive implementation, flexibility or direct participation in economic activity. Governments that have both the right objectives as well as implementation abilities may be encouraged to undertake greater selectivity to the extent the benefits of intervention are positive.

For most developing countries, it is not very hard to predict the next feasible stage of industrial development, at least in broad terms. The evolution of existing industries is known from the experience of other countries, as is their requirement of skills, scales and technologies. The level of selectivity chosen may, however, vary with the level of development and administrative abilities: in general, the less industrialized the country the lower the level of selec-

tivity needed. The more the economy develops, and so presumably do its intervention capabilities, the less the need for very broadly selective interventions, and the greater the need and ability to exercise finer degrees of selectivity. However, as noted earlier, as industry develops and reaches international frontiers, selectivity becomes progressively more difficult because of the inherent technological risks and the lack of precedents.

The above discussion has assumed that governments are starting with a *tabula rasa*, and are free to choose their industrial strategies on rational grounds. However, any current strategy must take into account the structure of policies accumulated over the past. In many cases, this structure is highly interventionist, irrational, non-economic, poorly designed and implemented, and riddled with vested interests and rent seeking. To launch a new strategy in such circumstances will first require an extensive dismantling of controls, regulations, protection and investments. Such liberalization will then be an integral part of a program for successful industrialization: there need be no conflict between liberalization and effective promotion of industry by remedying market failures, as long as both are directed to restoring efficient market forces. The design and pace of liberalization can itself be geared to a strategy of economic interventions, with the design of interventions reflecting administrative factors.

In conclusion, the consideration of government failures should clearly be an integral part of industrial strategy. The analysis of market failures and their costs is not affected, but feasible solutions and tradeoffs are. Neither markets nor governments can be assumed to be perfect. Nor can it be assumed that all interventions are doomed to failure. There are conditions in which some interventions can be successfully undertaken, and these can generally embody some degree of selectivity. In view of learning costs and related market failures, the cost of *not* exercising selectivity may be a shallow, undynamic or technologically backward industrial structure. Whether or not the degree of selectivity can be usefully increased depends on dynamically changing political and administrative considerations.

The existence of some highly successful cases of economic intervention suggests that under certain circumstances government failure can be minimized and market failures remedied. The existence of many more unsuccessful cases suggests that these circumstances are not readily found in developing countries. However, there are costs of not intervening, and these costs may be rising in a world of rapid technological progress and dynamically evolving comparative advantage. The ability to intervene is also changing constantly, and generalizations on the role of government in industrialization are difficult to make.

## 2. Country Case Studies

### Republic of Korea

The Republic of Korea is the most successful of the Bank's borrowers in terms of industrial development, and is widely regarded (along with Taiwan, Province of China) as a role model by other developing countries. The frequent use of the Korean example by the Bank in its trade and industry sector work makes it particularly important that a full and objective understanding of Korea's industrial development is shown in Bank documents and advice.

Korean industry has grown in size, depth, product range and international competitiveness under a mixture of regimes. Prior to 1963, Korea pursued a predominantly import-substitution strategy that covered some heavy as well as labor-intensive light industry. From 1963 it switched to a primarily export-oriented strategy, providing strong incentives and support for exports while pursuing import-substitution in a range of new, increasingly complex, industries. Its drive into these new industries, while largely in the private sector, was strongly directed by the government, via high and variable rates of effective protection and central allocation of credit, with a deliberate policy to create large conglomerate enterprises, minimize reliance on foreign direct investment and maintain close coordination with the Government on the pace and direction of industrial development.

The drive was supported by a rapid build-up of skills at all levels (schooling, vocational training, and tertiary education with a strong emphasis on technical studies), and by extensive development of the science and technology infrastructure. Firms were required to invest heavily in worker training and encouraged to launch R&D. They were given liberal access to foreign technologies, but primarily in the form of new equipment and licensing rather than by the setting up of foreign controlled ventures. Interventions in the technology markets were designed to strengthen local absorptive and, later, innovative capabilities. Unlike most

"classic" import-substituting regimes, however, Korea applied protection selectively, encouraged domestic competition (albeit among the giant *chaebol* of its own creation) and forced early entry into export markets. Thus, it maintained a distinction between a relatively mature, competitive sector which operated in export markets under near free trade conditions (but often enjoying protected domestic markets) and a set of new activities that were more highly protected, undergoing "learning" and aimed primarily and initially at domestic markets: but there was constant shift of activities from the latter to the former. Its interventions were not neutral, either between these two sets or between activities within the second set. Even its incentives between foreign and domestic markets were not neutral, in that specific export targets were established for each industry (and failure to meet targets carried considerable penalties). However, explicit export incentives were not selective, and broadly tended to favor exports slightly over domestic sales.

Korea's import substitution intensified in the period of the heavy and chemical industry (HCI) drive (1973-1979). The *chaebol* set up a number of advanced facilities, as planned and heavily supported by the government, and a public sector iron and steel facility (POSCO) came on stream to feed the burgeoning engineering sector. Driven by strategic considerations and by a desire to accelerate the country's dynamic comparative advantage, HCI was pushed very hard and involved some errors of policy planning and implementation. The exchange rate, earlier used aggressively to promote exports, was frozen for five years. Resources were diverted away from light into heavy industry. Budget deficits increased and inflation rose as Korea borrowed heavily abroad to finance HCI programs. The second oil shock, rising interest rates, recession in major export markets and three bad harvests coincided to produce a major macroeconomic crisis.

A stabilization program was launched in 1979, with monetary and fiscal reforms, a return to flexible exchange

rates, controls on wages and a general move to economic liberalization. Growth resumed in 1981 and picked up in 1983. Some HCI facilities were restructured or trimmed, and exports from heavy industry started to grow as the "learning" process matured and restructured facilities achieved competitiveness. By 1983 heavy industry exports exceeded light industry exports, and from 1986, when recovery in export markets, lower interest rates and falling oil prices led to a resumption of very rapid growth, spearheaded the boom in export growth. Liberalization led to a greater reliance on tariffs rather than quotas as instruments of protection, a general lowering of effective protection rates and a sharp reduction in the role of the government in directing industrial activity. The Government continued, nevertheless, to strongly support selected areas of technology development and human capital formation, and may have continued to exercise influence on industrial activity in various subtle ways. The boom period ended in 1989 because (among other things) of labor problems and an appreciating currency, and early in 1990 the Government changed its economic management team, apparently in a shift away from liberalization.

It is generally agreed that government interventions played a central role in guiding, shaping and promoting Korea's industrial development. (Jones and Sakong, 1980, Amsden, 1989, Wade, 1991, Westphal, 1990.) These interventions were selective as well as functional, but with selective aspects strongly dominating functional ones as the industrial structure evolved beyond the initial "easy" stages. The selective interventions comprised "picking winners" at the sectoral, subsectoral, product and firm levels, and also supporting those picked by a variety of measures to have access to the necessary skills, information, institutions and export support. Industries that were technologically mature, and needed less intervention, were left more free to operate according to market forces. However, the composition of mature industries reflected earlier interventions in factor and/or product markets. While the ability of the *chaebol* to operate increasingly autonomously in world markets reflected the strategy of building giant conglomerates and supporting them with investments in education, technology and other institutions (on electronics, see Mody, 1989).

### The Bank's Analysis

Korean economic policy has always been firmly in the hands of the Koreans themselves, and all major initiatives or changes of direction have come from the government. However, the Bank's advice and analysis, and direct interactions with policy makers, have helped shape many details of policy and may on occasion have influenced the choice between competing options. The phenomenal success of the Korean strategy may have muted Bank concerns

about the extensiveness of interventions, but until the 1980s there was little criticism expressed in Bank reports of the broad thrust of that strategy. It was the Bank's 1987 Country Economic Memorandum (World Bank, 1987b) that represented the most cogent, comprehensive and thorough reappraisal of Korean strategy from the perspective of the Bank's present views on industrialization. Much of the analysis of this study therefore focuses on that report, although a range of other (implicit) views existed in project or subsectoral work (see below).

The rapid pace of structural change in Korean industry was a constant theme of Bank reports from the earliest period. Until the late 1970s these reports favored Chenery-style analyses of industrial structure, comparing subsectoral shares with "typical" shares yielded by cross-country regressions. It was considered desirable to conform to structural norms; in addition, the Bank fully endorsed the Korean government's view that it was essential to move into heavy industry, initially behind protective barriers, to diversify its areas of comparative advantage. Much of the HCI program had the Bank's approval, and the broad strategy of rapid industrial deepening was thought "both necessary and desirable". Some caution was expressed about specific targets and the skill and institutional needs of the program, but there was no doubt in the Bank's mind that the government should, in principle, play the lead role in industrial development. The Bank also stressed, through the 1970s, the need for Korea to build up its machinery sector, which it regarded as strategic to the country's long-term industrial success. Even the reports of the early 1980s, following the structural adjustment effort (to which the Bank contributed two structural adjustment loans), favored selective interventions of the HCI type, and attributed the dislocations of 1979 to its detailed design and implementation—and on exogenous shocks—rather than to its basic philosophy.

The 1987 report, by contrast, was directly critical of the philosophy of widespread selective interventions. Although it accepted fully the case for functional interventions in factor markets, it was suspicious of activities that promoted selected interventions. The 1987 report appeared to confine the definition of "selective interventions" to product and capital markets (i.e. to variable rates of effective protection and credit allocation to selected activities), and presented a strong case for low, uniform rates of protection to infant industries and market price determined investment allocation. Other factor market interventions were considered functional, regardless of whether they were targeted at particular industries or not.

This report was ambivalent about the achievements of HCI. While noting some of its major successes, it suggested that the costs were too high. It did not, however, clearly distinguish between the costs that arose from the exercise of se-

lective interventions in principle from those that arose from overhasty execution (leading to credit overexpansion or exchange rate mismanagement) and exogenous shocks. It was only the first set of costs that could be an argument against the strategy of selective interventions, yet the report suggested at several points that all the problems associated with HCI were caused by the selectivity of the strategy. While accepting that the direction of change was "consistent with emerging changes in Korean comparative advantage", it concluded (Volume I) with "In sum, Government can neither pick, create or mandate "winners", at least not without significant costs. It can, however, provide an environment in which winners emerge and thrive". It suggested, in other words, that selective interventions were essentially inefficient (their costs outweighed their benefits) and that Korean experience supported the general argument that only functional (neutral) interventions were desirable.

Neither theory nor the evidence from Korea support such a conclusion. The theory of selective intervention, as propounded in the 1987 report itself, provided a case for such intervention under certain cases of market failure. However, the report suggested that these cases are "less pervasive than policy-makers often believe" and that interventions "may exacerbate rather than ameliorate efficient resource allocation" and may cause "secondary distortions in economic decision making". This interpretation was not based on a proper appreciation of the process of capability acquisition at the firm level. It also used a restrictive definition of "selective interventions". The risk, uncertainty and duration of the learning process in developing countries was not given proper consideration. The significance of externalities, especially technological externalities (arising from complementary learning sequences in firms linked to each other in the production chain, analyzed by Pack and Westphal, 1986, and Westphal, 1990), was minimized. The provision of intervention in a firm's external support system was generally termed functional, when some of it may have been highly selective. In the Korean case, in particular, the distinction between selective and functional interventions appears spurious because most factor market interventions (generic or activity-specific) were geared to the strategy of industrial deepening and national ownership pursued by the Government. Thus, the creation of many high-level skills and technological and other institutions, and the support of technology imports or export growth, were specifically directed at the activities being selectively promoted.

The evidence from Korea also does not support the conclusion that selective interventions were inefficient *per se*. There was a constant transfer of activities from import-substitution to export-orientation, and by the 1980s over half of manufactured exports were originating in heavy industry. The dislocations of the late 1970s tended to be wrongly at-

tributed almost entirely to selective interventions under HCI. The process by which some of the slower maturing HCI facilities became competitive was not analyzed. The fact that some HCI investments had to be pruned or restructured was blamed on selectivity, when such procedures may also be inherent to private industrial investment. The use of ICORs to criticize HCI was not carefully or objectively conducted. The benefits of creating the *chaebol* to internalize deficient markets, carry the technological burden of entering complex activities or bear the costs of breaking into export markets (increasingly with Korean brand names), were not fully spelled out. The possibility that "picking winners" at the firm level may have conserved scarce entrepreneurial resources and achieved various economies of scale and scope was also not duly examined.

In view of Korea's strategic objectives of entering capital and skill intensive industries under national ownership and with a growing degree of indigenous technological capability, it is difficult to imagine that success could have been achieved without pervasive selective interventions in both factor and product markets. The broad strategy of industrial deepening and diversification was accepted fully by the Bank. It was apparently the absence, on the Bank's part, of a coherent view of the industrialization process in general, a bias towards incentive-based explanations and a desire to support "liberalization" (interpreted simply as reducing interventions) that led it to the views expressed in the 1987 report. This report in turn is one of the clearest, best reasoned expositions of the general Bank "line" on industrialization strategy. It is the reasoning behind this current "line" that needs reexamination.

The earlier reports of the Bank turn out to have a better grasp of the industrialization process and the role of government policy. However, they were overly structuralist, paying insufficient attention to incentive and efficiency issues and taking a rather mechanistic view of structural change. Both earlier and more recent reports on Korean industry suffer from a common weakness: a failure to examine the process of gaining competitiveness at the firm level. Industry sector reports concentrated on current problems and future prospects of the activities they look at, while broader reports and CEMs focused on incentive regimes. The process by which Korean firms, in traditional export sectors as well as new high-tech entrants, achieved high rates of growth in total factor productivity, mastered difficult new technologies, developed world-class products and processes, diffused knowledge to each other, drew upon the technology and university infrastructure or drew on foreign expertise to boost their own capabilities—all these were left virtually unexplored. Bank reports merely pointed to the availability of disciplined, educated and trainable labor and to incentives provided by export orientation. The

entire area in between, of capability development, technological search and effort, interactions with other firms and institutions, was left almost wholly blank. Despite its constant propounding of the Korean model, Bank reports have had little or nothing to say on how Korean firms actually gained competitiveness. As a consequence, its advice stayed at the general level of incentive reforms. Insofar as this advice dealt with the advantages of export-orientation over import-substitution strategies, it was well founded. When, however, it was extended to recommendations for non-intervention, it was *not* based on a correct interpretation, at least, of the Korean model.

This lack of curiosity about the capability development process in Korea is particularly striking in the Bank's refusal to learn lessons from projects it has been directly involved in (heavy engineering) or where it has given wrong policy advice (automobiles). As the country study shows at greater length, there appears to be no mechanism by which the Bank could absorb such lessons for future work on industry in similar subsectors in other countries. It would appear, therefore, that the framework that the Bank had imposed on itself may have served to exclude useful information. Industry sector work often did cover some relevant points in terms of pragmatic application, but the needs of capability development were not integrated into the general approach to industrial strategy.

The incentive-based approach of the Bank also created a more general problem. There was little attempt, at the national level, to relate industrialization to human capital development and technological effort. It was not that the Bank was unaware of the significance of these factors. On the contrary, it was extremely active in the education/training field and supported Korean technology development in its project work. The problem was rather that these areas were compartmentalized in such a way that industrialization strategy was not directly linked to educational or technological strategy. Apart from general statements about the quality and "trainability" of Korean labor and the need for specialized training, the analysis of Korean industrialization made little attempt to trace its development to the provision of specific types of education or training (selective or functional). In particular, in-service training provided by firms as well as management training, vital factors in Korean competitiveness, was practically ignored. The entire area was left to the separate discipline of education economists, who may have addressed quite different issues. This may not have mattered in the Bank's work on Korea, since the Koreans were fully cognizant of the issues; however, it may have mattered in other countries where the Bank recommended industrial strategies or adjustment programs without due regard to their human capital requirements, the time needed to mount the necessary efforts and the selectivity of the interventions needed. Incentive based approaches

may have tended to lead to more compressed programs than those that took supply-side factors into account.

A similar point applies to technology. Recent reports have acknowledged the significance of technological effort to industrial success, and the Bank has played an active role in promoting technology institutions in Korea. But few Bank reports systematically include the analysis of technological policies, institutions or firm-level determinants as an inherent part of industrial strategy. Imperfections in international technology markets were rarely acknowledged, and the need to intervene to support technology imports or technology absorption—as practiced actively in Korea—was generally dismissed. The Korean strategy of deliberately excluding foreign-controlled direct investments to build up indigenous capabilities was totally ignored in Bank reports because it conflicted with the Bank's stated objective of maximizing international private capital flows. The possibility that market failures in the capability building process at certain stages of industrialization may call for the selective restriction of FDI inflows was not considered.

There are some other major planks of Korean technology strategy that were not fully analyzed for their policy implications. First, Korean efforts to develop indigenous plant engineering capabilities, by intervening in technology contracts with foreign contractors (Enos and Park, 1987), have led to an impressive buildup of skills in this area. The implications of promoting such design and project capabilities for protecting indigenous learning would be of interest to many developing countries, but were not addressed. Second, the massive increase in the volume of private sector R&D in recent years has taken Korea far ahead of other NICs, and even some OECD countries, in technological effort. While traceable largely to its heavy industry strategy, its creation of the *chaebol* and its export-orientation, there may have been other policy factors responsible about which little is known. Third, an extensive science and technology infrastructure was developed to support firm level efforts. The nature of the linkages between them was left unclear, as was the explanation of the effectiveness of Korean institutions relative to counterparts in other developing countries. Yet these issues plague technology policies in many industrializing countries, and some insights from Korea would have been valuable. Fourth, despite frequent acknowledgment of market failures in technology markets (as in the 1987 report), the precise source of those failures, and relevant remedies, were not explored. The need for selectivity in exercising technological interventions was not acknowledged, though the Korean government does exercise extreme selectivity in targeting such interventions (and the Bank has financed one such intervention, in electronics).

The above comments apply to the general analysis of the Bank. At the micro level, in its project or subsectoral work, there was much greater appreciation of capability and insti-

tutional factors, and of the complex interlinkages between them and incentives. The electronics technology project was aimed to help Korea develop manufacturing capability in memory chips—a highly selective intervention to enter a high technology activity, with local skill, design and research components. It involved both the government and the *chaebols*, which had been created with just this sort of risk-bearing, high-tech investment in mind. As it turned out, the *chaebol* quickly struck out on their own, using their internal technological, financial and human resources to invest in massive facilities aimed at world markets, so stealing a march over Taiwan, China, which had not sponsored giant conglomerates and where the government then had to intervene far more extensively to set up a viable D-RAM capability, (Saghafi and Davidson, 1990). However, the principle of the Bank's approach was correct. It was a replica of what the Korean government had done earlier in selectively promoting industrial deepening, and it built on the existence of deliberately internalized markets in the *chaebol*.

This dichotomy between the Bank's broad policy analysis, which eschewed selectivity and propagated a broadly incentives-based policy approach, and its micro-level practice, which supported selectivity, mirrors the division between the trade strategy explanations of industrial success and those based on capability acquisition in the development literature. There appears to be a divergence between the theory and the practice of appropriate industrial strategy (*vis-à-vis* the scope and nature of government intervention) in the Bank's work, which also appears in different forms in the other country studies below.

## Conclusions

The importance of the Korean experience is not so much in its possible replicability in all its details in other developing countries, but that it be fully understood and correctly interpreted. Undoubtedly, this experience is of prime relevance to the rest of the industrializing world, but the Bank has only partially fulfilled the function of correctly analyzing and disseminating that experience. The strong point of its work on Korea has been its analysis of the nature and benefits of export orientation and the attention given to strengthening rather than ignoring market forces. The weak points have been three. First, some of its recent interpretation of the nature and role of government interventions has been biased against selectivity. Second, the restrictive framework underlying its analysis of industrialization has led it to ignore or underplay the role of certain important factors and to overlook the micro-level process of capability acquisition which underpins industrial success. Third, this general analytical stance does not conform to the Bank's micro-level work in Korea, which shows a much clearer and more realistic appreciation of capability building and of se-

lectivity and institutions. The general policy analysis of the Bank seems to be broadly in line with "liberal" views on trade strategy and (undesirability of) government interventions, while at the project level its practice is more "structuralist" and favorable to interventions.

## India

The Indian case is significant for the Bank for reasons quite different from the Korean. India has traditionally been the largest borrower of Bank resources and has a long history of broad-based industrialization. For some time it was regarded as a model of successful planned economic development. Over time, however, its highly inward-looking, haphazardly interventionist policies turned it into a prime example of relative failure. It proved very persistent in its strategy (though the late 1980s witnessed some reform): this persistence led the Bank to mount more effort into policy and subsector analysis on Indian industry than for any other member country. There is therefore a much greater wealth of Bank material on India than on Korea and it tends to be richer and fuller in its content.

The broad strategy of Indian industrialization—self-reliance, national ownership (led by the public sector), encouragement to heavy industry and also small-scale industry, emphasis on employment, equity and regional dispersion rather than efficiency—was laid down in the 1930s, and combined an element of economic with a large dose of non-economic objectives. Its realization started in the 1950s with the second five-year plan, when comprehensive planning was imposed on a market economy. It involved wholesale import substitution behind high and permanent barriers to import competition, a growing public sector, a highly constrained private sector and tight controls on the entry of foreign capital and technology. The rigor of the system waxed and waned, but in broad terms the Indian system was probably unique in the extent, restrictiveness and non-selective nature of controls. The application of the control regime was cumbersome, often marked by internal conflicts of objectives, and subject to political and private pressures. The objective of many controls was not to remedy market failures in achieving efficiency, but to force industry to conform to the ideals of self-reliance and social justice as conceived by the policy makers. In the terminology of this study, Indian interventions were neither economic nor efficiently implemented, driven by political objectives, poorly designed and prone to widespread rent-seeking behavior.

After a period of early growth, Indian industry settled down to a fairly insipid performance around the mid-1960s. This continued, through several business cycles, to the early 1980s, when a period of more sustained growth appears to have emerged, with a reduced dependence on agricultural performance. In the meantime India increased

its savings/investment rates to impressive levels for a country of such low incomes, but with high ICORs and substantial excess capacities. The public sector accounted for 40-50 percent of fixed capital formation, with private savings being drawn in to allow it to invest more than it saved. Inflation stayed moderate despite monetary expansion to finance budget deficits. The financial sector was highly regulated to direct resources to economic and social priorities decided by the Government. Foreign direct investment was kept to a bare minimum; inflows continued to be very low after some liberalization in the mid-1980s. Since 1985, however, a series of policy reforms with regard to deregulation of licensing, domestic competition and trade (especially export promotion) have resulted in an accelerated growth of the industrial sector.

A sluggish export performance has been a prominent feature of Indian manufacturing since the 1960s, though the past four years have seen a marked improvement, partly in response to a more conducive export regime and a more aggressive exchange rate policy. Nevertheless, exports have declined over time as a proportion of manufacturing output; unlike Korea, the deepening of the industrial structure in India has not resulted in a dynamic growth and diversification of manufactured exports. There are many reasons for this, primarily the bias in incentives toward the domestic market; large areas of inefficiency, poor quality and technological obsolescence in industry; infrastructural bottlenecks; undeveloped marketing skills; and inadequate institutional support. These are, in turn, manifestations of the persistently import-substituting trade regime, numerous restraints on domestic competition, restrictions on access to foreign technology, inputs and capital goods, an inefficient public sector, a protected small-scale sector, rigid labor markets, inadequate technological effort and a small and unevenly spread base of skills: in sum, of widespread interventions not designed properly to remedy market failures.

Despite its general appearance of lethargy, high cost and technological lags, however, a number of studies suggest that there are pockets of efficiency and potential competitiveness in Indian industry. Decades of protection and regulation notwithstanding, activities in some advanced, skill and capital-intensive subsectors as well as in several traditional, labor-intensive sectors show low effective rates of protection (ERPs) and favorable direct resource costs (DRCs). They are able to compete internationally, or able to transform inputs into outputs efficiently even if they do not export (because of product design lags or infrastructural handicaps). India's record of technology exports, the development of project engineering capabilities, the design and manufacture of a range of capital and intermediate goods, all point to the accumulation of considerable technological capabilities. This suggests that elements of economic intervention were present in factor and product markets: some

new skills were created, new technologies absorbed and interlinkages established. There was, in other words, an active learning process, but this was diverted to "making do" with local materials, "stretching" the life of capital equipment, profiting from a protected seller's market (by investing little in quality control, technology upgrading or following world trends), and downscaling plants to suit relatively small, fragmented domestic markets (Lall, 1987). Limited access to imported equipment and technology fed into the resulting lags and inefficiencies.

This mix of Indian policies, with some selective and functional elements overlaid by a number of non-selective and non-economic interventions, does exhibit the benefits expected of economically selective interventions (the protection of difficult learning periods, the development of a supplier and service network and the improved provision of skills and technological support) in promoting industrial capabilities. However, the fact that protection was overextended, exporting rendered unattractive, domestic competition and growth restrained, local content raised regardless of cost and quality, and technology and infrastructure inadequately provided, took a severe toll of the development and in the exploitation of those capabilities. Ultimately, the effects of non-economic interventions were seen clearly in the uncompetitiveness of Indian industry. The most pressing need for policy reform in India, therefore, is now in the area of incentives and deregulation.

### **The Bank's Analysis**

The Bank has invested considerable resources in policy analysis and industrial subsector studies in India. The quality of work has generally been high. The detailed economic and technical analysis of the subsector studies, in particular, have tended to be extremely well done, and have been appreciated as such by the Indian government. Some policy studies have also been welcomed as inputs into reforms (as on export promotion), but some other have been regarded as too general, ideological or impractical. As the Indian Government has moved gradually (and erratically) to more liberal policies, conceptual differences with the Bank have narrowed. Considerable differences remain, nevertheless, on the desirable scope, timing, sequencing and implementation of policy reforms.

As with Korea, early reports favored structural transformation by interventions to encourage heavy industry and a measure of self-reliance. While this accorded well with Indian strategy, misgivings were constantly expressed by Bank reports on its mode of implementation, involving excessive protection and regulation, overextension of the public sector, poor project selection and implementation, lack of export incentives, price controls and so on. The principle of import substitution was endorsed, but the deficiencies of the Indian

interpretation were clearly realized from the start. As these deficiencies became more obvious and the Bank generally shifted to a more incentive-based approach, Bank reports concentrated more and more on issues of efficiency, comparative advantage and relaxation of controls.

In the 1980s, the Bank mounted comprehensive assessments of various areas of Indian industrial policy (technology, regulations, export development, small-scale industry, public enterprises), much of which was succinctly summarized in the 1987 Country Economic Memorandum (World Bank, 1990a). This was accompanied and supported by a number of industry studies, distinguished by their depth, perceptiveness and technical excellence. All the studies concurred in the need for a massive liberalization of the trade and industrial policy regime, based on a convincing demonstration of the inefficiencies caused by its heavy-handed and economically irrational nature. Persuasive as these arguments were—and there is no doubt that massive liberalization is needed—there remain three areas of weakness in the framework of analysis. These relate to the role of capability as opposed to incentive factors in Indian industrialization; the evaluation of selective versus functional interventions; and the assessment of the pace of the reform program.

First, capability versus incentive factors. Bank reports on India were vehement and incisive in their analysis of the complicated regulatory apparatus. The impact of regulations on incentives was as well documented as was possible under the circumstances, and the case for sweeping deregulation and reorientation of incentives was well established. It was clear that the most important bottleneck to industrial development was the complex and distortionary regulatory structure in the country, and the Bank was correct in emphasizing this. But industrial efficiency also required attention to capabilities, and on the capability side the Bank analysis was less complete. First, the evaluation of the skill profile, needs and gaps in India was deficient. While some subsector reports noted skill problems, the general presumption appeared to be that India had a surplus of skilled manpower. This may well have been true of certain areas and for certain types and sizes of industry. But it may also have been the case that many activities (especially in small-medium sized firms) operated with inadequate skill levels, that certain types of advanced skills were scarce, and that a substantial upgrading of competitiveness would create skill shortages even with the present industrial structure. A comparison with Korean levels of education and training suggested that to approach anywhere near its levels of efficiency would require massive investments in human capital formation in India. This important set of issues fell "between the cracks", in that neither the industry specialist nor the education specialist covered it in the normal course of their work.

Second, in contrast, there was a tendency to overlook some positive aspects of capability development in the country. For instance, the design and engineering accomplishments of Indian consultancy firms (as in Korea) were considerable, and were built up by an explicit policy of protecting indigenous firms by minimizing the use of foreign consultants as prime contractors. By virtue of being less hampered by the regulatory and supply constraints that afflict manufacturers, this sector of industry has responded well to selective interventions and is now very active in international markets. Similarly, under pressure from the import-substituting regime, Indian firms devoted, substantial efforts to developing local supply and subcontracting relationships. Despite a large component of forced, inefficient linkage creation, significant benefits also resulted that have tended to be overlooked in Bank analysis.

Third, as with Korea, there was an inadequate understanding of the development of industrial capabilities in the "good" Indian firms (see Lall, 1987). The deleterious impact of distorted incentives on technological effort was well documented, but the nature of skill and technology acquisition by industry, its relationships with the technology and academic infrastructure, and the skill needs of advanced technological effort were less well understood. This reduced the ability of micro-analyses to accurately estimate the balance and chances of success of the various recommendations made, despite their relatively good appreciation of the realities of the Indian situation.

Finally, some of the recent reports, which discussed general policy issues (related to industry, technology, or trade), tended to emphasize incentives to the exclusion of capability factors. Competition was apparently taken as the "prime mover" in industrial development and dynamism. This seemed to imply a strong view of market efficiency: that competition will by itself summon forth the necessary capabilities. At the same time, in contrast, the subsector studies went extensively into structural issues that held back competitiveness, creating a certain mismatch between general and detailed industrial policy analysis. This is taken up again below.

On the issue of selective versus functional interventions, the tenor of the Indian reports was quite different from the Korean (this applies to general reports addressed to broad policy issues). The terminology of "selective/functional" interventions was not used, and there was no explicit analysis of the merits of different forms of intervention. This was probably due to the pervasiveness of interventions in India, where a general move to liberalization would clearly be very desirable, and where attitudes and beliefs may have rendered a debate on the merits of markets versus interventions irrelevant for practical purposes. However, liberalization may have been compatible with a move to a different, and much reduced, set of interventions. The Bank

seemed to recommend wholesale liberalization without differentiating between regimes that had no selective intervention and those that did. The strong view of market efficiency adopted seemed to suggest that liberalization should not go together with any selective interventions. While this view was not endorsed in the form of liberalization proposed in micro-level studies and projects (see below), it presented the "Bank view" to the country. This raised two sets of problems.

First, as discussed earlier, the theoretical underpinning of the "functional interventions only" approach, with low, uniform rates of effective protection to all subsectors and products, was never analyzed. The Indian government was well aware of the success of selective interventions in Korea, and did not feel that the benefits of "minimalist government" strategies in India were clearly demonstrated. The Bank was entirely right in pressing for a much faster and more sweeping liberalization than the Indian Government was willing to undertake, but the area of agreement was limited by what was perceived as the Bank's ideological stand.

Second, there was sometimes a conflict between the Bank's general pronouncements on industrial strategy and the micro level approach of subsector and project reports. The latter were replete with recommendations for selective interventions to support each industry examined (e.g. specific measures to improve design, technology, equipment, management, marketing and so on). The export strategy study recommended picking "specialized and high performance exporters" for selective support. The capital goods study had a comprehensive list of institutional and technological measures to boost its competitiveness. These could not be termed "functional" because they were not neutral between activities: they were designed to meet specific market failures in each industry. Since in a dynamic setting it is impossible to distinguish such interventions according to whether they merely help activities to realize "existing" potential or create new potential, they could all be considered forms of "picking winners". Such selectivity did not, conflict with the case for significant liberalization of the Indian economy (which these reports also acknowledged). What it did conflict with was the general message given to the government that interventions were generally undesirable.

As to the pace of reform programs, the suggestion that five to seven years should be allowed to carry out the reforms in the 1987 report appeared too superficial and sketchy to provide a base for a major overhaul of industrial and trade strategy in India. The report was well aware of the needs of capability acquisition, but had no way of judging how prolonged these processes may be. The pace of reform had to be determined by interactions between the nature of the technologies concerned, the present state of capabilities, and the interventions that may be taken to sup-

port those capabilities. All were difficult to evaluate, and general cross-country comparisons may or may not have been relevant. The tentative approach of the Bank on this issue reflected its lack of understanding of the whole capability development process.

## Conclusions

In general, the quality of the Bank's work on Indian industry was very high. Extensive and intensive studies were made of general policy issues and as well as of subsectoral problems. A lot of effort and analytical skills went into deciphering the nature and effects of the incredibly complex policy regime. The broad thrust of recommendations to the government was sensible, well argued and consistent over time. In general, India summoned some of the best of the Bank's industry sector work.

The limitations of this work arose from the underlying approach to industrialization and industrial strategy employed by the Bank, and from the mismatch between this general approach and the micro-level analyses. The general approach reflected a belief in the efficiency of markets and a pessimistic view of government capabilities. The subsector analyses, on the other hand, had realistic appraisals of market failures and the concomitant need for supportive, selective interventions. The dichotomy between the Bank's micro and general policy work, noted earlier for Korea, appeared more strongly in its work on India.

The Bank's approach to industrialization in India did not fully incorporate the role and determinants of factors like human capital, technological effort and supporting institutions. While technology policy in India was extensively analyzed, much remains to be done to understand the process of technological development, its composition and constraints, linkages across firms and with external institutions, and the interaction between technology imports and domestic efforts (however, much of this was taken into account in the 1989 technology project). There is an important need also to understand the skill and training needs of Indian industry (in relation, say, to more advanced NICs such as Korea).

Finally, the positive achievements of the Indian strategy did not receive sufficient attention. This is not to argue that the Bank should have supported India's non-economic and poorly implemented set of interventions—the Bank is right that the economy was over-regulated and too inward-looking—but it needed to distinguish analytically between economic and non-economic interventions. If the Bank had done this, it would have been able to formulate clearer and more persuasive strategies for the Indian Government. There is little doubt that uneconomic objectives and poor implementation caused widespread failure of interventions in the past. To the extent that these are changing, much

more work seems necessary on a detailed analysis of government capabilities.

## Indonesia

After a period of hyperinflation in the 1960s, Indonesia underwent a change of regime that gave it a long period of stability and sound economic management. It enjoyed rapid economic growth through the 1970s, with buoyant oil revenues supporting an import-substituting industrialization effort and massive public investment program. Much of the investment was for productive uses, and fiscal management was prudent. These features of the oil boom helped greatly when prices deteriorated in the 1980s and difficult structural adjustments had to be undertaken. During 1983 to 1986, Indonesia took strong measures to cut domestic demand, mobilize resources, develop non-oil activities and promote exports. The measures yielded fruit in terms of resumed growth, a boom in non-traditional exports and a healthy expansion of agriculture and industry.

Indonesia does not have a long industrial history, and manufacturing still contributes a small proportion of Indonesia's GDP (about 12.8 percent in 1987), smaller than comparable countries in the region. Much of the industry is concentrated in simple traditional activities, based largely on the abundant base of local raw materials. Indonesia has, nevertheless, invested a great deal recently in building up its human capital base for industrialization, and now has an educational structure similar to those of Korea and Taiwan, China, in the mid-1960s. However, it is still weak in higher level technical education, and the quality of training is poor. Skill shortages are endemic to Indonesian industry.

When oil prices were high, the Indonesian government had induced industry into more capital and skill-intensive fields of activity, often taking the lead by setting up large public enterprises. As oil revenues declined, the deficiencies of such investments, sheltered by tariff and non-tariff barriers, began to emerge: excess capacities, suboptimal production scales, widespread inefficiency and (among public enterprises) mounting losses. Physical infrastructure lagged, while the industrial structure stayed highly dualistic. The small scale and cottage sector received little assistance and established few linkages with modern industry, but accounted for over two-thirds of manufacturing employment. The private sector was concentrated in an ethnic (Chinese) minority, but some indigenous (Pribumi) entrepreneurs had started to emerge in the 1980s.

The trade and industrial regime of Indonesia had many of the features of the cumbersome, restrictive and economically irrational Indian system. The measured level of effective protection (141 percent for the manufacturing sector as a whole in 1984) was, however, much higher than India's, and there was less evidence of accumulation of in-

dustrial capabilities in many complex activities (a major exception, the fertilizer manufacturer PUSRI, is noted below). Inward orientation and high and variable levels of protection were accompanied by controls on entry, growth and diversification. Foreign investment was restricted. Domestic competition was constrained in several ways, and rent seeking was rife.

Major trade and industry policy reforms were launched in 1985 and have continued since. Quantitative restrictions on imports and tariff levels were reduced, resulting in a more transparent and less protective trade regime (though effective rates of protection are still high and variable). Exporting was made easier, with access to world priced inputs and duty drawbacks. Regulatory requirements were eased, and entry of foreign and local private investors facilitated. Some local content requirements were relaxed. All this stimulated industrial growth, investment (local and foreign), and manufactured exports. Indonesian performance in all these respects was very impressive, and seems likely to be sustained. In particular, the catalytic role played by foreign investors in boosting skill and technology transfer to simple manufacturing industries, and leading the growth of new industrial exports, was remarkable. The reform still has a long way to go to remove the legacy of the previous system, but the success of the initial reforms has provided considerable momentum to the process.

## The Bank's Analysis

The Bank's analysis and advice have been major inputs into the reform process launched by the Indonesian government. While the volume of industry sector work in Indonesia was much more limited than in India, and about the same as in Korea, the impact on policy was much greater, due presumably to the differing political economies of, and extent of exogenous shocks experienced by, these countries. The impact was not immediate, and the gradual acceptance of Bank views may also have been due to the persuasive way in which its advice was presented. In any event, Indonesia is clearly the most successful of the three case studies in terms of the Bank's contribution to industrial strategy in the past decade. It may also have been one of the Bank's greatest success stories overall in the 1980s.

As with India and Korea, early Bank reports on Indonesia assessed the level and structure of industrialization with reference to cross-section studies. These suggested that Indonesia was "underindustrialized" and weak in basic industries like chemicals, metals and engineering. The Bank recommended that the government launch production of basic intermediates and capital goods, with simultaneous promotion of small-scale industry to provide employment growth. This approach ignored questions of efficiency and industrial capabilities. This mattered less in Korea and In-

dia than in Indonesia precisely because of the large differences in initial "endowments" of such capabilities. Korea and India could, in other words, implement a government-led strategy of industrial deepening more successfully than Indonesia, though between the two former countries results differed markedly because of the choice of strategies and instruments. Indonesian efforts proved, by and large, less successful, partly because of the noneconomic nature of the selective interventions and partly of lesser government capabilities.

Later studies focused more emphatically on questions of comparative advantage, efficiency and incentive regimes. The main one was an internal 1981 report on selected issues of industrial development and trade strategy. This was a comprehensive critique of existing government policies, concentrating on incentives but acknowledging deficiencies in technology, skills, scale and management as causes of industrial inefficiencies. However, while incisive on the reforms needed to the structure of regulations, it had little to say on remedies to these structural problems. Its emphasis on deregulation and outward orientation was correct at the time, since distorted incentives were then the primary handicap to Indonesian industrial development (as subsequent developments show). But its failure to address other problems gave the impression that incentive reform was sufficient as industrial strategy.

A 1985 (draft) report on the policy environment for manufacturing was far more perceptive and realistic in its assessment of the causes of uncompetitiveness in Indonesian industry. In case studies of electronics and engineering, it dwelt on the importance of investments in firm-level technological mastery and the need for support facilities (suppliers, subcontractors and consultants) for building competitiveness, identifying a number of specific needs and market failures. In an unusual departure from Bank practice, it noted deficiencies in technology markets: there was excessive dependence on foreign technology suppliers, inhibiting local development of design and engineering capabilities. The report recommended that this be countered by deliberate efforts at "reverse engineering", backed by formal R&D. There was a paucity of such subsectoral studies in Indonesia. While some have been conducted since (e.g. iron and steel), it would help to sustain industrial strategy formulation if more were done.

There was an undercurrent in Bank reports, sometimes stated explicitly, that selective interventions on Korean lines could not work in countries like Indonesia because of weaker administrative and institutional structures, less clear economic objectives and skill limitations (Bhattacharya and Linn, 1988). There was merit to this argument: it accepted that selective interventions could make markets more efficient, but posed "government failure" as a powerful offsetting risk. The real issue was, then, given the theo-

retical benefits of selective interventions, how large the risks of government failure were and how they could be offset in any given context. In passing a general judgement on the government's capabilities to undertake selective intervention, such an approach did not consider that there are many different levels and degrees of government involvement in selective intervention, and that such capabilities developed over time. Korea represented a model of very detailed intervention, closely monitored and highly demanding of government capabilities. This may not be feasible for countries like Indonesia, given its administrative capabilities and political economy. However, less detailed interventions (say, at the activity level rather than product or firm level) may well have been feasible, especially if the skills of the officials concerned were enhanced.

The Bank's attitude to selectivity also tended to overlook the possibility that safeguards can be built into the intervention program to minimize its costs: e.g. preannounced schedules of tariff reduction, strong export incentives, promotion of domestic competition, freer access to foreign technologies, and so on. These were clearly within the capabilities of governments in countries like Indonesia, because they are just the sorts of measures that have been launched recently. More significantly, the Bank has helped the Government to design such measures, and is currently helping in strategies to develop industrial capabilities both functionally and selectively, by gearing education, training, technology support, infrastructure and the like to future industrial development. In doing so, it is also analyzing where Indonesia's dynamic comparative advantage may be. Again, the dissonance between the Bank's general antipathy to selective interventions and its practical advice is apparent.

As noted for the other countries, the Bank tended to overlook the process of the local development of investment capabilities. Such capabilities in Indonesia were clearly underdeveloped. Project costs were high, and a study of management development (conducted in 1985) noted poor capabilities as a major cause of delays and cost overruns. At the same time, the state-owned fertilizer firm PUSRI built up in a period of protected growth, impressive engineering and production capabilities. PUSRI was given considerable autonomy and access to foreign technology, which it utilized to invest in its own training and skill creation efforts. The Bank commented on PUSRI's achievements but did not draw the obvious lessons from this for capability development. Nor did a recent project proposal in fertilizers mention PUSRI's capabilities as a potential source of engineering design.

Human capital deficiencies are an important handicap to the longer term development of Indonesian industry. The 1982 Country Economic Memorandum noted the weak educational base as one of the main obstacles to Indonesian

economic developments and the Bank devoted a lot of attention and resources to it. A recent project specifically focused on science and technology training. Of the three countries studied, Indonesia drew, and continues to draw, the most explicit to this aspect of industrialization. Despite this, there was little attempt to link industrial strategy (i.e. the pace and nature of liberalization) to the progress of skill creation. On the whole, however, the Bank's approach to the skill aspects of capability development was sound and commendable.

The Bank was also aware of the weak technological base of Indonesian industry. Formal technological investments in Indonesia were overwhelmingly in the public sector. This was often poorly conducted, and afflicted by skill shortages. Much of the R&D related to manufacturing was concentrated in BPPT (the Agency for the Assessment and Application of Technology). BPPT also controlled the production of strategic industries like aircraft, defense and telecommunication equipment, and significant portions of the science infrastructure and foreign training facilities for Indonesian technical personnel. This concentration on "high tech" activity may have been inefficient and costly, and may have drawn effort and resources away from traditional industries that were the mainstay of the economy. This sort of selective intervention ran a high risk of being uneconomic because it was not based on a realistic assessment of the costs and benefits of capability creation, and did not build cumulatively on the existing industrial base (which itself needed substantial upgrading). The degree of selectivity exercised was also very high, at the product and firm level. Such "big push" strategies on technology have often been wasteful, even in advanced industrial countries. The Bank needed to focus on this issue in Indonesia, which attracted little explicit discussion in its reports of the 1980s.

## Conclusions

The Bank provided valuable policy guidance to the Indonesian government on reform of trade and industrial policies, and its primary emphasis on reforms to the incentive framework was correct in the context of the Indonesian sit-

uation at the start of the 1980s. The impressive growth and restructuring of Indonesian industry was a testimony, among other things, to the Bank's sound analysis, advice and influence. In contrast to India, however, where a very similar situation faced the Bank, it did not develop sufficient in-depth understanding of Indonesian industry at the subsectoral level. The overall impression that "getting prices right" was all that mattered in liberalization was much stronger for Indonesia than for India. The weight of disapproval of selective interventions was much heavier.

The analysis supporting this set of prescriptions may have been based on "government failure" considerations, but its economic foundations were open to question. The conflict between general prescription and subsectoral analyses noted for India and Korea emerged also for Indonesia. Selective intervention in factor markets continued to be urged when similar intervention was criticized in product markets. There was a negative view of government capabilities to undertake interventions in the area of industrial policy. It was not evident that its ability to take more complex strategic policy decisions was such as to rule out selective interventions: the policy stance of the Bank was apparently based on a fairly standard approach which tended to assume rather than analyze government failure in general.

The Bank's general stance coexisted with a practical approach that was much better geared to selectivity and the needs of particular activities during the liberalization process. The gradual dismantling of regulations, the slow exposure of activities to the full force of import competition and the initial emphasis on enhancing export incentives, all revealed realistic and non-dogmatic advice by the Bank. The process of liberalization still has some way to go in Indonesia, and the Bank is right in pushing for continuing this. The Bank showed a proper awareness of the skill and technological deficiencies of Indonesian industry, especially in the few subsector studies it conducted and in its work on education. The analysis of Indonesia's "big push" technology strategy should, however, have been more forceful and critical. The Bank should have guided the government's capability building efforts more explicitly into areas of emerging comparative advantage for Indonesia.

# 3. *Synthesis: The Bank's Analysis of Major Issues*

The World Bank plays a dual role in its analysis of industrialization in developing countries. The directly operational one is to guide its industrial or structural adjustment lending, and, more generally, to give policy advice to the country concerned. The less direct, but also very influential, is its role as the analyst and disseminator of the lessons of experience. The Bank is perhaps the most important source today of data, analysis and prescription on various aspects of economic development. Its reports, working papers and publications exercise a powerful influence on development thinking, in academic, government and various other international or regional institutions. Both roles demand that the Bank be informative, rigorous, objective and pragmatic in its analysis.

The three case studies suggest that the Bank fulfills some of these functions well. Its reports contain enormous amounts of original and up-to-date information on certain aspects of industrial performance. In some cases, especially India, routine industry sector analysis is supported by detailed studies of selected industries and policy issues. The usefulness of these studies is often enhanced by cross-country comparisons, though these often tend to be at a fairly general level. Within the constraints it sets itself, the Bank's analysis of industrial issues is rigorous (backed by very demanding work on such indicators as ERPs or DRCs), objective and technically of high standards. The scope and depth of the analysis varies by country. Of the three covered here, India has attracted much more attention than Korea or Indonesia.

The greatest strength of the Bank's industry sector work is its treatment of incentive issues. Its reports have dealt fully with trade regimes, internal regulations, ownership and foreign investment: the Korean regime was consistently praised and the Indian consistently criticized for their incentive structures, with Indonesia switching from the latter position to something approaching the former. However, the early reports were relatively unsystematic and *ad hoc* in treatment of incentive structures and took "structuralist"

interventions more for granted. Later studies, particularly in the 1980s, were more systematic in their analyses and also less favorably inclined towards interventionist strategies. Armed with the experience of export-oriented trade strategies, and supported by (often itself leading) a general change of direction in the development literature, the Bank sought to instigate a reduction in the distortions to incentive structures created by inward-looking, highly interventionist regimes that pursued a variety of non-economic as well as economic objectives. To the extent that its efforts succeeded in such regimes, it is likely that the effects were beneficial. Recent improvements in the industrial performance of India, and to a much greater extent, Indonesia are at least partly due to economic liberalization.

These analytical strengths and practical benefits do not mean that the Bank necessarily had a coherent view of the industrial development process. There appeared to be a dissonance between its general approach to industrial strategy, where the dominant framework of analysis reflected an underlying belief in the absence of market failures and led to a concentration on incentive issues, and its practical application, which tended to be more structuralist and variegated. The general approach had the advantage that it provided straightforward policy guidelines which were relatively invariant with respect to industry, country or stage of development, but these features also detracted from its value once certain common incentive distortions had been tackled.

The simplification and assumptions on which this approach was due also to a skepticism about the ability of governments to undertake selective interventions at all levels of development. The resulting emphasis on correcting incentive structures in line with market forces (which were rarely taken to suffer failure) may have influenced its micro-level work. While such work was highly aware of non-incentive factors, the Bank developed little "feel" for both the micro level processes of industrial development and the broader interactions between skills, technology, institutions

and industrialization. This may have led to inadequate grasp of the consequences and proper phasing of reform programs. "Liberalization" was treated as a uniform, homogeneous process of removing all interventions, when in reality there could be a variety of liberalization processes, some encompassing continued selectivity in industrial promotion. Again, such variety revealed itself in the Bank's practice but not in its theory.

### **The Bank's Approach to Industrial Policy**

The Bank's approach to industrial strategy is generally not stated in an explicit form in its operational work. There are also differences in approach within the Bank, with practice differing from general policy statements, and a broad range of views expressed in research papers or publications. Since the beginning of the 1980s, a body of research work within the Bank into the determinants of competitiveness and studies of best practices has enriched the Bank's understanding and appreciation of the process of industrialization. These research activities have encompassed a variety of subjects such as small- and medium-scale industries, restructuring, private sector development, technology development and global markets for various manufactured goods. (World Bank, 1990b, 1989b.) This makes it difficult to identify one approach to which the Bank subscribes. Nevertheless, there are certain broad assumptions that underlie the Bank's general approach to industrial strategy, as revealed in its Country Economic Memorandums and other policy analyses. In the three countries covered in the present study, the clearest and most rigorous statement of its approach is found in 1987 Country Economic Memorandum on Korea (World Bank, 1987b), but this line of reasoning is supported by a number of other publications by the Bank (such as the Bank's 1987 *World Development Report*). This is the approach that is analyzed here as representing the views of the Bank on industrial policy. With some variation, this is also the framework on which its approach to structural adjustment and trade reform is based.

The Bank's approach to industrial policy may be described as "moderate neoclassical", which accepts that factor and product markets are not fully efficient in developing countries and that there is a role for government interventions. However, it strongly prefers functional to selective interventions: governments should make markets more efficient in a neutral way. Selective intervention, which supports the growth of chosen activities over others, is regarded as undesirable for two sets of reasons. First, the incidence of market failures that call for selective promotion is supposed to be very limited in practice. Second, even where market failures of this type exist, the government is taken to be very prone to fail in exercising selectivity, and market failure is presumed to be less costly than govern-

ment failure. The Bank's approach stands squarely in the mainstream of current development thinking, which has been dominated by the analysis of trade strategy.

This broad approach has several consequences for the Bank's analysis and advice. First, there is a tendency to focus heavily on incentive factors and to ignore (or underplay) the role of capabilities and institutions (structural factors) in industrial policy. The related literature on industrial competitiveness in developed countries, starting from a similar theoretical basis, often adopts the opposite approach, focussing on capabilities and institutions and taking incentives for granted (OECD, 1987, Dertouzos *et al.* 1989, OTA, 1990). The Bank's approach, apparently taking incentives as the main determinant of industrial success, does not do justice to the enormous structural or capability differences that exist within the developing world. In some regions, such as Sub-Saharan Africa, the Bank accepts that the lack of capabilities may be a more important barrier to industrialization than incentive distortions (World Bank, 1989, Lall, 1989), but its industrial work continues to concentrate on "getting prices right".

The Bank's general industrial analysis thus does not take fully into account the complex interplay of incentives with capabilities and institutions that ultimately determines industrial progress. At the same time, the Bank often considers these factors directly in project or restructuring work in industry. Its work on education, technology or the financial sector deals directly with capabilities and the relevant institutions. A great deal of its research work also deals with capability building, institutional development and policies to overcome market deficiencies (e.g. in export development). However, this work often tends to be compartmentalized in the Bank, and is not fully incorporated into its strategic thinking on industry.

Second, the Bank's approach to remedying failures on factor and product markets is strongly oriented to maintaining neutrality among activities. As far as factor markets are concerned, this implies improving the functioning of markets in such a way that no activity is favored over others, even when interventions are directed at particular industries or institutions. Some factor market failures clearly occur at the "generic" level where interventions do not have to be selective: for example, the provision of general skills (say, primary or general secondary education) or a set of broad incentives for technological effort. Where market failures are specific to particular activities, interventions should presumably be such as to restore neutral incentives and not bias resource allocation. However, the distinction between selective and functional interventions is difficult to sustain unless it is known what the normal incentives are, and what the industry's 'normal' rate of growth should be. In the absence of this knowledge, the design of industry-specific intervention in factor markets necessarily in-

volves selectivity—a preference to promote some activities over others. This selectivity arises simply from the scarcity of intervention resources; if it also embodies some view of which activities “deserve” promotion, because of their future comparative advantage or strategic (in the economic sense) importance, the degree of selectivity is that much greater. The Bank often practices selectivity in this sense (see below), but does not admit selectivity in its “theory” of industrialization.

As far as product markets are concerned, the Bank proposes that infant industry promotion may only be offered by low and uniform rates of effective protection regardless of technological differences between activities or of differences in levels of market development in different countries. The economic case for selectivity is rarely given full consideration, and government failure is generally advanced as the main argument against selectivity. However, the economic arguments for selectivity, and the evidence on its successful development, need far greater consideration, and the incidence of government failure has to be investigated rather than assumed. The Bank may have too negative a view of government capabilities.

Third, there seems to be little role for positive “industrial strategy” in the Bank’s approach. “Strategy” in this context refers to an interlinked set of interventions across various aspects of industrial activity to achieve certain broad objectives. Thus, Korea had a “strategy” of deepening its industrial structure, promoting national ownership and developing a strong indigenous technological base which could be economically justified with reference to the externalities and synergy generated with the Korean economy. The significance of an industrial strategy in this sense is that it combines the need for different types of interventions around a coherent organizing principle: a systematic set of interventions may be needed in the absence of well functioning markets. Desirable industrial strategies would vary by country, resource availability, market development, institutions and national aspirations. However, the Bank seems to disregard a role for broad strategies. This may be consistent with its emphasis on market-driven resource allocation, but may not be helpful in guiding governments in practice.

Fourth, the final feature of the Bank’s approach to industrial policy is a propensity not to distinguish between economic and non-economic intervention. Economic theory provides a justification for interventions only when they are directed at remedying specific market failures and restoring market efficiency. These economically designed interventions are quite different from interventions that are not directed at remedying market failures. The latter may have non-economic objectives, a mixture of economic and other objectives, or be directed at economic objectives but not by addressing market failures (i.e. by trying to bypass

markets and setting up regulations). It is vital for purposes of policy reform to be clear on the distinctions. There is often a failure in Bank analysis to separate economically necessary from other selective interventions, and a tendency to attribute the ills of the latter also to the former.

### Structural versus Incentive Factors

The three country studies showed a systematic tendency on the Bank’s part to underestimate the significance of structural factors and overstress that of incentive factors. Despite its considerable work on education, for instance, the industrial performance of Korea was rarely related directly to the interactions between its export-oriented incentives and the buildup of human capital by the Bank. The precise nature of that buildup as related to industrialization policy (whether it was selective or functional, how it was achieved, what its composition was) was also neglected in the process, so that by the end the Bank had little to say on the lessons of Korea for this aspect of industrial strategy beyond generalities about “skilled and trainable labor”. While the Bank’s education departments were extremely active in supporting human capital development, their work was compartmentalized in such a way that industrial policy analysis failed to draw upon it directly and to integrate it in the design of industrial programs. At the same time, considerable work was done in the research department on Korean technological capabilities, and on competition policies to upgrade industrial performance.

The lessons from Korea would be particularly relevant for the other countries studied here. India appeared to be unduly complacent about its human capital endowments when even crude comparisons to Korea suggested major deficiencies. Indonesia’s shortages of human capital were better recognized, but the nature of those shortages, and their impact on the content and phasing of the liberalization program, were not fully analyzed. Some data were collected on different measures of educational attainment in these three countries, as well as in three East Asian NICs, Thailand, two large Latin American countries (Brazil and Mexico) and one country in Sub-Saharan Africa (Kenya). These data are presented in Annex 1. They show that investments in education are strongly related to the extent and pattern of industrial success. Countries like Korea and Taiwan, China, which have used selective interventions to develop capital and/or skill-intensive industries, have had to intervene more heavily in education markets to create the necessary skills, while Hong Kong, which has stayed in light industry because of its liberal trade policies, has had to create relatively less high-level technical skills. The other countries, except for Mexico, have much lower investments in human capital. The success of Korea is clearly based on

its functional and selective interventions in education and training, but the Bank's analysis is deficient on this.

Similarly, technology and institutional development (except in financial institutions) did not receive sufficient emphasis as vital elements of successful industrialization. The kinds of technological effort and support needed at particular levels of development were not studied. Annex 2 sets out data on research and development expenditures by the same sample of countries (excepting Hong Kong) and Japan. It shows that Korea leads the developing world in R&D investments by a long distance. This is due, not just to its export orientation, but also to its strategy to enter heavy industry, to build up national technological capabilities (by keeping down direct foreign investment) and to rely on large conglomerate firms (which could bear the costs and risks involved). In other words, Korea's industrialization drive could be sustained only by its massive technological efforts and investments in skill building, each requiring specific government policies and promotion. These interconnections were missing in the Bank's analysis of Korean industrialization.

At the same time, the Bank's micro-level industry and research studies, as well as project work related to technology, export development or industrial restructuring, were much better tuned to structural factors. The relevant reports on India tended to be particularly good on the technological and institutional needs of selected industries, and clearly spelled out the selective policies needed to improve competitiveness. The implicit framework at this level was very similar to the one proposed here, though it was not clearly stated or systematically applied. Its emphasis and perceptions differed from that of the Bank's general strategy analysis. Both stressed the need for liberalization, but the subsector studies combined liberalization with structural considerations while the general approach viewed "getting prices right" as paramount. The latter was better articulated and generally seen as the "Bank's approach", but it did not always form the basis of Bank practice.

The strength of the Bank's work on incentives has already been noted. Such work was exceptionally good where the incentive structure was highly distorted (as in India and, earlier, in Indonesia). The Bank's emphasis on export-orientation, deregulation and promotion of market competition was entirely valid. Its criticisms of economically irrational interventions were salutary and justifiable. Its prescriptions for liberalization were beneficial when they guided governments away from massive, non-selective and costly interventions to somewhat less intervention and a greater reliance on market forces. In terms of the impact of its incentive analysis, therefore, the Bank's work on incentives reform was beneficial for countries like India and Indonesia, even when the general analytical framework was biased against structural factors. This was due to two

reasons: first, in practice, the Bank was less incentives-oriented than its theory suggested and more willing to accept interventions (see below). Second, most moves towards liberalization were welfare enhancing in highly regulated regimes: incentive reform was more important at that stage than capability building, even if in the longer term it was not the country's only policy need.

These benefits do not fully justify the Bank's analytical approach to incentive versus structural issues in its industrial work. Its approach still tends to concentrate on "getting prices right", ignoring the insights gained from its micro-level work and failing to integrate policy issues related to skill, technology and institutional development. Some structural issues are taken up by other parts of the Bank, while some are not. Those that are taken up may not be treated adequately from the viewpoint of industrial development (e.g. industrial skill needs may not be addressed properly by education work), and their phasing may not match the phasing of industrial development. Issues that are not taken up as a matter of course often relate to science and technology policies and institutions. Failure of these policies and institutions can become a significant barrier to the development of complex industrial activities, but the Bank tackles these only occasionally through its technology projects. There is, again, no systematic integration of incentive and structural factors. Such integration is not easily achieved, but a failure to attempt it may prove to have adverse effects on the Bank's industry work. It is particularly important for the Bank to harmonize its micro- and macro-level frameworks of industrial analysis.

## Issues of Industrial Strategy

During the 1960s and much of the 1970s, Bank reports on industrialization were much concerned with strategic issues. Strategy was then defined with industrial structure and its transformation, with entry into heavy industry as a major objective. This strategy was based on a mechanistic interpretation of trends in industrial structure in countries of different income levels. While it served as a useful, if very general, pointer to long-term tendencies, it was not necessarily a helpful guide to current resource allocation (which is how it was used). It could be misapplied if efficiency (i.e. capability and comparative advantage) considerations were neglected. However, it could have been refined by the inclusion of capability, institutional and other factors, to help countries of differing sizes at differing levels of development to decide what the next stage of industrialization should be.

The strategic approach received a setback when the incentive-based approach came to the fore. This dispensed with the need for governments to guide the industrialization process, since market prices, by assumption, provided

the best guides. The strategic case rested on the assumption that markets did not function perfectly because of risks and externalities of various kinds, so that selective policies were needed to promote the upgrading and diversification of the industrial structure. Strategic considerations could also influence a number of other choices related to industrial activity: for instance, given the activities selected, the depth of technological capability aimed at could vary; given the technological depth, the relative reliance on foreign versus local firms to conduct the necessary technological activity could be different; the choice between public and private sector agents to develop technology, and the extent of internalization of activity by the promotion of large versus small firms, and so on, could all differ according to strategic choices.

The choice of a set of strategic objectives imposes a corresponding set of requirements on industrial policies. If well conceived and internally consistent (in economic terms), a variety of different strategies can be implemented successfully. Each of the four leading East Asian NICs had quite distinct strategies, each with differing interventions within their broadly export-oriented approaches. The degree of selectivity of interventions varied, each addressed to different sets of market failures, with Korea at one extreme and Hong Kong at the other (Lall, 1990). Market-oriented policies by themselves did not provide a number of strategic answers: the way in which markets were developed and remedied depended on a prior set of strategies and the mode of strategic implementation.

The Bank displays an ambiguous attitude to such issues of industrial strategy. Its general recommendations on policy (such as greater export-orientation, import liberalization, more internal competition, increasing access to foreign capital and technology) are clear and forceful. However, they are not based on strategies in the above sense, and they may not be specific enough to help governments make choices on objectives or implementation strategies. Each of the four East Asian NICs would presumably be regarded as good followers of the policies approved by the Bank, yet many important aspects of industrial policy differed between them. As the Korea case study notes, many of the interventions resulting from its strategic choice (of entering heavy, high-tech activities under national ownership and increasing technological autonomy) ran counter to Bank recommendations. Korea promoted industrial concentration, allocated credit within the economy, restricted foreign private investment inflows, protected new activities heavily and directed skill and technology acquisition. None of these interventions could be properly evaluated by the Bank because it had a curious blind spot to the relevant questions of industrial strategy, both on objectives and on choice of instruments to achieve the objectives.

Thus, the Bank may not be in a strong position to advise other countries on how they could pursue their strategic objectives of industrial diversification and technological development. Take Indonesia, which has some ambitions to develop heavy industry and an indigenous technological base. What are the set of integrated policy measures that may achieve such objectives? What should be its set of policies towards infant industry promotion, firm size, technology imports and local R&D, science infrastructure, education and institution building in this context? What are the priorities and phasing involved? How should it reorient its current, apparently misguided, strategy of promoting costly "high tech" activities in order to boost the competitiveness and skills of existing industries? The Bank may not have the tools to provide an answer. The Bank should understand these options clearly by analyzing the experience of the NICs and should explain the options to other countries. This is an analytical and informational function which is distinct from the strategic advice it gives (i.e. its own preferred option). This advice should be based on a separate assessment of the country's endowments, potential and government capabilities.

### **Industrial Development at the Micro Level**

An understanding of the micro-level process of acquiring efficiency is critical to the formulation of industrial policy. As discussed earlier, this is a complex process which takes time and investment in creating skills and information. The Bank's general approach tends to neglect these complexities, with the following results:

First, at the product market level, it leads to a recommendation in favor of uniform levels of effective protection, based on the assumption of similar capability-acquisition processes across industries. If the large differences that exist were taken into account, however, there could be a case for differential rates of protection.

Second, the recommendation of most trade liberalization and adjustment programs that existing industries be exposed to import competition in a similar (fairly short) period is based on the assumption that each viable activity will be stimulated to respond by improving efficiency in a similar way. This ignores structural differences between activities and their support systems: some activities can respond quickly and others cannot (the weight of the two groups depending on the level of capability development); some will need greater inputs of skills or technology than others; and some will involve greater interlinkages (with other activities) than others. These important differences cannot be analyzed unless the micro-level process of capability acquisition is understood.

Third, the development of industrial capabilities at the micro level is like an organic process, building upon previ-

ous capabilities and growing cumulatively. At any given level of development, it should be possible to forecast the next set of activities which can be undertaken efficiently if certain forms of coherent promotion were undertaken, combining factor and product markets. The process of industrial promotion does not, in other words, have to be capricious or random, if some knowledge of the capability-building process exists and if "winners" are not picked at a very detailed level. Without such knowledge, industrial promotion does become a more random and risky affair.

The lack of Bank interest in micro learning processes may lead it to neglect what actually happens in its own industrial projects. Two instances of this may be noted from Korea. In the first, of Korea Heavy Industries Corporation (KHIC), the Bank was unaware of the long learning period and specific technological efforts necessary to achieve competitiveness. In the second, the Bank persuaded the government during the Bank's first structural adjustment loan to Korea to stop helping local automobile firms in their attempts to become competitive autonomous producers; the firms, led by Hyundai, went on to launch massive technological efforts on their own and achieve competitiveness. The details of these two experiences should have been explored by the Bank and used in its policy advice elsewhere, but there is little sign that this was the case.

As noted earlier, however, some of the Bank's detailed reports on industry show a greater appreciation of the complexities of industrial capability building. The best examples of these are found in Indian subsector studies. While they do not analyze how existing "good firms" built up their competitive strengths, they are fairly thorough in describing the technological, input, scale and institutional constraints facing their future development. It is likely that this sort of analysis would be much strengthened if knowledge of how similar Korean firms achieved competitiveness were available. It would be even more valuable for purposes of policy reform if detailed studies were conducted on the reactions (and support policies needed) of specific industrial subsectors exposed to foreign competition. The lack of relevant evidence makes Bank recommendations on the duration of liberalization (five to seven years in India) much less convincing, and several officials in India expressed a desire to see such evidence.

The analysis of the dynamics of capability acquisition would thus help many aspects of Bank work on industry. It would help it to advise governments on support measures needed for various industries: on the desirable structure and phasing of protection (for new activities) or liberalization (for established ones); on the likely nature of its evolving competitive advantages, taking due account of technical progress internationally; specific skill, technological and institutional needs of important activities; and so on. The subsectoral work on India shows an evolution to-

wards this goal. The objective clearly cannot be for the Bank to be intimate with all major industrial technologies, but rather to be aware of the complexities and duration of the basic process. A good "feel" for capability acquisition and its ramifications should then inform not just subsector work but also general recommendations on trade and industrial policy. If properly interpreted, it may change the current thrust of some standard policy advice, while strengthening others.

### **Selectivity and the Risk of Government Failure**

The three case studies suggest that the Bank had not fully appreciated the true scope and incidence of market failures in both product and factor markets that call for selective remedies. The emphasis of the Bank on non-selective interventions seems to undermine a potentially valid case for selective promotion to help countries tackle the next stage of their learning process. Industrial and technological deepening necessarily involve higher costs and risks, and some assistance may be necessary to help overcome them where market and institutional structures are imperfect. As analyzed above, such assistance may need to encompass infant industry protection as well as improvements to specific factor markets relevant to each activity. Where protection is granted, its adverse effects on capability building may have to be offset by safeguards such as phased exposure to foreign competition, rapid export orientation, domestic competition and monitoring of progress. The exercise of selectivity, may, therefore, be a complex and demanding task for the government.

The risk of government failure haunts all discussions of selectivity, and may be the strongest reason for the Bank's reluctance to accept it as an integral part of industrial strategy in developing countries. The risk is very real, and development experience offers many examples of poor intervention. This does not, however, constitute a case for assuming that government failure is inevitable. Two issues arise here: what the sources of government failure are, and how the risk and cost of government failure can be minimized. These are first considered in general terms, and then in the context of the Bank's approach.

Government failure can arise from several different sources. Governments may pursue non-economic objectives and intervene in ways that are not intended to build competitiveness and efficiency. They may, on the other hand, have clear economic objectives, but intervene inefficiently because of lack of knowledge or skills, corruption, or the influence of vested interests. Or there may be a mixture of these various elements. The final ability of a government to undertake interventions rationally and flexibly may not be easy to decipher; in addition, government capabilities may not be static, but may improve with learning,

advice or political changes. The risk of government failure had to be assessed in this complex and changeable context.

In cases where the government is incapable of intervening efficiently because of its non-economic objectives or lack of political will, the correct strategy would be to minimize the scope for selectivity. Where a legacy of inefficient interventions exists, wholesale liberalization would be required as a first step. In this case, however, the government is also unlikely to have the desire or the will to launch a painful and disruptive liberalization process and move to market-based incentives and allocation. The appropriate Bank approach would then be to reduce or halt its lending to industry and press for a change in government objectives. The lack of government capability is, however, generally more a matter of degree rather than of kind: most governments have some rational economic objectives and some freedom of manoeuvre. Even in the case of government with a strong bias to noneconomic interventions, it may be possible to achieve some reductions in the incidence of non-economic interventions. Where flexibility exists, the Bank should work towards the long-term objective of instituting sensible policies, while chipping away at the structure of undesirable policies (this would appear to be the Bank's approach to India). In cases where, by contrast, the government has a legacy of widespread non-economic interventions but is clearly moving to a more liberal regime with Bank assistance (as with Indonesia) the lack of economic objectives or political will is likely to become less of a constraint. The issue is then to reduce the incidence of un-economic interventions and to move to a system of rational policies that permits a desirable degree of selectivity: as noted, there need be no necessary conflict between liberalization and selectivity.

There are two views on how such a transition is best achieved. One is to first dismantle the intervention structure almost completely, move to the minimal set of (functional) interventions and then, as the need arises, gradually introduce elements of selectivity. The other is to move directly from non-economic to economic policies while retaining selectivity (via a process of liberalization that does not eschew selective policies).

The first approach, of rapid and sweeping liberalization with no immediate recourse to selective interventions, has the advantage that it is less exposed to "hijacking" by vested interests, is simpler to design and sends clear signals to all economic agents. It has the disadvantage that it involves sudden, sharp shocks to existing industries, during which it does not provide for individual adjustment needs or for selective promotion of new activities. Some costs are always involved in dismantling complicated intervention structures, phasing out of inherently uncompetitive activities, and inducing appropriate resource shifts to competitive activities. However, the rapid and complete liberalization ap-

proach may have additional costs. It may force the closure of activities which are potentially viable (with some selective factor and product market policies), and it may hold back the development of new, more complex activities (again, with appropriate promotion). It may dissipate the accumulated base of past learning, some of which can be re-oriented to viable industries. It may lead to the realization of a pattern of static comparative advantage, which may be desirable in the short run, but which may not lead to sufficient industrial diversification thereafter (because of the costs attendant on entry into more difficult activities). In general terms, the sweeping liberalization approach may not take sufficient cognizance of market failures.

The alternative approach, of moving from widespread noneconomic interventions via liberalization to more selective, targeted and economic interventions, has the advantage that it can avoid these large costs and address problems of market failure. In principle, therefore, it is economically a better strategy. The risk is that the shift from one system of interventions to another may be easier to "hijack" and it may, even given the political will, be difficult to design and implement. Given a legacy of undesirable interventions, it may prove to be very hard to get the government to "do things differently". Again, the extent to which official habits can be changed is a matter of degree, and *ex ante* generalizations are of doubtful value.

The Bank displays a mixture of the two approaches. Its industrial restructuring, technology, export promotion and subsectoral work is largely in the liberalize-but-intervene-efficiently mold. By contrast, its general approach to industrial and trade strategy and structural adjustment is more in the liberalize-and-minimize-intervention mold, with the ultimate objective of minimizing the government's role in the market. Both go under the broad label of "liberalization", and are not distinguished in Bank reports, but the implications of the two are very different. Since the second is the one more stressed in general policy statements, it is worth spelling out its implications.

The Bank's stress on liberalization is evidently based on the belief that the political will to undertake difficult economic reform measures exists in several countries. However, its preference for liberalization with minimal interventions simultaneously suggests that governments are thought to lack the general ability to promote industry selectively; this seems to apply to all kinds of government, at all times and at various levels of development. This may be inferred from the fact that all its trade and industrialization reform packages (for Korea, Indonesia, Latin America or the least-developed countries of Sub-Saharan Africa) aim at low, uniform levels of protection, and eschew selectivity as a strategy. In other words, there is implied in the Bank's general approach a universal government failure, related to selectivity. This seems to be based on *a priori* as-

assumptions rather than on any consideration of specific governments or their capabilities at any particular time, and it reinforces the tendency to focus on incentives and to neglect strategies.

At the micro (project or subsector) level, on the other hand, it appears that implementation capacities are taken into account, and the Bank has a much more subtle, positive and realistic view of the government. The objective should be to integrate better the micro-level and broader strategic approaches. A good example of this is the Bank's advice on Indonesian reforms, which have been carried out gradually, with increasing attention to structural factors and a discreet use of promotional measures to ensure that the industrial structure is upgraded.

In an ideal approach to assessing government capabilities, account should be taken of the specific institutional and information needs and administrative abilities for the policies deemed desirable on economic grounds, along with learning capacity of the government concerned and the sources of resistance to implementation. It would then be possible to differentiate between cases according to the administrative ability to exercise selectivity, the level at which selectivity could be effectively utilized and the kinds of activities that could be efficiently promoted. This would call for analysis of a type not explicitly undertaken by the Bank. At this time, the Bank's micro-level work proceeds on *ad hoc*, implicit views of government capabilities while its strategy proceeds on broad assumptions of government failure. This is an unsatisfactory situation. It is necessary for the Bank to conduct more systematic, explicit and empirically based analyses of government capabilities, which would look into the institutional and political context of policy making. Only then can it justifiably give policy advice that rejects or accepts some degree of selectivity.

The Korean case study shows that the risks of selective promotion can be reduced in several ways. These may be grouped under four headings: level of interventions, design of interventions, safeguards and guidance.

*Level of interventions.* The requirements of administrative skill, information and political autonomy tend to rise with the specificity of the promotion policies. Selectivity may be easier to reverse, and the risk of picking "losers" reduced by choosing policies which are more general in their impact, by using instruments which aim more at factor than product markets. It is possible, however, that the payoffs in terms of gaining competitiveness are less with more diffuse interventions. Korea used some highly selective form of interventions successfully to promote particular products, enforce the realization of scale economies and economize on entrepreneurial resources. However, this sort of selectivity is extremely risky, and the appropriate level of selectivity for most governments may be much lower. In the absence of the close, supportive relationship between the

government and business that characterized Korea, and its high levels of administrative competence and independence, governments would be well-advised to stick to the promotion of broad subsectors rather than specific products or technologies.

*Design of interventions.* Much of the damage attributed to interventions in developing countries may be traced to policies that were never designed to be economically selective. The Indian case study shows clearly the high costs of economically irrational and non-selective interventions. The Bank is entirely right in criticizing such interventions and recommending a switch to more market-oriented policies. The potential for economic damage would, however, be much less if governments designed (or were helped to design) policies specifically aimed at strengthening markets and building competitiveness (see below). If policies were made to pass such a test, and were set in an incentive framework of export-orientation and internal competition, it is likely that selectivity *per se* would carry much lower risks than are commonly associated with "picking winners". The risks may never disappear (most developed country governments target specific sectors or technologies, sometimes successfully and sometimes not), but they are likely to be far less pervasive than development experience with inward orientation and widespread regulation suggests.

*Safeguards.* Any form of selective intervention must build in safeguards and monitoring devices to reduce potential costs and limit potential damage. This applies to interventions in factor as well as product markets. The Korean experience suggests that one powerful safeguard is to institute strong incentives for early entry into export markets. Another may be to have strict schedules for reduction of protection, backed by capability building measures to ensure that competitiveness increases over time. The proper integration of selective interventions in product, factor and institutional markets is itself a major safeguard against well-designed programs going wrong. Close monitoring of progress is essential to reveal problems of design and implementation. Once safeguards are clearly stated at the start, the risk of "hijacking" is much less, because the rules of the game are explicit and clearly understood.

*Guidance.* Many developing country governments do not have the experience, information or analytical tools to mount efficient selective intervention programs. There is therefore a need for outside institutions, especially the World Bank, to provide some of the inputs necessary to help guide governments. The Bank already does this extensively in macro adjustment and trade/industrial policy reform programs, but stops short of providing help with selectively interventionist strategies (except in its own projects). It may not itself have the capacity at this time to help decide what a coherent, integrated set of interventions

should consist of, but it is certainly the best placed institution in the world to collect the industrial data, cross-country experiences and analytical capabilities required.

### **Concluding Note**

The country studies suggest that many of the elements of an economically sound and practical approach to industrial policy are already present in the Bank's work. Some of the Bank's antipathy to selective interventions may be traced to a misleadingly narrow interpretation of selective promotion, i.e. at a fairly specific level by intervening in trade. A wider definition of selectivity, which encompassed factor markets, would make it more acceptable. The Bank is rightly concerned about the risk of government failure in exer-

cising selectivity. The experience of past government interventions in the large proportion of developing countries has been dismal, and the Bank is rightly seeking to liberalize regimes that are non-economic and inefficient. Selective intervention does not necessarily conflict with liberalization; on the contrary, the burden of non-economic interventions has to be removed before a more rational policy is implemented. However, given market failures, the liberalization process should move the country towards desirable selective interventions rather than to minimal intervention. Governments that show the will and capacity to undertake structural adjustment should be helped to design and implement selective interventions. The level and content of selectivity should reflect the abilities of the government and the nature of the activities concerned.

# 4. Recommendations

The recommendations for Bank work that follow from the above analysis apply at the level of general strategy and policy advice and lending as well as at the project level, but with a greater emphasis on the former. The recommendations can be grouped under four headings: the approach to industrialization; understanding competitiveness at the micro level; promoting efficient policy; and project implications.

## The Approach to Industrialization

As noted earlier, appropriate industrial strategies vary by country resource availability, state of development, institutions, market development and national aspirations. The Bank's industrial sector work was meant to be the natural vehicle for discussing various strategies with the ultimate aim of presenting the developing country decision makers with clear options. This objective should be brought back on track. In the case of countries which are still at the earlier stages of development, sector work is necessarily concerned with fact finding, institutional and economic questions of building an industrial base, mobilization of capital for investment, entrepreneurial and managerial development, training of labor, absorption of imported know-how and technology and technical assistance to small industry. In countries with relatively more developed industrial sector, the attention of sector work is bound to shift to questions of employment, structural change, linkages, competitiveness, technological development and the like.

It is also important that the normal industry sector work of the Bank adopt a more integrated perspective than is the rule today. Traditionally the topics receiving most attention in industrial sector reports have been import protection, export promotion, investment incentives, industrial finance and small scale industries. In some instances infrastructural issues are discussed. In rare cases issues related to capabilities and institutions have been addressed. But the issue of industrial capabilities should be addressed centrally when

industrial performance, policy reform and future prospects are analyzed. Reports should show some "feel" for the skill, technological and institutional deficiencies at the sectoral, subsectoral, or even more disaggregated level (see below). The broad framework used here should be refined, fleshed out and made more useful for operational purposes.

In principle it is not a very large shift for the Bank to include, in its analysis of industrialization, the interplay of incentives with skills, technology and institutions. Its analysis of incentives, based on restoring market efficiency, remains the same, but it is located in a more comprehensive framework where incentives do not "do all the work". The analysis directly covers such structural factors as investment capabilities, skills of various kinds, technological effort and the development of institutional structures, so that the Bank can evaluate and devise methods to help the "supply response". Taking all these factors into account can produce a major change of emphasis and content in the Bank's analysis of trade and industrial policy. The phasing, content and thrust of liberalization and structural adjustment programs would change, and would take more account of the industrial structure, skill endowments, technological and other features of each country. The design of sectoral programs and projects (see below) would also be more realistic and comprehensive.

In addition to what might be termed as the "core" issues discussed above, the Bank needs to address other subjects in its integrated approach. Of particular importance are the treatment of regulatory and business environment in the country concerned and the role of infrastructure in assisting industrial development. The Bank also needs to weave into its industrial work its experience with financial institution building, and especially the role of the financial sector.

In practice, there may be problems in developing an integrated approach. Some are bureaucratic. The functional division of work does not permit an easy integration of educational, industrial, institutional and macroeconomic dis-

ciplines. These divisions themselves reflect the academic and other distinctions that have grown over time between these subjects. They are not difficult to break down, but it would require deliberate effort of building intellectual as well as bureaucratic bridges. The other problems are more analytical and methodological. While it is evident that skills, technological effort, institutions and the like directly shape the course of industrial development, some of precise causal chains are difficult to trace. What, for instance, is the right mix of worker, management, technical and scientific skills needed to support each level of industrial development? How are these skills best provided, and what is the most efficient way of financing skill formation? Similar questions arise in the case of technology and institution building. Many of them have been raised in the Bank in other contexts. Without pretending that clear and immediate answers are possible, it is important to launch and persist in the search. This calls for conceptual and empirical work, and a lot can be learned from similar efforts in developed countries.

Since the objective of the Bank is to promote efficient, internationally competitive and export-oriented industrialization, the following actions are recommended:

- The Bank should broaden its industrial sector work in order to come up with industrialization strategies based on its accumulated knowledge of successful cross-country industrialization practices. Consideration should be given to the establishment of a central capacity, possibly with the participation of UNDP and/or other donors, to provide advice to a number of countries on a rotating basis on their strategic issues. This activity, to be programmed in consultation with the country departments concerned and supported by them, could also help restock their and other donors' knowledge, as needed to enhance their country dialogue and country assistance strategies. A more systematic and rapid build-up of skills and experience from work in a number of countries would also contribute to the focus of Bankwide sector policies.
- The Bank should adopt a more integrated approach to industrialization by including more fully in its analysis the issues related not only to infrastructure, regulatory and business environment and the financial sector, but also capabilities and institutions. This requires a deliberate effort to integrate the intellectual contributions of educational, industrial, institutional and macroeconomic disciplines. Such an approach would make it possible to look at all the factors that are relevant in the process of industrialization, pointing to shortcomings and lacunae and showing the actionable areas. The Bank should accept that the issues related to capabilities and institutions are as important (if not more so) as those related to incentives, especially for countries in the earlier stages

of industrialization. The role of the government in promoting capabilities and institutions should be clearly assessed and recognized without any prior inhibition.

### **Understanding Competitiveness at the Micro Level**

The Bank's understanding of the determinants of industrial progress at the firm or activity level is very patchy. Some reports show an excellent grasp of the issues, other show very little. Much of the research effort is directed towards the understanding of the determinants of competitiveness with very satisfactory results. There is a body of literature on the issues of technological development and its ramification. But the coverage in terms of major industrial activities is highly variable by country. There is no systematic policy of analyzing industrial developments in any way comparable to the Bank's treatment of macroeconomic and trade phenomena. There is a particular gap in the Bank's understanding of how current technological developments affect the efficiency and future competitiveness of various industries in developing countries.

In a world of exceptionally dynamic technological (here taken to include organizational) change, it is very difficult to advise on industrial strategy or to finance industry projects unless some understanding exists of current technological and managerial capabilities and of the impact of shifts in the relevant world frontiers. To the extent that the Bank wishes to promote international competitiveness and export orientation—its stated objective—and to the extent that gains in competitiveness will not follow only by “getting prices right”, there is a vital role for the study of micro-level capabilities and technical progress as well as management and workforce attitudes and labor-management environment. This is particularly important in less industrialized countries where response capabilities are very limited and patchy, indigenous abilities to master new technologies are weak and contact with international trends tenuous. It may also be of great significance in relatively advanced economies, as in Eastern Europe, which are launching major liberalization programs and which are intent on restructuring their industries rapidly to compete in world markets.

The most significant contribution an understanding of micro-level capability development can make is in helping to decide the need for appropriate policy support as well as the relevant tools. It is at this level that market failures in the learning process manifest themselves. Those that are external to the firm, arising in input, skill or technology markets call for functional or selective support at the relevant points. Those that are internal to the firm, arising from the risk, uncertainty and extra costs of capability acquisition, call for measures to protect the firm or directly subsidize its high costs. Interventions to help firms bear internal

costs carry the inevitable risk that they will themselves reduce the firms' incentives to invest in capability acquisition. This calls for safeguards of the type mentioned earlier. The nature and timing of protection/subsidy and the accompanying safeguards require some knowledge of that activity's technological characteristics. In the context of liberalization, the pace of exposure to international competition requires similar knowledge.

The process of acquiring capabilities has certain systematic features based on its cumulative nature and each activity's technological and organizational complexity. Policy advice by the Bank has to take these variations into account, otherwise it risks misallocating resources and misdirecting policy. Since an element of randomness always remains at the firm level, industrial policy making is necessarily an art rather than a science. But the art can be raised to higher levels of relevance and realism if a sustained effort is made by the Bank to systematize existing and emerging knowledge on the microeconomics of capability building. Some knowledge already exists in project documents and industry studies, but it is, as noted, patchy and *ad hoc*. They do not look at the process of capability acquisition in any detail, however, and give little indication of the policy support to the firm that may be desirable. A lot of relevant knowledge also exists in research sponsored by the Bank, which has to be integrated into operational work.

The Bank clearly cannot be expected to have detailed knowledge of all major technologies and their current evolution. What it can have is a good appreciation of the process of capability acquisition (say, across a sample of different technologies with differing complexities, scale, rates of change and organizational requirements) and the willingness to apply the general principles to its policy, subsector and project work. Simply to assume that the process is trivial, or uniform across activities and countries, is unjustifiable. So is the premise that the process is entirely random and unpredictable, so that no systematic policies (especially on protection) can ever be devised. The Korean case study suggests that effective policies on rearing infant industries are feasible and potentially rewarding, while the Indian study shows that non-selectivity and an unsystematic approach can impose heavy costs. Thus, the micro foundations of industrial development need much more attention.

The following recommendations may be made in this context:

- The Bank should include in its research program the in-depth study of successful cases in capability acquisitions (physical investment, human capital, management and technology) at the activity and firm level.
- The Bank should also include the in-depth study of successful cases in institutional developments that have enhanced the working of markets and the development of capabilities in manufacturing enterprises.

- The Bank should address the relevance of government to the process of capability acquisition and institutional development in the case studies while indicating the nature and timing of protection/subsidy granted in the process. Such an acknowledgement would free the Bank's analysis from a void and it would, therefore, render the Bank's advice more acceptable.
- The Bank should study the impact on capability development of liberalization programs, to assess how competitiveness develops (or deteriorates) in response to rapid exposure to world competition. This would help the formulation of policies to ensure supply response geared to particular situations and activities.
- The conclusions so reached, along with the experience of the Bank's staff and its consultants, should form the basis for the Bank's practical advice to the developing countries. It should be appreciated that the conclusions so derived (supported by a series of case studies) will be, at least, of equal relevance to the problems facing decision makers in the developing countries as macroeconomic factors.

### Promoting Efficient Policy

The essence of the Bank's approach, to restore efficient markets, is entirely right and laudable. To the extent that policy makers in developing countries need to be convinced of the basic need for market orientation, the Bank should persist in preaching this message and providing supporting evidence.

It is equally important to stress that efficient market structures do not emerge instantaneously and autonomously. They may require actions to remedy gaps, failures and other imperfections in developing countries. Some market failures may not require direct policy intervention. Some may require intervention via the setting up of supporting institutions. And some may require intervention directly in the process of industrial activity. Many of the interventions, direct or indirect, will necessarily be selective, while some will be functional. This study suggests that the line between the two is often difficult to draw, and that selectivity may be essential to industrial development. However, selectivity can be exercised at several different levels, some more risky than others. The Bank should, in its industry sector work, try to assess and reduce the risks of selectivity, by taking into consideration the institutional setting, the policy environment and the evolving capabilities of the government concerned.

The appropriate conduct of industrial policy depends critically on the administrative capabilities and autonomy of the government. In many cases, interventions have been piled up in a haphazard and unselective fashion, resulting in over-regulated, overprotected, uncompetitive environ-

ments that hold back efficient industrial development. The first priority in such circumstances is to remove the legacy of noneconomic interventions by liberalization and greater export orientation. To the extent that the government has the political will, the Bank should assist in the process of liberalization. To the extent, further, that the government has the capability to implement desirable selective policies, the Bank should help it to move from uneconomic to economic policies via liberalization. Where such capability does not exist, the Bank should insist on liberalization without selectivity. The Bank makes such judgements on government capabilities implicitly: in its general approach to industrial strategy, it tends to assume that governments lack the ability to be selective, while in its project and subsector work it displays a more nuanced, realistic stance. The latter is what needs to be better articulated, and transposed to the general level: the ability of governments to be economically selective should be assessed on a case-by-case basis rather than assumed absent.

The most difficult and controversial area of advice concerns the choice of instruments of selective policy. The Bank's general position is that product market interventions should be limited, where necessary, to low, uniform rates of effective protection. It treats factor market and institutional interventions far more favorably, but keeps them distinct from product market interventions. This approach may be too restrictive. Theory and evidence suggest a strong case for variable rates of protection (or subsidy), depending on the technology, learning periods and externalities of the activities concerned. Interventions in factor markets may be necessary to help activities reach efficiency; in a number of instances (where the internal process is efficient, short, and predictable) they may also be sufficient. In such cases, support for skill creation, R&D, information provision, marketing, and so forth outside the firm will be the correct mode of intervention. However, in cases where the capability acquisition process is difficult, slow and uncertain, factor market interventions may not be sufficient. The activity may have to be directly helped to bear the costs involved. This case for support may be more extensive when entire sets of linked activities have to be promoted in conjunction. The subsidy may be general, as by protection or cash transfers, or directed to specific functions, like R&D or training. The choice between them, or their use in combination, depends on a number of variables that cannot be decided on *a priori* grounds.

The need for various types of interventions cannot, however, be governed entirely by normal cost-benefit analysis, because of the problems of quantifying uncertain learning sequences and because of differences in economic strategies pursued by governments. The Bank does not normally take explicit account of national "strategies", even though these provide the context in which different forms and lev-

els of market failure are addressed. As noted above, the remedying of market failures can take many different forms, even in the context of outward oriented trade strategies, depending on the country's objectives on structural change, technological development, or foreign entry. These are not trivial questions, and it is important for the Bank to analyze them further. Its present approach of recommending fairly similar policies to different countries may need to be altered to take strategic differences into account.

The recommendations here are as follows:

- The Bank should develop a systematic framework for analyzing industrialization and collect information to guide industrial policy. The Bank should also study the feasibility of different strategic "packages" for countries at different levels of economic and institutional development and with different abilities to mount policy interventions.
- It is essential for the Bank to help governments design appropriate industrial policies by collecting, analyzing and disseminating information. Part of this should come (as recommended earlier) from a better understanding of micro-level capability acquisition. Part should come from a systematic analysis of national capabilities and feasible industrial strategies, and part should come from further analysis of the past experience of the NICs. There are now many cases of infant industries that have matured into competitive adults: the bulk of Korean manufactured exports comes from industries that were protected and nurtured in the past. Many similar instances can be found in other NICs of Asia and Latin America. Examples also abound of infants that never matured: the Bank should study these at greater depth to understand why some interventions worked and other did not. More particularly, it should collect data on which industries are proper candidates for promotion at different levels of industrial development, and provide these data to information-scarce governments.
- Where selective policies are found, on the basis of strict eligibility criteria, to be economically desirable, the Bank should consider these as an integral part of a package of policies to promote industrial development, including functional interventions and covering both product and factor markets.
- Another set of recommendations for promoting efficient industrial policies relates to issues of helping countries overcome or minimize the risks of government failure. Some are already important elements of Bank policy: most importantly, its efforts to liberalize and so reduce the incidence of non-economic and non-selective interventions. Many of the gross forms of government failure would disappear if more outward-oriented, competitive, less haphazardly protective policies were adopted and serious liberalization undertaken. The Bank should

adopt a more differentiated, nuanced approach to recommending policy packages to individual governments, based on its assessment of ability to intervene at various levels and in various activities. This is already done implicitly at the project level, but it needs to be broadened and given explicit recognition and consideration.

- Finally, since the case for economic intervention rests to a large extent on the administrative ability of the government, the Bank may find it useful to study how inefficient administrations can be reformed. Although such an endeavor would fall more in the realm of political economy, an understanding of this process would bring an invaluable weight to the Bank's advice.

## Project Implications

It was suggested earlier that it would be salutary for the Bank to develop a systematic framework for analyzing industrialization issues and using the findings to recommend both feasible strategies and coherent ways of implementing them. It was also suggested that such a framework should address issues of capability and institutions development along with other policy issues. This would be a timely effort because the experience in the recent years and the frustration with the weak supply response have already convinced the Bank that macro and trade reforms ("getting prices right") are not sufficient for achieving international competitiveness. The question should no longer be whether to include the complementary issues of capabilities and institutions in the analysis, rather how to combine the policy reforms with capability building and institutional development to achieve efficient industrialization and international competitiveness.

The globalization and interdependence of markets has created further challenges to developing countries in their industrialization quest. Enterprises in developing countries have to respond quickly and flexibly to the rapid changes in market demand and technological trends in order to remain internationally competitive. Their success will also depend on their managerial acumen in developing a sound business strategy and a harmonious labor-management en-

vironment. To be sure, regardless of the external environment and policy framework, firms will use the available skills to acquire technological mastery and implement the essential adaptations needed to achieve maximum production. But the external environment including competitive pressures resulting from the domestic and foreign markets and the stimulus, often provided by government intervention in the factor and product markets, are usually the determinants of success. It is therefore, essential that the external environment, while not relaxing its pressures for competition, provide the needed supports for the "learning" process to progress and mature.

The Bank's project work in the industrial sector now encompasses several types of operation. From the earlier grouping of DFC lending, industrial projects and small and medium industry development loans, the spectrum has expanded to include technology development, industrial restructuring and export development. There is, however, little evidence that this spectrum of activities emanates from an integrated approach to industrialization with each operation focussing on a set of interrelated and closely connected issues in order to support and advance the process. In particular, where operations address policy reform, they are mostly of the macrotype without adequate regard for capability development. There does not appear to exist a uniform appreciation across the Bank that the eliciting of supply response requires actions that systematically encourage the process of capability acquisition at the sectoral, subsectoral and individual firm level. And this, in turn, requires measures that bring forth the maximum effort on the part of the agents as well as correcting the failures and imperfections of the markets.

In this connection, it is essential that the analytical work of the Bank and the studies of the successful cases and practices be widely disseminated and absorbed by the operational staff. While it is true that many of the recent subsectoral studies (e.g. those carried out for India) have addressed issues of capability-acquisition and institutional needs, the projects stop short of acknowledging the role of governments in guiding the process through its various stages by its functional and selective intervention.



# *Annex 1: Educational Attainment in Selected NICs and Other Developing Countries*

Table 1-1 shows that the East Asian NICs had a relatively strong human capital base at the start of their export-oriented industrialization drive, in the mid-1960s. Taking secondary and tertiary education together, Korea, Taiwan, China, and Singapore were substantially ahead of the others, while Hong Kong, slightly behind, was near Indian levels. Over two decades, the East Asian lead, especially in secondary education, increased dramatically, with Korea and Taiwan, China, pulling ahead of the others. Korea, in particular, put out a tremendous spurt in tertiary education, bringing it to OECD levels. Thailand also registered a massive increase in tertiary education, taking enrollments to 20 percent of the relevant age group, second only to Korea. By contrast, Kenya had only 1 percent of the age group enrolled in tertiary education, and 20 percent in secondary education, by 1985: a small base on which to found industrial development. The number of tertiary students per 100,000 population further reveals the extent of the Korean lead, with Taiwan, China, some distance further behind, followed closely by Thailand. These three, in turn, are far ahead of the others: Korea's 3,606 stands at one extreme and Kenya's 114 at the other.

The table also shows enrollments in technical education and vocational training. The figures are deflated by total and urban populations, since either may be considered the relevant skill base available to industry. In general, the lead of Korea and Taiwan, China, is maintained throughout (except in engineering enrollments only, where Singapore surpasses Korea when deflated by total population). Singapore comes next, while Hong Kong trails the other East Asians, but is otherwise fairly high on the list. Mexico turns out a roughly comparable performance to Hong Kong, and always does significantly better than its neighbor, Brazil. India is low in

rankings by total population, but performs much better when ranked by urban population: it surpasses Singapore and Hong Kong in general science and engineering as well as the narrower category of natural science, mathematics and engineering education, coming just behind Mexico in the former and ahead of it in the latter. In pure engineering, however, it drops to Indonesian levels. Thailand has an extremely high enrollment figure for general science and engineering, especially in terms of urban population; unfortunately, a more detailed breakdown is not available. Kenya has very low levels of technical training.

As to vocational training enrollments, Taiwan, China, and Korea lead the group by a large margin, with over 3 percent of their working populations enrolled. Mexico is next with 2 percent, followed by Brazil with 1.83 percent, Indonesia with 1.14 percent, Thailand with 0.96 percent, and Hong Kong with 0.86 percent. Singapore's unexpectedly low figure of 0.54 percent is misleading, because the government runs a large training program for workers which is not included under vocational training; the program is widely regarded as a model of excellence. India is also surprising in having an even lower rate than Kenya.

These data on education are not adjusted for quality or curriculum content. Nor do they take into account completion or dropout rates. The very important skill creation that takes place by firm-level training is also ignored for lack of information. Some scattered indicators suggest, nevertheless, that the general lead of the East Asian NICs (Korea, Taiwan, China and Singapore) is reinforced by these considerations (Lall, 1990). Korea emerges as second only to Japan in one set of international tests of numeracy at the school level when a large sample of developed, and a few developing, countries are compared. Hong Kong emerges

**Table 1-1: Indicators of Investments in Human Capital**

	Korea	Taiwan, China	Hong Kong	Singapore	Brazil	Mexico	India	Thailand	Indonesia	Kenya
<i>Percent Age Group Enrolled in:</i>										
Primary Education										
(1965)	101	97	103	105	108	92	74	78	72	54
(1985)	96	100	105	115	104	115	92	97	118	94
Secondary Education										
(1965)	35	38	29	45	16	17	27	14	12	4
(1985)	94	91	69	71	35	55	35	30	39	20
Tertiary Education										
(1965)	6	7	5	10	2	4	5	2	1	0
(1985)	32	13	13	12	11	16	9	20	7	1
No. of Tertiary Students per '000 population (latest year)	3,606	2,080	1,410	1,406	1,140	1,580	776 <sup>a</sup>	1,998	600	114
No. of Tertiary Students in GSE <sup>b</sup> ('000) (year)	585 (1987)	207 (1984)	36 (1984)	22 (1983)	535 (1983)	563 (1986)	1,443 (1980)	360 (1985)	235 (1985)	12 (1985)
As % of population:										
Total	1.39	1.06	0.67	0.89	0.40	0.70	0.21	0.06	0.14	0.06
Urban	2.02	1.36	0.72	0.89	0.57	1.02	0.97	3.90	0.53	0.30
No. of Students in SME <sup>c</sup> ('000)	320.6	151.7	27.5	16.2	323.3	336.9	1,269.0	n.a.	137.3	4.8
As % of Population:										
Total	0.76	0.78	0.51	0.73	0.24	0.42	0.19		0.09	0.02
Urban	1.10	1.00	0.55	0.73	0.34	0.59	0.86		0.33	0.12
No. of Students in Engineering only ('000)	227.6	128.7	21.1	15.4	164.6	281.8	397.0	n.a.	109.5	3.3
As % of Population:										
Total	0.54	0.68	0.41	0.61	0.13	0.35	0.06		0.07	0.02
Urban	0.78	0.85	0.42	0.61	0.17	0.50	0.27		0.27	0.08
No. of Students Enrolled in Vocational Training ('000)	814.5	404.6	31.7	9.4	1,481.0	853.6	397.7	288.0	1,061.3	7.8
(year)	(1986)	(1984)	(1984)	(1984)	(1985)	(1985)	(1981)	(1984)	(1986)	(1985)
As % of Population of Working Age	3.06	3.24	0.86	0.54	1.83	2.0	0.07	0.96	1.14	0.08

a. 1980.

b. General Science and Engineering fields: natural science, mathematics and computer science; medicine; engineering; architecture; trade, craft, transport and communications; agriculture, forestry, fishery.

c. Natural science, mathematics and computer science, engineering.

Sources: World Development Report, 1988. UNESCO, *Statistical Yearbook 1988*, Paris, 1989. Government of Republic of China, *Statistical Yearbook of China, 1988*, Taiwan, China. Government of Republic of China, Ministry of Education, *Educational Statistics of Republic of China, 1988*, Taiwan, China.

in a similar position in another test (where Korea was not included) cited by the OTA (1990). East Asia in general enjoys high completion rates relative to other countries. Data on firm-level training are not generally available, but Korea's policy of enforcing a high investment rate (of 5-6 percent of sales) in worker training by firms is likely to be the highest among developing countries. Singapore has set up several worker training centers to create high-level skills in collaboration with foreign investors. Its worker training is widely regarded as among the best in the world, even in comparison with advanced industrial countries.

Enrollment figures indicate the current "production" of skills, but not the existing stock. Clearly, countries with larger stocks of technical manpower need smaller current rates of production, though the value of older professionals deteriorates rapidly in a period of technological change if their skills are not constantly improved by retraining. Of the sample countries, the largest stocks of scientists and engineers (per million population) are in Hong Kong, 26,500,

and Singapore, 14,300. Brazil has around 12-13,000, Korea, 9,000, India 1-2,000, Indonesia 1,300, and Thailand and Kenya below 1,000 (these figures, from UNESCO, may be subject to wide margins of error). Recent figures on Mexico and Taiwan, China are not available, but are likely to be in the 15-20,000 range. The combination of stock and flow figures would suggest that the four East Asian NICs are best endowed with technical human capital: of these Korea has the highest rate of expansion and so the great accretion of new skills, and, with Taiwan, China probably the largest stock of "modern" technical skills in place. Hong Kong has a large inherited stock, but is lagging in producing skilled workers and technicians. Thailand has a very small inherited stock but is adding to it extremely rapidly. Mexico has a respectable stock as well as creditable "production" of skills. Brazil has a more modest record, while India has a relatively small stock and a poor "production" record if the population as a whole is considered.

## *Annex 2 : Research and Development Expenditure in Selected NICs and Other Developing Countries*

Table 2-1 presents available data on recent R&D on nine developing countries (Hong Kong is absent because of lack of data) and Japan. It is apparent that R&D intensities are strikingly similar to the human capital endowments shown in Annex 1. The most successful industrializers, Korea and Taiwan, China, have invested heavily in R&D. Korea leads the sample (and the whole developing world) in total R&D deflated by GNP—it has also surpassed OECD countries like Spain, Italy, Austria, Denmark, or Finland. By the turn of the century it plans to spend 5 percent of GNP on R&D, far exceeding current levels by Germany, Japan or the United States. Its investments explain how it has attained a competitive edge, largely by national enterprises on a variety of high-technology, large-scale industries.

Total R&D figures include work unrelated to industry. The columns on R&D in the productive sector and financed by productive enterprises are more relevant to our purposes. The latter is arguably the best indicator of genuine technological effort by industry, in that non-industry financed

R&D (in official research centers) tends to be largely irrelevant to production needs in most developing countries. The figures on R&D financed by productive enterprises accentuate the lead of the East Asians, especially Korea, which has industry-financed R&D ratios over three times that of Taiwan, China 19 times Brazil or India, nearly 50 times Thailand or 380 times Mexico. The relatively high R&D figure for Kenya is misleading because the absolute amount is very small, and almost none of it is accounted for by manufacturing industry.

The last column shows data on scientists and engineers in R&D deflated by population. The level in Taiwan, China exceeds that in Korea (and is the same as France's), but Korea's rate of expansion is more rapid. Both countries' levels are severalfold higher than those of the semi-industrial countries, and some 60-70 times higher than that of Kenya. This measure of the technical "intensity" of R&D effort confirms the extent of the technological lead of the two East Asian NICs.

**Table 2-1: Indicators of Formal Technological Effort**

	Year	Total R&D	Productive Sector	R&D Financed by Productive Enterprises	Scientists/Engineers in R&D per million Population
Republic of Korea	1987	2.3	1.5	1.9	1,283
Taiwan, China	1986	1.1	0.7	0.6	1,426
Singapore	1984	0.5	0.2	0.2	960
Brazil	1982	0.7	0.2	0.1	256
Mexico	1984	0.6	0.2	0.005	217
India	1984	0.9	0.2	0.1	132
Thailand	1985	0.3	n.a.	0.04	150
Indonesia	1984	0.3	n.a.	n.a.	152
Kenya	1975	0.8	n.a.	n.a.	26
Japan	1985	3.5	2.4	2.7	4,569

Sources: UNESCO, *Statistical Yearbook 1988*, Paris, 1989. Government of Republic of China, *Science and Technology Data Book*, Taiwan, China 1987. Government of Japan, Ministry of Science and Technology, *Indicators of Science and Technology*, Tokyo, 1986. Ministry of Science and Technology, *Introduction to Science and Technology*, Seoul, Republic of Korea, 1988.



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