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Budgetary Institutions and Expenditure Outcomes

Binding Governments to Fiscal Performance

Ed Campos
Sanjay Pradhan

How institutional arrangements affect incentives governing the size, allocation, and use of budgetary resources and improve transparency and accountability — binding key players to particular fiscal outcomes and making it costly for them to misbehave.

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Summary findings

Campos and Pradhan examine how institutional arrangements affect incentives that govern the size, allocation, and use of budgetary resources. They use a diagnostic questionnaire designed to elicit the relative strengths and weaknesses of specific systems in terms of instilling fiscal discipline, strategically assigning spending priorities, and making the best use of limited resources. In applying their methodology to a sample of seven countries (Australia, Ghana, Indonesia, Malawi, New Zealand, Thailand, and Uganda), they also examine how donor assistance affects expenditure outcomes.

They first compare the far-reaching reforms introduced in Australia and New Zealand, two countries at the cutting edge of institutional reform. In New Zealand, reform focused on achieving general fiscal discipline and technical efficiency (getting the best output at the least cost). In Australia, reform focused on strategic priorities and a shift from central to line agencies to identify savings within hard budget constraints. The two countries took dramatically different paths, but both sought to alter the *incentives* that affect the size, allocation, and use of resources, and to improve *transparency* and *accountability*, binding key players to particular fiscal outcomes and making it costly for them to misbehave.

Systems in Indonesia and Thailand were reasonably effective in instilling fiscal discipline, but Indonesia seemed to be somewhat better at allocating resources to protect basic social services and alleviate poverty during periods of fiscal austerity. Thailand's overcentralized system did not capitalize on useful information from line agencies and lower levels of government.

Donors play a central role in spending outcomes in the three African countries studied — Ghana, Malawi, and Uganda. Donors provided incentives for short-term fiscal discipline, but the way they imposed spending cuts impeded the prioritizing of expenditures, and multiple donor projects fragmented the budget. Donor conditionality on the composition of expenditures, and donor-driven attempts to improve technical efficiency, were ineffective. Lack of transparency and accountability meant that rules were not enforced and budgets were often remade in an ad hoc, centralized way, so that the flow of resources to line agencies was unpredictable.

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Contents

Summary

In this paper we examine how institutional arrangements affect incentives that govern the size, allocation and use of budgetary resources. Out objective is to identify key arrangements that create incentives consonant with and supportive of achieving better expenditure outcomes. To organize our approach, we categorize institutional arrangements according to their relative impact on three levels or categories of expenditure outcomes—the aggregate level of spending and the deficit (i.e., aggregate fiscal discipline), the composition of expenditures (i.e., strategic prioritization for allocative efficiency and equity), and the technical efficiency in the use of budgeted resources.

Using theories from the New Institutional Economics to guide us, we analyze three, interrelated theoretical problems that plague any public expenditure management system (and thus impinge on the three categories of expenditure outcomes). Informed by practical public sector experience, we identify a focused set of institutional arrangements that can potentially address one or more of these problems as well as corresponding mechanisms for transparency and accountability which can bind key players to these arrangements. We construct a diagnostic questionnaire which, upon completion by a country expert, produces index values for each of the arrangements and mechanisms. On the basis of this construction, we are able to develop three parsimonious measures (i.e., "slack" coefficients) of the potential effectiveness of a system with respect to each of the three expenditure categories. We are then able to correlate these measures with actual expenditure outcomes. Moreover, we are able to assess the relative strengths and weaknesses of a specific system and, in particular, can examine how donor assistance can enhance or undermine the effectiveness of these arrangements and mechanisms. We apply this methodology to a sample of seven countries.

Through our methodology, we are able to capture the principal changes that the radical reforms in New Zealand and Australia introduced. We are able to show that the New Zealand reforms have been geared to achieving aggregate fiscal discipline and enhancing technical efficiency, and that formal mechanisms for transparency and accountability have been central to these reforms. The data reveal that our measures, the slack coefficients, are correlated with expenditure outcomes (e.g., reduction in fiscal discipline and unit costs of service delivery). Our slack coefficients for Australia confirm that the thrust of the reforms was to focus attention on strategic priorities and a significant shift away from central to line agencies as the source of savings in order to achieve aggregate fiscal targets. The result has been a dramatic reduction in the level of spending and deficits, and more significantly, large churnings in the composition of spending of a highly activity-specific nature.

Our analysis for Thailand and Indonesia reveals that both countries have systems that are reasonably effective in instilling aggregate fiscal discipline. However, the Indonesian system places greater emphasis on prioritization, which is manifested in its ability to protect basic social services during fiscal austerity. By contrast, Thailand's is an overly centralized system, which does not capitalize on the superior information at line agencies and lower levels of government.

Two key factors affect expenditure outcomes in our three African countries--Ghana, Uganda and Malawi--albeit to varying degrees. The first is the *central role of donors*. While donor assistance has provided incentives for short-term aggregate fiscal discipline, it has also impeded expenditure prioritization because of the manner in which expenditure cuts have been imposed. Moreover, multiple donor projects have fragmented the budget. Donor conditionality on the broader composition of expenditures has not been effective, nor have been donor driven attempts to improve technical efficiency. A second feature is the *lack of transparency and accountability* in these systems, resulting in poor enforceability of existing rules. Budgets are often remade during budget implementation in an ad hoc, centralized manner, resulting in large deviations from the approved budget and tremendous unpredictability in the flow of resources to line agencies.

Using our findings, we are able to critique recent initiatives being undertaken in the three African countries, and propose reform experiments that can improve incentives within client governments as well as between governments and donors. Monitoring and evaluating these reform experiments constitutes a principal element of the proposed agenda for further research.

Introduction

In recent years, there has been heightened concern about poor fiscal outcomes in developing countries. Governments have had to reduce aggregate public spending and deficits due to serious macroeconomic imbalances. At the same time, governments had to focus attention on the composition of spending in deciding where to cut expenditures. While everyone attempted fiscal adjustment, few succeeded. Fiscal outcomes in Sub-Saharan Africa have been particularly disappointing. A recent review of adjustment in Africa concluded that over 60 percent of the countries had poor or very poor fiscal stance, defined in terms of sustainable budget deficits (World Bank 1994). Further, recent reviews suggest that there are egregious imbalances in the composition of public spending, and only a few African countries have made some progress in improving the allocative efficiency and equity of expenditure composition (Pradhan 1996, World Bank 1992). Finally, evidence from several countries points to gross technical inefficiency in the use of expenditures, manifested in widespread incidence of "ghost" workers, moonlighting, collapse in the delivery of basic services (Lindauer and Nunberg 1994, World Bank 1992).

Broadly, two types of advice have been offered to address these problems. The first is reflected in the increasing emphasis that the World Bank and other donors have been placing on evaluating and influencing the level and composition of expenditures. The Bank has been devoting substantial resources to carrying out Public Expenditure Reviews (PERs) to evaluate public expenditure allocations. The basic presumption is that rigorous economic analysis can be used to identify expenditure imbalances, and that this can help introduce conditionalities in adjustment and sectoral loans that improve expenditure outcomes. While PERs have helped improve the composition of expenditures in some countries (Pradhan 1996), they generally have not had much of an impact. For instance, two recent reviews of PERs, including an external review of PERs in African countries, concluded that PERs have not been internalized within governments, and have not succeeded in influencing the government's budget process or expenditure allocations (Netherlands Economic Institute 1995, World Bank 1995).

A key problem is that PERs have typically not focused on evaluating and improving the budgeting system in client countries (Pradhan 1996). Most recently, the Africa region of the World Bank, has issued guidelines requiring PERs to do precisely this—focus on building government capacity, improving the budget process and more generally strengthening public expenditure management systems in client countries (World Bank 1995). But this in fact has been the emphasis of the second type of advice.

The second approach emerges from the public sector budgeting and financial management literature (Wholey 1978; United Nations 1992; Rabin and Lynch 1983; Wesberry 1993). This literature is extensive, covering documentation of formal budgetary processes, technical analysis of financial management systems, and evaluation of the appropriateness of government organizational structures. The advice it offers is manifested predominantly in technical assistance projects to developing countries to strengthen the financial management system (e.g., computer-based information systems to improve financial accounting), revamp budgetary formats, restructure organizational responsibilities, and strengthen government capacity (e.g., manpower training).

While this approach offers some useful building blocks for improving public expenditure management, it has two principal shortcomings. First, it does not have a coherent analytical framework with which to systematically evaluate weaknesses and strengths of a public expenditure management system. Second, it does not offer any methodology for clearly linking changes in a system with expenditure outcomes, or understanding interrelationships among the three levels of outcomes.

Our research attempts to develop a new approach whose emphasis is on examining how institutional arrangements (i.e., the rules, norms, procedures) governing the budget process affect incentives governing the allocation and use of resources. Using theories from the new institutional economics to guide us, we identify key theoretical problems that underpin any public expenditure management system. We then construct a set of generic institutional arrangements each of which can potentially address one or more of the problems and link with each arrangement relevant accountability and/or transparency enhancing mechanisms. We categorize these arrangements and mechanisms according to their relative impact on three levels or categories of expenditure outcomes—the aggregate level of spending and the deficit, the composition of expenditures, and

the technical efficiency in the use of budgeted resources. On the basis of this categorization, we are able to develop a parsimonious measure of the potential effectiveness of a system with respect to each of the three expenditure categories which we are then able to use to correlate the "quality" of public expenditure systems with expenditure outcomes.

As part of this research, we sought to examine lessons from countries that have been successful in undertaking reforms to their public expenditure management systems and have experienced improved outcomes: what kinds of institutional arrangements should we be looking for? The most widely-publicized examples have come from the OECD countries that have embarked on a wave of budgetary innovations. Reviews of budget reforms in OECD reforms pointed to New Zealand and Australia as being at the cutting edge of these reform efforts, each overhauling the incentive structure governing expenditure allocation and utilization (Aucoin 1990; Scott, Bushnell and Salee 1990). The reviews indicate that the two countries have been successful in slashing expenditures and deficits. They do not however discuss the impact on the composition of expenditures or on technical efficiency. Indeed, there has been no attempt to systematically analyze the specific elements of these reforms, identify what they sought to achieve, and evaluate their impact on the different levels of expenditure outcomes. Consequently, we chose to focus on the New Zealand and Australian experiences. Specifically, we use their experience to help us understand better the kinds of institutional arrangements that can address the key theoretical problems and the potential impact that these arrangements can have on expenditure outcomes.

Since there are vast differences in institutional context between the OECD and the developing economies, we also sought to examine the public expenditure management system of two successful developing countries in East Asia, Thailand and Indonesia. These countries have exercised remarkable aggregate fiscal discipline, as evidenced by sustained, relatively low inflation rates, while achieving rapid and broad-based growth (World Bank 1993). However, some evidence suggests that Indonesia has been better at allocating expenditures to basic social services and more generally to poverty alleviation.

Finally, we selected three countries in Africa—Ghana, Uganda and Malawi—to help us understand institutional arrangements in countries with poor outcomes, including the impact of donor assistance, and to investigate whether we could apply the lessons from the more successful countries in these contexts.

This paper is divided into six sections. In section II, we present the analytical framework and identify the key institutional arrangements that define the parameters of a public expenditure management system. We also construct indices to represent each of the key institutional arrangements and we show how the indices can be used to derive three measures of the potential effectiveness of a system with respect to the three categories of expenditure outcomes. In section III, we describe the pre and post reform systems of New Zealand and Australia, apply the methodology developed in section II to derive the measures of potential effectiveness for each system, and correlate changes in these measures with changes in expenditure outcomes. We also compare the two post reform systems. In section IV, we use the methodology to characterize the public expenditure management systems of Thailand and Indonesia and evaluate how our characterization corresponds to the performance of these countries on aggregate fiscal discipline and the composition of expenditures. In section V, we describe the broad characteristics of the systems in Uganda, Ghana, and Malawi and illustrate how donor arrangements affect the potential of the systems to achieve better expenditure outcomes. We end the section with a critique of recent reform initiatives in these countries. We conclude the paper with a brief discussion of future directions for research in this relatively nascent area.

The Analytical Framework

Understanding the intricacies of a country's public expenditure management system is a complicated and demanding task. In this paper, we attempt to unravel the complications that arise in constructing an effective public expenditure management system, to present a methodology for characterizing the system parsimoniously without losing its essential features, and to undertake some correlations of system characterizations and expenditure outcomes. To organize our approach, we categorize expenditure outcomes according to three basic objectives that any system needs to achieve: (i) to instill *aggregate fiscal discipline*,

(ii) to facilitate *strategic prioritization of expenditures across programs and projects*, and (iii) to encourage *technical efficiency in the use of budgeted resources*, i.e. achieve outputs at the lowest possible cost.

Three distinct but interrelated theoretical problems impinge on the task of achieving the above objectives. The first has to do with what is known as the tragedy of the commons. Disparate claimants on government spending view the budget as a common resource pool which they can dip into with little or no cost. The second pertains to information revelation and "vote cycling" problems that primarily impede the strategic prioritization of expenditures across sectors and programs. The third involves information asymmetry and incentive incompatibilities within the government hierarchy (e.g., the principal-agent relationship between the central and line ministries) which can impede the efficient allocation and use of budgeted resources. Each of these problems can affect expenditure outcomes adversely. Each is inherently difficult to resolve. Together they present a formidable task.

To guide us in our analysis, we use theories from the new institutional economics to help us identify key institutional arrangements that can help address these problems. We describe each of these arrangements, explain briefly how they work, and indicate why they can help resolve one or more of these problems. From this, we are then able to piece together a set of institutional arrangements that can potentially make for an effective public expenditure management system.

Institutional arrangements however need not necessarily have any effect. For them to be binding, mechanisms that make adherence or non-adherence to these rules transparent and that hold the government and its ministries accountable for bad performance are necessary. ***Transparency and accountability*** mechanisms impose implicit costs on politicians and bureaucrats for violating rules and thus can make their commitment to the rules credible.

Aggregate Fiscal Discipline and the Tragedy of the Commons

Aggregate fiscal discipline is impeded by the so-called tragedy of the commons. There are many claimants to the budget , e.g., interest groups, legislators, line ministries. Each has different preferences over the manner in which the budget is to be allocated, i.e. the composition of spending, and each exerts pressure on the government to bias spending in the direction of their preferences. Given taxes are collected from the general public, the tax burden of a claimant's spending priorities, which is spread across many groups and individuals, is likely to be considerably lower than the total social cost of the implied programs. On the other hand, the benefits accrue mostly to the claimant. Consequently, a claimant will always demand a level of spending on its desired programs that exceeds the level that is socially optimal.[1] For these reasons, constraints on the aggregate level of spending and deficits over the medium term become important. Absent any constraint, meeting the demands of disparate claimants is likely to result in large, unsustainable deficits that translate into an unstable macroeconomic environment—high inflation, high interest rates, burgeoning current account deficits—which can ultimately retard growth.[2]

Key institutional arrangements that can help mitigate the tragedy of the commons, together with associated transparency and accountability mechanisms are summarized in Table 1.

Table 1. Aggregate Fiscal Discipline

Institutional arrangements	*Accountability*	*Transparency*
A. Macro framework and coordination mechanism	Ex-post reconciliation	Published
B. Dominance of central ministries	Sanctions	Made public
C. Formal constraints	Openness of financial markets	Freedom of the press
D. Hard budget constraints		
E. Comprehensiveness of budget		

1 See Shepsle, Weingast, and Johnsen (1981) for a more detailed discussion of this issue.

2 This is consistent with the observation that macroeconomic crisis generally induces governments to confront and scale down the deficit (Haggard and Kaufman).

The tragedy of the commons problem can be mitigated by introducing a medium-term macroeconomic framework into discussions of the budget, granting the central ministries a dominant position on decisions concerning aggregate spending, and by establishing formal constraints on spending and borrowing. A macroeconomic framework provides a basis for evaluating the implications of the public expenditure program for macroeconomic variables and gives the government a means to have claimants incorporate the real cost of inflation as well as implied changes in other macro variables into their decision calculus. It would be important however for all public expenditures, including extrabudgetary funds, to be included in the macroeconomic framework; in Ukraine in 1991 for instance, extrabudgetary funds accounted for about 12 percent of GDP and were not incorporated in the macro framework. To be effective, the macroeconomic framework needs to be supported by underlying institutional arrangements which ensure coordination among the key central agencies. For example in Thailand, the four central agencies—the Central Bank, the Budget Bureau, the Ministry of Finance and the Planning Ministry—work closely to develop and monitor an internally consistent set of macro aggregates.

Line ministries and other claimants have relatively parochial views on the budget. By virtue of their mandates and jurisdictions, the central ministries are better able to evaluate the big picture of which aggregate spending and macroeconomic trends are major components. Hence, the tragedy of the commons can also be mitigated by granting the central ministries dominance over aggregate spending. In Thailand, for instance, the four central agencies have had considerable autonomy and authority in setting aggregate fiscal targets; there have been only two years in the last few decades where the Cabinet or the Parliament has overridden their targets.

Given the nature of politics in many countries however this may not be enough. There will be constant pressure from claimants to expand the budget envelope. Establishing explicit rules that put specific limits on spending and borrowing and that impose penalties on overspending by line ministries can give the central ministries more leverage over claimants, i.e. increase their bargaining power. In practical terms this means central ministries can refer to objective, pre-determined rules to defend their decisions. Similarly, Indonesia's constitutional "balanced budget" law prohibits the government from incurring any domestic borrowing.

In theory then aggregate fiscal discipline will depend upon: (i) the existence of a medium-term expenditure framework based upon a consistent macroeconomic program; (ii) the relative dominance of the central ministries; and (iii) the existence of formal constraints on spending and the deficits. But while such rules may exist on paper, they may not be binding. The following mechanisms can help improve accountability and/or transparency and thus impose political costs on politicians and bureaucrats from violating the rules: (i) reconciliation between ex-ante and ex-post aggregate spending and deficits; (ii) sanctions against overspending; (iii) publication and dissemination of the results to the public; and (iv) integration of all expenditures within the budget, including extrabudgetary funds. New Zealand offers the most dramatic example of accountability and transparency mechanisms which binds the government to aggregate fiscal discipline. The contract of the governor of the Central Bank is explicitly linked to inflation, and the contract of the Minister of Finance is linked to aggregate fiscal performance. Further, the government is legally required to commit itself to aggregate fiscal targets, and is legally bound to full and frequent disclosure. Open financial markets have exerted a disciplining force with the publication of this data. Similarly, Indonesia's balanced budget law does not by itself exert a binding influence because while it prohibits domestic borrowing, it allows external borrowing; external discipline is in fact exerted by open capital accounts in Indonesia.

Indeed, *the openness of financial markets* represents a subtle mechanism that imposes accountability on the government for maintaining aggregate fiscal discipline. Open financial markets can potentially act as a disciplining device on the government even in the absence of other mechanisms. If the government decides to run a large deficit, institutional investors and fund managers may perceive this to imply macroeconomic problems down the road, e.g., inflation, devaluation, etc. and thus may decide to pull their funds out and move them to other countries. Should this happen then the government is likely to confront a macroeconomic crisis, which would likely have serious political repercussions. In short, open financial markets make it politically costly for the government to run a large deficit. Indeed, our preliminary explorations into this issue suggests that more open financial markets tend to reduce the relative size of budget deficits (deficit to GDP ratio). Table

2 presents our econometric results based on two different measures of financial openness, APTALP, which is based on the international arbitrage pricing model, and ICAPALP, which is based on the capital asset pricing model.[3] The control variables are the per capita GDP growth rate (G), a measure of the sustainability of the deficit (INT), an index for the adherence to the rule of law (CON), and an index of political instability (POL). Annex A presents our preliminary econometric results on the impact of openness of financial markets on budget deficits in further detail.

Strategic Prioritization, Transactions Costs, and Consensus Building

Given aggregate fiscal discipline, the second key challenge is how to prioritize competing claims on scarce resources. Once again, the underlying problem is the tragedy of the commons which creates a tension among competing claims from individuals and groups. But there are two additional problems which make prioritization difficult: high transactions costs in getting feedback to and from civil society about how to map expenditures onto preferences; and information asymmetries within the government hierarchy characterized by the fact that line agencies possess better information about how best to allocate expenditures within their mandates.

Prioritization is fundamentally a political process. Politicians will set priorities based upon their understanding of the preferences of their constituencies: The key here is whether there are institutional arrangements that improve the quality of information needed to do this effectively. Key institutional arrangements and their associated transparency and accountability mechanisms, which can facilitate prioritization are summarized in Table 3.

Table 2. Dependent Variable: Deficits as Percent of GDP

	(1)	*(2)*	*(3)*	*(4)*
Constant	-6.082	-5.007	-7.714	-7.963
	(-1.65)**	(-	(-	(-2.17)**
G	-0.083	-0.149	-0.065	-0.079
	(-0.706)	(-138)***	(-0.54)	(-0.66)
INT	-0.008	-0.009	-0.008	-0.009
	(-3.59)*	(-4.23)*	(-3.77)*	(-3.82)*
CON	2.243	1.776	2.61	2.596
	(1.51)**	(1.32)***	(1.72)**	(1.72)**
POL	0.286	0.608	0.943	1.192
	(0.32)	(0.73)	(1.05)***	(1.29)***
APTALP	-0.389	-1.169		
	(-2.59)*	(-4.39)*		
APTALPxFP		0.206		
		(3.42)		
ICAPALP			-0.202	-0.375
			(-	(-1.96)**
ICAPALPxFP				0.063
				(1.08)***
R-Squared	0.474	0.577	0.443	0.457
No. of Observations	54	54	54	54

Note: t-statistics are in parentheses; * indicates significant at the 1% level, ** at the 5% level, and *** at the 10% level.

3 These measures have been developed by Levine and Zervos (1995).

Table 3. Prioritization for Allocative Efficiency and Equity

Institutional arrangements	*Accountability*	*Transparency*
A. System for comparing medium-term costs of competing policies	Reporting on outcomes	Published
B. Comprehensiveness of the budget	Ex-post evaluations	Freedom of the press
C. Flexibility of line agencies	Hard budget constraint	Made public
D. Breadth of consultations	Technical capacity of parliament	Comprehensible
E. Use of objective criteria		

Invariably the tragedy of the commons will create demands in excess of the constraints. This raises the transactions costs of collective decision making within the political process because it creates a situation in which individuals and groups will strive to restructure coalitions in order to enlarge their share of a fixed pie.[4] This implies the need for institutional arrangements that help build consensus among the competing groups on the relative expenditure allocations.[5]

Consensus building requires information on what trade-offs are being made, including what everyone is having to give up and gain, together with a vision of future benefits that will derive from current sacrifices. Thus for prioritization, the most important arrangement is likely to be a process which articulates and seeks consensus over strategic outcomes that expenditures seek to achieve in the medium term and that links expenditure allocations with these strategic outcomes. This could include, for instance, a decision-making mechanism in Cabinet to decide upon strategic priorities informed by a system for comparing the medium-term costs of competing policies within a given hard budget constraint.

Line ministries have better information on how best to allocate resources within their sectors to achieve given objectives. Consequently, a complementary arrangement that would economize on transactions costs would be to give them the flexibility to determine what new programs to introduce and what existing programs to cut, i.e. allocating resources within their ceilings, economizes on the cost of information. For as long as line ministries can be held accountable for their performance (through reconciliations and ex-post evaluations) and their performance is made transparent, they will tend to use the information they possess (but which central ministries and politicians do not) to allocate their ceilings to achieve their given objectives.

Australia offers the best example of such a priority setting process. The process engenders strong focus on strategic outcomes that expenditure programs are seeking to achieve, and incorporates a medium-term expenditure framework that link allocations to the achievement of these outcomes. At the Cabinet level, the process focuses on evaluating and setting strategic priorities based upon medium-cost estimates of spending and savings options identified by line agencies as well as by Cabinet. Line ministries are given a hard budget constraint consistent with these intersectoral priorities, but then given flexibility to reallocate resources within their portfolios. These medium-term costs of policies, called forward estimates, are rolled over into future budgets provided policies do not change. This lowers transactions costs and helps focus attention on changes in strategic priorities. Accountability is achieved through the hard constraint, reporting on results or outcomes, a strong emphasis on ex-post reconciliations and evaluations. Australia, for instance, publishes a reconciliation table with its budget showing the deviations between last year's forward estimates and this year's proposed allocations. This is accompanied by an explanation of the observed deviations. Australia also undertakes systematic ex post evaluations of its programs. Among developing countries, Colombia is launching the most ambitious program of ex-post evaluations, and Malawi is attempting to institute a priority-setting process along the lines of Australia.

A credible priority-setting process also requires that all expenditures are incorporated into the budget. In other words, the budget needs to be comprehensive. The existence of extra budgetary funds and/or the

4 Theoretically this refers to the problem of "vote" cycling (see McKelvey 1976).

5 On the U.S. Congress, see Weingast (1993), Krehbiel (1991), Shepsle (1979), and Shepsle and Weingast (1994).

exclusion of certain expenditure categories, e.g., subsidies to public enterprises, is likely to weaken the ability of decision-makers to allocate expenditures to achieve strategic outcomes. For instance, considerable earmarking of resources for particular expenditures in several Latin American countries (e.g., Colombia) effectively removes large chunks of expenditures from the prioritization process. Comprehensiveness or unity of the budget is perhaps the second most important arrangement for prioritization.

There is also a need to establish impersonal rules for evaluating the relative importance of programs and projects to complement the prioritization process. Since impersonal rules apply equally to every program and project, the government cannot be as easily accused of favoritism and thus is better able to defend itself against criticism. The use of economic cost-benefit analysis and incidence analysis are examples of such rules. The first can provide information on the net social gain, while the second can potentially make transparent who gains and who loses. These rules can thereby help claimants evaluate tradeoffs more objectively and thus arrive at agreements more quickly.

To build a consensus, the decision making process also needs to extract information about the preferences of different claimants, i.e. determine the demand curve. Decisions have to be made about broad strategic priorities for this determines ministerial objectives, ceilings, and allocations over the medium term. But again asymmetries in information between the government and claimants make this difficult. Consequently, there is a need for institutional arrangements which lower the costs of transmitting the information about social preferences to government and thus in determining broad strategic priorities.[6]

Broad consultations that involve representatives of claimants and that incorporate feedback and provide oversight at relatively low transactions cost can help arrive at strategic priorities. The most extensive, tractable form of such consultations is likely to involve parliamentary discussions of the budget. Parliamentarians represent some segment of the population as well as certain interest groups. Moreover, parliamentary committees and subcommittees generally evaluate specific components of the overall public expenditure program. So by exposing proposed public expenditure allocations to parliamentary scrutiny, feedback can be obtained on the appropriateness of the priorities and adjustments made accordingly.

In some countries, corporatist arrangements tend to complement if not dominate parliamentary procedures.[7] In such cases, representatives from various sectors in society become an important sounding board of the government. It is helpful if not necessary to create a forum through which these representatives can comment and criticize budget proposals.[8] In any case, opinion surveys can help identify broad priorities which discussions with Parliament and/or representatives of corporatist groups can refine.

Critical to the success of the demand revealing (and thus consensus building) mechanisms is a set of rules or criteria which introduces incentives for "shared sacrifice", i.e. claimants agree to smaller allocations within a constrained budget envelope. This suggests the need for commitment devices that insure claimants that their current sacrifices will result in future benefits and that each one will bear some part of the burden.[9] Hence, mechanisms that hold government accountable for allocating resources accordingly and making those allocations transparent become important. Unless claimants can be sure that the government will indeed allocate resources accordingly they will be much less willing to support any proposed allocation, reducing the likelihood that a consensus can be reached.

Consensus building is really about creating institutional arrangements for claimants and the government to exploit potential gains from trade, i.e. logrolling. Hence, for a consensus to emerge, arrangements that address logrolling problems are needed. There is by now a considerable literature on this in the context of the United States (see Shepsle and Weingast, 1994 for a literature survey). However much of this discussion is premised

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6 In practice what this has usually meant is for the Cabinet to propose ministerial ceilings and intraministerial allocations and for broad consultations to inform Cabinet of changes that need to be made to confrom more closely to preferences of claimants from civil society.

7 See Staniland (1985) for a definition and discusson of Corporatism.

8 In Malaysia for example, the Budget Dialogue Group which consists of rrepresentatives from all major sectors including NGOs and industry groups, meets annually to discuss budget priorities for the coming year and to comment on the previous year's allocations.

9 See Campos and Esafahani (1995) and Campos and Root (1995)for a discussion of this issue.

on the fact that individuals and groups are willing to behave according to the rules of the game. In much of the developing world, this cannot be presumed. The rules are not very transparent and public officials are not held sufficiently accountable for their actions. Hence, politicians and public officials have very little incentive to behave according to the rules. This of course makes trades among different parties difficult since it creates an environment in which individuals may renege on agreements without fear of being penalized.

Increasing transparency and improving accountability make it more costly for politicians and public officials to violate rules and thus renege on agreements. Publishing the expenditure allocations and the agreed upon (i.e., strategic) outcomes embodied in the expenditure plan and publicizing these (i.e. making the budget transparent) make it more difficult for both politicians and officials to alter things midstream without sufficient cause since they will have to defend any such action before the general public. Institutionalizing a process of reconciling actual expenditures of ministries with their annual budgeted allocations as well as reconciling their forward estimates with subsequent budget requests and publicizing all such reconciliations will induce the government to stick to the expenditure priorities (except when there are large exogenous shocks and even then the government will have to provide a good explanation). Moreover, undertaking regular ex-post evaluations of major ministerial programs and publicizing the results makes line ministries more responsive to producing the outputs that they have promised to produce over the medium term period.

Closely linked to the above transparency and accountability mechanisms is the need to provide Parliament with sufficient resources to hire and maintain a staff with the technical capacity to evaluate government programs and proposals. If Parliament can adequately scrutinize government performance then the government will be under more pressure to deliver on what it has promised in the expenditure plan.

In summary, institutional arrangements which can facilitate prioritization include (i) an expenditure planning process linked to the achievement of affordable outcomes, including a process to identify and discuss the medium-term costs of competing priorities at the Cabinet level; (ii) flexibility for line agencies to make intrasectoral allocations; (iii) comprehensiveness of the budget; (iv) a process that allows feedback from claimants that inform priority setting, and (v) the use of objective criteria. Accountability and transparency mechanisms which can help bind the politicians and bureaucrats to the achievement of these strategic outcomes include (i) reconciliation of ex-ante and ex-post allocations; (ii) reconciliation of budgetary allocations with forward estimates; (iii) reconciliation of ex-ante and ex-post outcomes, including ex-post evaluations; (iv) public dissemination of the results; (v) hard budget constraint to create incentives to prioritize expenditures; (v) integration of all expenditures (e.g., extrabudgetary funds) into budgetary deliberations, and (vi) building the technical capacity of Parliament.

Technical Efficiency and Incentive Incompatibilities

Assuming an aggregate level and a prioritization of expenditures emerges from the above arrangements, there still remains the principal agent problem within the government hierarchy. Information asymmetries and incentive incompatibilities can impede the efficient delivery of public services by line agencies and their civil servants. Because of their closeness to the clients and their involvement in day-to-day operations in a specific sector or subsector, line ministries and their agencies possess superior information about how best to implement programs to achieve the intended results. It thus becomes imperative for the government to grant the line ministries sufficient degree of managerial autonomy over the specific allocations and the responsibility to implement their respective budgets.

The capacity of line agencies for efficient delivery of services depends also on the predictability of the flow of budgetary resources. Unless a line agency can be certain of how much it is going to get over the fiscal year, it will not be able to make definite plans and therefore cannot make efficient allocations. For instance, in several African countries, the budget is remade during the year, and line agencies face considerable uncertainty in making their expenditure plans for the fiscal year. At the opposite extreme, the expenditure process in Australia with its requirement of automatically folding forward estimates (absent major policy changes) of line agencies into their annual budgets introduces a high degree of predictability.

Managerial autonomy and predictability will not produce desirable results unless the civil service in line agencies attracts competent individuals. A necessary requisite to do this is adequate compensation. In this

regard, among the more critical arrangements is a compensation scheme that closely aligns public sector with private sector compensation. However this arrangement needs to be complemented by a merit based recruitment and promotion system. Without such a system, competency will not be rewarded appropriately which will affect the morale and thus the incentives of civil servants. The worst case scenario is one in which promotions and recruitment are based solely on political connections and influence. In such cases, high salaries will tend to go to those who are most well connected and civil servants will tend to concentrate on establishing such connections rather than on accomplishing their tasks efficiently.

Autonomy and competence of line agencies are necessary but not sufficient for technical efficiency. Indeed, there is no guarantee that the line ministries, despite their superior information, will implement their budgeted programs in ways that will achieve the intended results at the lowest possible cost. They could just as well use their budget inappropriately, e.g., for personal or parochial gain. Hence, they have to be made accountable for the allocational decisions that they make, and for the efficient delivery of services. An appropriate balance between autonomy and accountability of the line agencies has to be struck. Accountability will depend upon (i) publication of financial accounts and with what lags; (ii) publication of financial audits and with what lags; (iii) the extent of oversight of financial accounts and audits by groups in civil society (e.g., Parliamentary sub-committees); (iv) clarity of outputs of organizational units; (v) contestability in the delivery of outputs; (vi) tenure of agency heads; (vii) implicit or explicit performance contracts for agency heads and their employees; (viii) extent of performance audits and their publication; and (ix) the use of client surveys. The publication and general dissemination of their results, i.e., making them transparent, will contribute further to the effectiveness of these arrangements.

New Zealand offers the most dramatic example of institutional reforms to achieve technical efficiency. Permanent secretaries in line agencies have been removed and replaced by chief executives on fixed-term, output-based contracts. The budget is based upon the appropriation of outputs rather than inputs, and the move to accrual accounting makes transparent the asset, liabilities and net worth of line agencies on which chief executives are evaluated. At the same time, chief executives have been given complete autonomy over the allocation of resources, including the right to hire and fire employees.

To sum up, then, technical efficiency in the use of budgeted resources will depend upon the relative autonomy of line agencies and the extent to which they can be held accountable for performance, the predictability of resource flows into ministerial budgets, the competence of line agency bureaucrats, and the extent to which recruitment and promotion is based on merit. In Table 4 , we present a capsule summary of the arrangements and accountability/transparency mechanisms that can help make government delivery of public services more technically efficient.

Interactions and Tradeoffs Among the Three Levels of Expenditure Outcomes

Above, we have summarized the institutional arrangements, transparency and accountability mechanisms which can help achieve each the three basic objectives discussed above. Table 5 summarizes this matrix. This represents a diagnostic framework to analyze the impact of budgetary institutions on expenditure outcomes in particular countries.

Table 4. Technical Efficiency

Institutional arrangements	*Accountability*	*Transparency*
A. Civil service pay and merit-based recruitment/promotion	Clarity of purpose and tasks	Published
B. Managerial autonomy of line agencies	Chief executive tenure	Made public
C. Predictability in resource flow	Financial accounts, audits	Freedom of the press
	Client surveys	
	Contestability in service delivery	

Table 5. Key Institutional Arrangements and Expenditure Outcomes

Institutional arrangements	*Accountability*	*Transparency*
I. Aggregate fiscal discipline		
A. Macro framework and coordination mechanisms	Ex-post reconciliation	Published
B. Dominance of central ministries	Sanctions	Made public
C. Formal constraints	Openness of financial markets	Freedom of the press
D. Hard budget constraints		
E. Comprehensiveness of budget		
II. Prioritization		
A. Forward estimates	Reporting on outcomes	Published
B. Comprehensiveness of the budget	Ex-post evaluations	Freedom of the press
C. Flexibility of line agencies	Hard budget constraint	Made public
D. Breadth of consultations	Technical capacity of parliament	Comprehensible
E. Use of objective criteria		
III. Technical Efficiency		
A. Civil service pay & merit-based recruitment/promotion	Clarity of purpose/task	Published
B. Managerial autonomy of line agencies	Chief executive tenure	Made public
C. Predictability of resource flow	Financial accounts, audits	Freedom of the press
	Client surveys	
	Contestability in service delivery	

In this regard, it is critical to underscore two central points: (i) there are interactions among the three levels of expenditure outcomes and their institutional arrangements; and (ii) budgeting systems face tradeoffs among the levels of expenditure outcomes which they are geared towards. It is this emphasis on interactions and tradeoffs that distinguishes our approach from other recent studies that have focused exclusively on institutional arrangements that contribute to aggregate fiscal discipline (e.g., Alesina and others 1995; von Hagen 1992).

Regarding interactions, the manner in which aggregate fiscal discipline is achieved may impede strategic prioritization and technical efficiency. For instance, in several Sub-Saharan African countries, ex-ante fiscal targets are overambitious reflecting various underlying incentive problems. The result is that during budget implementation, ad hoc and arbitrary cuts are made in public spending to meet the aggregate deficit and spending targets. So even though aggregate fiscal discipline may be achieved at the end of the year, budgeted priorities are undermined and there is a large variance between the actual versus budgeted composition of spending (e.g., 90 percent average variance in Uganda). Further, ad hoc cuts during the year create uncertainty about the flow of resources to programs and projects, undermining much-needed predictability for technical efficiency. Conversely, weaknesses in technical efficiency may undermine prioritization and aggregate fiscal discipline. Poor delivery of services may impede the actual achievement of budgeted priorities. Weaknesses in financial accounting and auditing may mean that there is no mechanism to track whether actual expenditures are within aggregate limits (e.g., Ghana).

Related to these interactions, countries face tradeoffs in terms of which levels of expenditure outcomes their systems should be geared towards. This is because there are transactions and other costs to setting up the corresponding systems, and the incentives of key actors gets geared towards the achievement of particular expenditure outcomes. The comparison between New Zealand and Australia which is discussed in further detail below illustrates this trade-off well. Both New Zealand and Australia sought to achieve aggregate fiscal discipline, but while New Zealand introduced incentive mechanisms to achieve this through technically efficient use of resources, Australia focused on reforms to better prioritize expenditures to reduce spending and deficits.

The Impact of Donor Assistance

Finally, in the analytical framework, we consider the impact of donor assistance on each of the three problems above in the form of a "comparative statics" exercise. This is critical because donor assistance finances a large share of public expenditures in many countries, including our three African countries. We examine how incentives associated with donor assistance can undermine or enhance the effectiveness of each of the key arrangements or mechanisms above.

Donor assistance can exacerbate the tragedy of the commons because it is in the mutual interest of line agencies and "sectoral" donors (i.e., bilateral donors or sector divisions in multilateral agencies such as the World Bank) to enter into bilateral deals for enclaves of project financing. However, this can result in cumulative demands for counterpart funds, or future demands for recurrent cost or debt service requirements which are inconsistent with the macroeconomic framework. At the same time, conditionality imposed by "central donors" (i.e., IMF and country operations divisions in the World Bank) can help address the government's own tragedy of the commons by helping bind disparate groups to aggregate fiscal discipline in order to receive substantial amounts of donor assistance. Consequently, the tragedy of the commons on account of donor assistance can be ameliorated by (i) according dominance to the "central" donors in evaluating, monitoring and enforcing limits on aggregate spending and deficits; or (ii) improving mechanisms in country systems to enforce aggregate fiscal discipline through mechanisms outlined above (e.g., instituting capacity to plan and enforce medium-term macroeconomic targets, dominance of central ministries), with donors abiding by the resulting hard budget constraints set by government itself. The effectiveness of the former will depend upon the internal incentives for "central" donors to holding government and other donors to aggregate targets, as opposed to financing adjustment or sectoral loans. The effectiveness of the latter will depend upon whether transparent and accountable mechanisms for aggregate fiscal discipline (e.g., published reconciliation with internal sanctions, openness of financial markets) can be instituted within client countries.

The impact of donor project assistance on the priority setting process will depend upon whether the government would have undertaken the project in any event (i.e., whether project resources are fungible). If so, there would no impact on the priority setting process as government would use the resources to finance a marginal project using its own decision-making mechanism. However, the sheer magnitude of project assistance in aid-dependent countries makes it unlikely that government would have undertaken all these projects on its own (even if it had the corresponding resources). For instance, donor project assistance finances about 35 percent of total expenditures and about 80 percent of capital expenditures in Africa. To the extent that at least some share of project assistance is not fungible, donor project assistance undermines priority setting. Bilateral deals with line agencies for individual projects fragment the budget. Uncoordinated assistance from multiple donors makes it unlikely that they will be mutually consistent. Further, donor-driven priorities undermine the breadth of consultations, and the government's own articulation of strategic priorities. The composition of expenditures gets biased towards expenditure categories that accord with donors' internal rules rather than country requirements; for instance, this has biased government spending towards capital investments that donors have traditionally financed, even though there are insufficient resources to meet their future recurrent costs or the recurrent costs of existing investments. The implication of the above is that donor assistance in the form of non-fungible projects can undermine the process of priority setting, and the process would clearly be enhanced if donors were to collectively finance a time-slice of public spending.

However, this would not necessarily suit the donors, who would want to ensure that donor assistance promotes the allocation of expenditures in accordance with their own objectives (e.g., poverty alleviation). Nevertheless, the fungibility of project resources implies that donors should be focusing not on individual project appraisal but on evaluating the broad composition of public spending. Indeed, this recognition, combined with the increase in adjustment lending which provides general budgetary support, led donors such as the World Bank to devote substantial resources to carrying out Public Expenditure Reviews (PERs). In principle, PERs can potentially improve the allocation of spending through the application of systematic criteria such as cost-benefit analysis and incidence analysis to evaluate the composition of spending. For instance, incidence analysis based upon household surveys can potentially broaden the consultation process to include the poor who may not otherwise be effectively represented, and support donors' poverty alleviation objectives. PERs also provide a mechanism for improving aid coordination, and ensuring that donor assistance

is collectively supporting a consistent expenditure program. The results can then be used to leverage individual or collective donor assistance upon improvements in the overall composition of expenditures, including distributional impact. However, the effectiveness of PERs in accomplishing this will depend upon internal incentives within donor agencies for carrying out quality analysis as opposed to financing individual projects. Further, given information asymmetries and demand revelation problems that plague even the government's own decision making process, it may not be feasible for donor PERs to evaluate many aspects of the composition of spending. Consequently, PERs may need to focus more on evaluating and improving the incentive structure that governs the allocation and use of public spending, along the lines suggested in this paper. If such an exercise reveals that the composition and incentives support the achievement of desirable objectives, donors could finance a time-slice of the government's expenditure program.

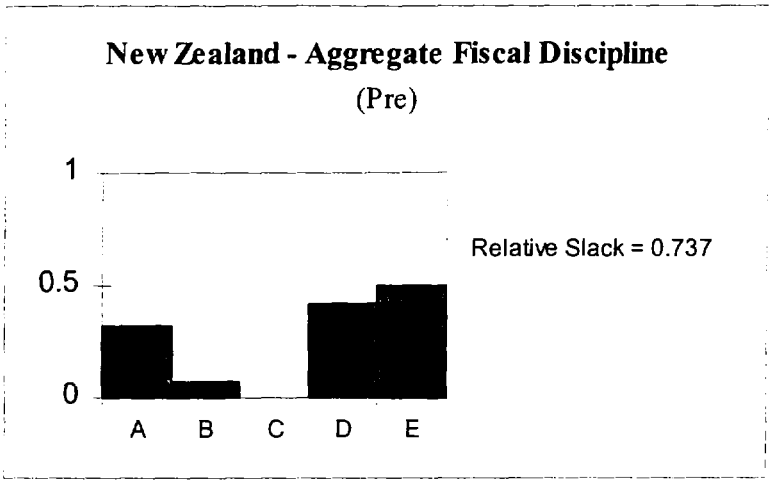
Finally, donors have sought to improve technical efficiency by creating their own enclaves of project accountability, with top-ups for civil servants, and separate rules for reporting, accounting, procurement and auditing. While this enhances technical efficiency for an individual project, the government's broader systems of accountability for the remaining expenditures, including the marginal project that fungible project assistance may be financing, are not improved. Worse, imposing disparate systems of accountability for individual projects can undermine the government's own system of accountability. This would, once again, suggest that the effectiveness of donor assistance can potentially be increased if it was concentrated on improving the government's broader systems and incentive structure for technical efficiency rather enclaves of individual projects. In this context, donor assistance has primarily concentrated upon civil service reform, which seeks to reduce the numbers of civil servants and increase average pay. While these measures are necessary, the framework above would suggest that other mechanisms which have typically not been addressed are also required (e.g., more autonomy for line agencies, carrying out and disseminating client surveys).

Constructing a Measurable Representation of a Public Expenditure Management System

To characterize a public expenditure management system, we need to develop a parsimonious representation of the system that captures its principal features and that indicates how these features relate to each other. To do this, we construct an index for each of the institutional arrangements and, where applicable, for corresponding transparency and accountability mechanisms. The arrangements, mechanisms, and associated indices are presented in detail in Annex C.

For a country specific public expenditure management system, we assign index values to each of the institutional arrangements and transparency/accountability mechanisms in the table. The values are based on responses of an expert on the country's budgeting process to a diagnostic questionnaire which we have prepared as well as an in-depth analysis provided by the expert. For two mechanisms, the openness of financial markets and the freedom of the press, we used objective indices developed elsewhere. Because it is accountability and transparency which binds the governments to institutional arrangements, give a weight of (1/6) to the arrangement, (1/3) to the transparency mechanism, and (1/2) to the accountability mechanisms and derive a weighted index for the arrangement cum mechanisms. Where there are no transparency and/or accountability mechanisms, we normalize weights so that the sum of the weights for all applicable factors is one. For example, if there are no mechanisms associated with an arrangement then the arrangement gets a full weight of 1 and its weighted index will be equal to its index value. Based on this, we are able to construct a parsimonious representation of each of the three categories of the system in the form of a chart and a corresponding slack coefficient roughly analogous to the Gini coefficient measure of income inequality. For example, chart 1 illustrates the relative slack of New Zealand's pre-reform (circa 1983) system with respect to aggregate fiscal discipline. There are five institutional arrangements under this expenditure category (see Table 1), represented as A, B, C, D, and E in the horizontal axis. We give equal weights to each of these arrangements and assign a maximum height of one (1) to each. The actual country specific height corresponding to each arrangement is given by the weighted index associated with it, e.g., for A this is 0.325 The unshaded portion represents the slack of the system with respect to aggregate fiscal discipline. Its area (which is 4.18) as a proportion of the total area of the chart (which is 5) gives the corresponding slack coefficient –0.837.

Chart 1



Some arrangements are themselves characterized by sub-arrangements nested in them. For example, as shown in Annex C, arrangement II.A (under the strategic prioritization category) , i.e. allocations linked to strategic outcomes, has three sub-arrangements—articulation of strategic outcomes, the nature of the expenditure planning horizon, and the discussion of competing priorities. In such cases, we take the average of the actual index values assigned to each of the sub-arrangements and use that as the index value for the arrangement.

There are also accountability and transparency mechanisms that apply to a whole category. These are the openness of financial markets, which is an accountability mechanism, and the relative freedom of the press, which is a transparency mechanism. Both mechanisms are essentially exogenous to the public expenditure system. For the case of openness of financial markets, we adjust each accountability mechanism under aggregate fiscal discipline by taking the average of the mechanism's index value and the index value for openness. For the case of freedom of the press, we multiply each relevant transparency mechanism by the index value for freedom of the press.

In the case of the prioritization and technical efficiency categories, we assign different weights to each of the arrangements cum accountability/transparency mechanisms based on implications of the preceding analysis. For instance, under technical efficiency, we give line agency accountability twice the weight of competency and autonomy. Without accountability, competency and autonomy can translate into abuse and misuse of resources. With accountability, the government and in particular the line agencies will have strong incentives to improve the overall level of competency and to try to use their autonomy to meet their objectives at least cost. Specifically, under technical efficiency, we assign weights of .5, .5, and 1 respectively to arrangements A, B, and C (see Table 3) and, under prioritization, weights of 1, .8, .6, .4, .2 respectively to arrangements A through E (see Table 4), given their decreasing order of importance as suggested by our analytical framework. In the country specific analyses, we undertake some sensitivity analysis by comparing our results with the weights with results based on equal weights for each arrangement.

New Zealand and Australia

New Zealand

Faced with a severe economic crisis and a heavily interventionist state not dissimilar from former Eastern European centrally-planned economies, the government of New Zealand undertook a sequence of radical institutional reforms that sought to completely redefine the role and revamp the functioning of government. The reforms proceeded in four general stages as embodied in the *State-owned Enterprise Act* (1986), the *State Sector Act* (1988), the *Public Finance Act* (1989), and the *Fiscal Responsibility Act* (1993). The SOE Act took the state out of production activities that the private sector could just as well provide competitively. The Act

formed the basis of the strategic focus of the reforms that followed. The State Sector Act abolished the permanent tenure of civil servants by putting agency heads on five year (renewable) performance contracts and granting them the authority to hire and fire employees within their jurisdiction. It also introduced the notion of splitting an agency into two or more focused business units, e.g., one as the funder/purchaser and another as the provider. The Public Finance Act introduced two innovations: first, it enhanced the transparency of public financial statements by requiring that all such statements be put on an accrual accounting basis and be published and made available to the general public; and second, it improved accountability by mandating that any given appropriation must be linked to one of seven categories, the main one being outputs. The first made individual agency statements comprehensible to other agencies as well as to the business community. The second created incentives for each agency to clearly specify the outputs that it planned to provide during the fiscal year for which it could then be held accountable for. The Fiscal Responsibility Act enhanced the transparency and accountability of the government for aggregate fiscal discipline through full and frequent disclosure of aggregate fiscal information and benchmarking actual performance vis-a-vis published aggregate fiscal objectives.

In terms of the summary features in Table 5, the big changes occurred in the second and third columns. Prior to the reforms, most public financial statements and budgetary documents were not available to the general public for scrutiny and, even if they were made available, they could not be easily understood even by accountants and financial experts in the private sector. Consequently, government performance was largely non-transparent. The Public Finance Act changed this dramatically.

Accountability of line ministries was very weak as well. There were little or no reconciliations of ex-ante provisions with ex-post outcomes. Line ministries did not face a hard budget constraint. Control of their spending was done mostly through control of their inputs by the central ministries. And because of these, it was not possible to impose sanctions against line ministries. In other words, line ministries had very little autonomy. Consequently, it was difficult to hold them accountable for their performance. The State Sector Act granted considerable autonomy to line ministries but made them accountable for outputs. It introduced sanctions against non-performance: the chief executive of a line ministry could be dismissed after his or her five year contract expired and his compensation was based on the delivery of key outputs; employees of the line ministry could be fired by the chief executive. And, in conjunction with the Public Finance Act, it made reconciliations de facto mandatory.

Discussions of accountability and transparency rarely focus on the central ministries. This was certainly the case in New Zealand up to the mid eighties. In fact, there was a period in which the Prime Minister held the finance portfolio as well, a situation that could have easily led to fiscal mismanagement (which it did). But accountability and transparency of the central ministries have become a crowning point of the reforms. The Fiscal Responsibility Act has bound the Minister of Finance to meeting clear cut fiscal objectives, e.g., cutting the deficit to 1 percent. These objectives constitute the outputs that (s)he is responsible for and provide the basis upon which her or his performance is judged and thus upon which her or his compensation and tenure depend.[10]

Accompanying the public sector reforms were measures that liberalized financial markets. As mentioned earlier, New Zealand was very much like a centrally planned economy prior to the reforms. Concomitantly, the financial sector was highly controlled. Beginning in the mid-eighties, various measures were introduced to ease up the controls. By the early nineties, financial markets were very much open to international flows. This is indicated by one measure of financial openness which indicates the extent to which domestic real interest rates exceed world real interest rates. The average of the index over 1980 to 1984 was around 0.3; the average over 1990 to 1994 is 0.7.[11] The index ranges from 0 to 1 in steps of tenths, e.g., 0.1, 0.2, etc., with higher numbers reflecting relatively greater openness.

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10 We note also that the head of the contract of the head of the central bank is tied to the inflation rate.

11 The higher the index, the less open the coutry's financial markets. We do not have data for New Zealand on our two main indices, ATPALP and ICAPALP, since these have constructed only for .emerging markets.

With regards to the institutional arrangements (the first column of Table 5), the major changes occurred in the third (technical efficiency) and first (aggregate fiscal discipline) category. As already mentioned, the permanent tenure of agency heads was abolished and, in its place, a five year performance contract based on clearly defined key outputs for agency heads (now referred to as chief executives) was introduced. In turn, agency heads were given the authority to hire and fire employees: the typical civil service personnel arrangement was turned over on its head. With this also came a great deal of autonomy over agency matters. Under the first category (aggregate fiscal discipline), the reforms introduced formal constraints on aggregate spending and the deficit via the Fiscal Responsibility Act. Comprehensiveness also improved since the output based system forced line agencies to include all possible expenditures in their proposed budgets: budgets are structured in terms of seven classes of outputs; every expenditure had to fall into one of these classes.

The New Zealand reforms have not been focused on the second category—strategic prioritization *within* the residual, core public sector. Up till recently, there has been no conscious effort to link agency outputs and thus expenditure allocations to strategic outcomes. Only in the last year has there been some attempt to identify broad strategic priorities and to link annual budgetary considerations to these (medium to long term) priorities.

In Table 6, we summarize the changes that the reforms introduced in terms of the categories and sub-categories listed in Table 5. Items that are shaded indicate the areas where the reforms introduced significant changes. Those that are not shaded represent arrangements or mechanisms that have not been the focus of the New Zealand reforms.

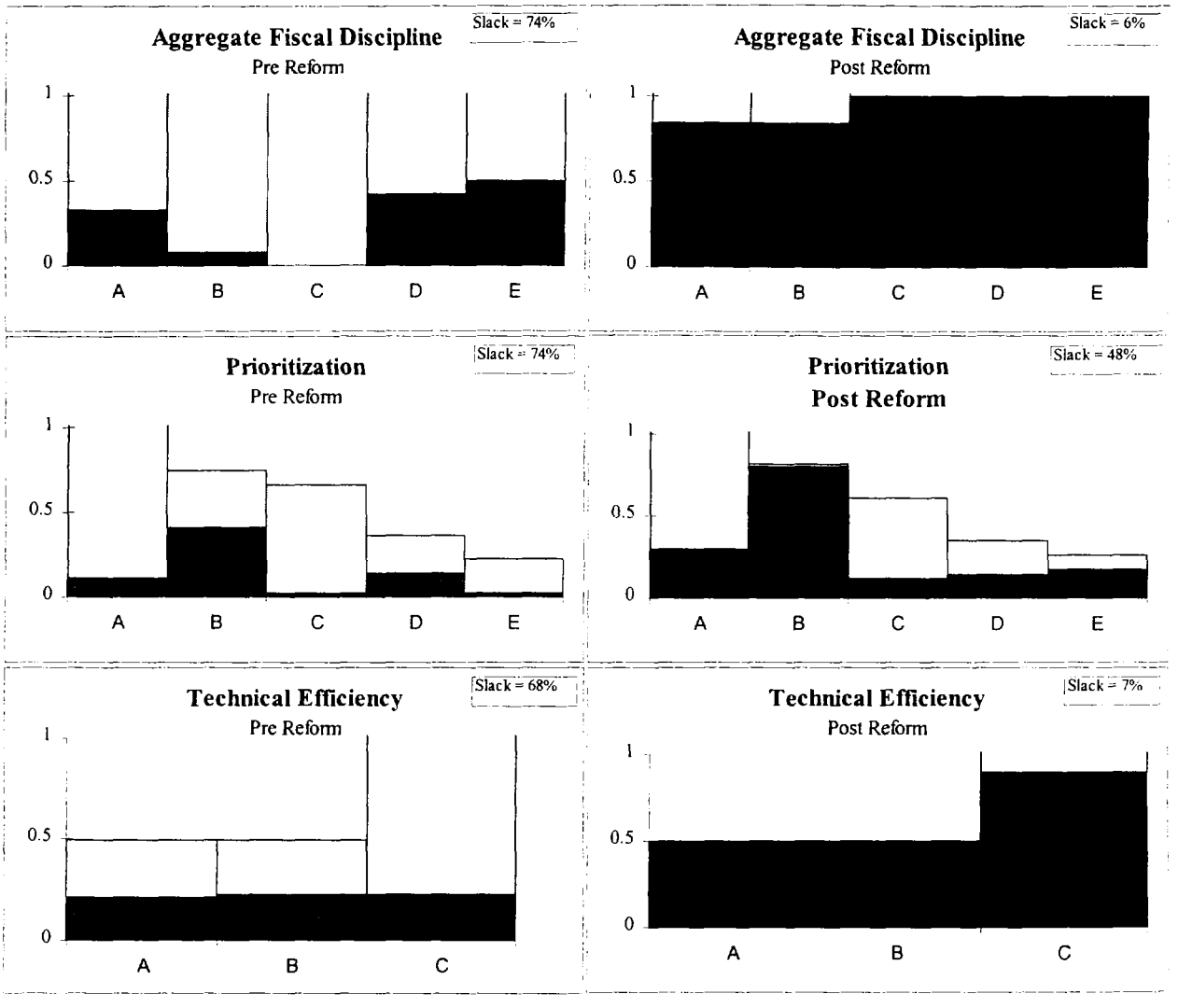
Characterizing Pre and Post Reform Systems. Using the methodology discussed earlier, we are able to capture the essential institutional changes that the above reforms introduced. We derive slack coefficients to both the pre-reform (circa 1983) and the post reform (circa 1994) systems of New Zealand. Figure 1a indicates the weighted indices for each arrangement (i.e. the height) and illustrates the relative slack of the pre-reform system with respect to the three categories. The corresponding slack coefficients are indicated on the right hand side. Figure 1b does the same for the post reform system.

Table 6. The New Zealand Reforms

Institutional arrangements	*Accountability*	*Transparency*
I. Aggregate Fiscal Discipline		
A. Macro framework and coordination mechanisms	Ex-post reconciliation	Published
B. Dominance of central ministries	Sanctions	Made public
C. Formal constraints	Openness of financial markets	Freedom of the press
D. Hard budget constraints		
E. Comprehensiveness of the budget		
II. Prioritization		
A. Forward estimates	Reporting on outcomes	Published
B. Comprehensiveness of the budget	Ex-post evaluations	Freedom of the press
C. Flexibility to line agencies	Hard budget constraint	Made public
D. Breadth of consultations	Technical capacity of parliament	Comprehensible
E. Use of objective criteria		
III. Technical efficiency		
A. Civil service pay & merit-based ecruitment/promotion	Clarity of purpose/task	Published
B. Relative autonomy of line agencies	Chief executive tenure	Made Public
C. Predictability of resource flow	Financial accounts, audits	Freedom of the Press
	Client surveys	
	Contestability in service delivery	

Figure 1. New Zealand

1a. 1b.



Correlating Systems with Outcomes. From Figures 1a and 1b, we discern that the relative slack of the New Zealand system with respect to aggregate fiscal discipline is substantially smaller today than it was in the pre-reform era—a slack coefficient of 0.06 vs. 0.74. Corresponding to this has been a significant fall in the deficit to GDP ratio over the period 1984 to 1994 as indicated in Figure 2. The ratio was about negative 9 percent in 1983 but gradually fell over the decade so that by 1994 it turned into a small surplus.

Interestingly, the expenditure to GDP ratio fell less drastically from about 38 percent in 1983 to around 35 percent in 1994. This is depicted in Figure 3. However as Figure 4 illustrates, the composition of spending changed markedly with the share going to the development of industry falling from about 13 percent in 1983 to approximately 3 percent in 1994 while the share of social services rising roughly from 30 percent to 37 percent and the share of health from 7 percent to around 12 percent. Other expenditure ratios remained relatively constant. The slack coefficient of the system (and thus the relative slack) with respect to prioritization is correlated with this change. Circa 1983, the slack was 0.74; today it is 0.48. A look at Figure 1a indicates the possible weak points of the pre-reform system with respect to prioritization. The system scores low on arrangements A, C, and E which are respectively arrangements that deal with the articulation of strategic priorities, those that deal with the flexibility of line agencies, and those that pertain to the use of economic analysis in evaluating expenditures. Figure 1b shows that substantial changes were introduced to

address C and E. Changes were also introduced to improve on B (the relative integration of the budget). The change in A, which refers to the articulation of strategic outcomes, is consistent with observed changes in the role of the state which essentially involved a radical redirection of the role of government from one that supported state-owned enterprises and intervened heavily in industry through massive regulation to one that aggressively encouraged the provision of contestable goods and services by private industry. The articulation of strategic outcomes within the core public sector however remains weak.

In terms of the capacity to achieve technical efficiency, the post reform system improved significantly on the pre-reform system; the former has a slack coefficient of 0.07 and the latter 0.67. Unit cost data is not generally available except for a very limited sample of activities and only for a limited time period. The New Zealand Treasury has conducted a pilot study of productivity improvements in a small, select set of activities. The study estimates average unit costs for select activities within four ministries. But as Scott (1996) comments there were no adjustments made to inflation and there were a lot of qualifications. That is, the data must be interpreted with caution.

Figure 2

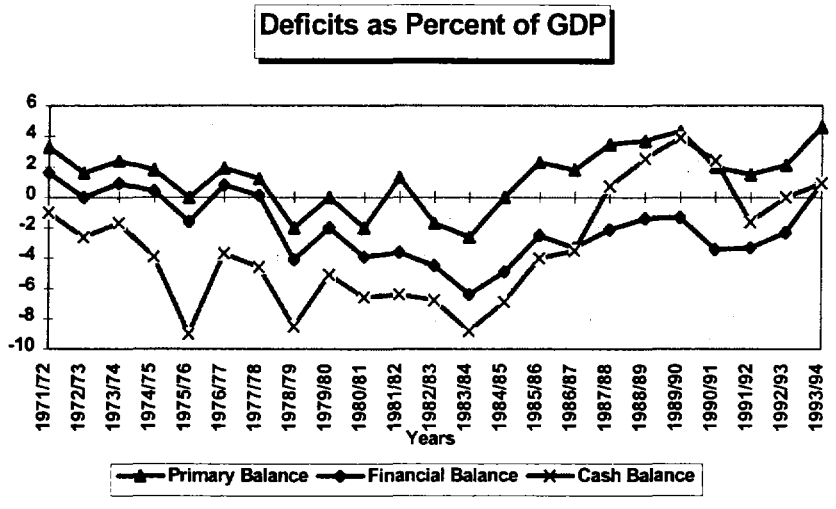


Figure 3.

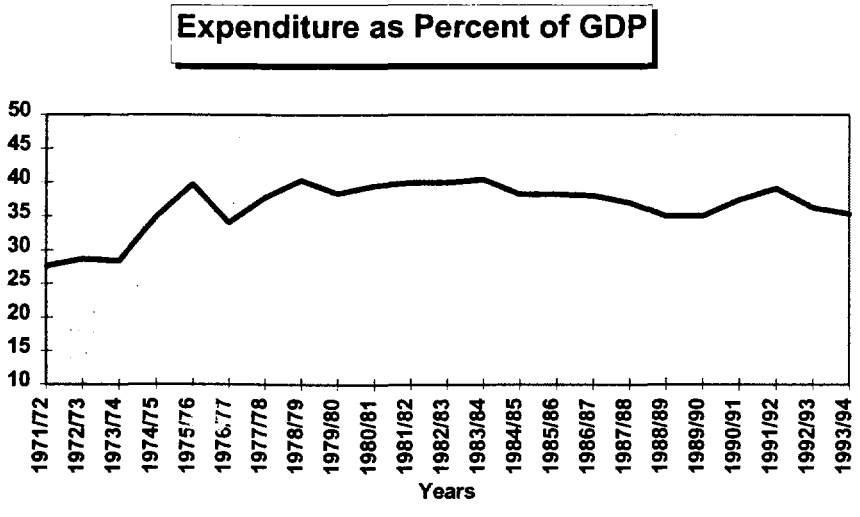
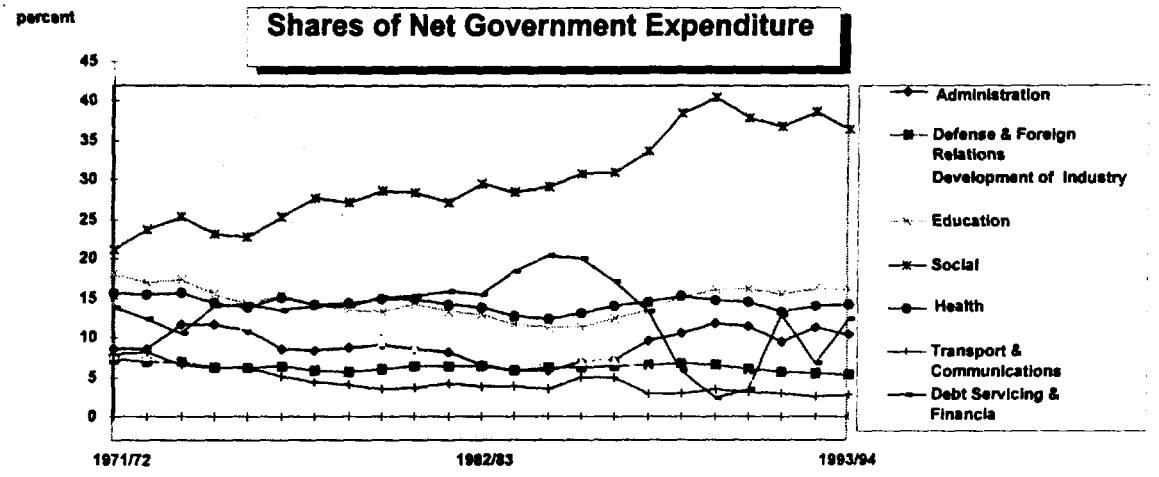


Figure 4.



Due to the request of the Treasury that the results be kept confidential (for the moment), we will label the concerned activities anonymously and indicate the changes in unit costs over time estimated for each of them.[12] We emphasize that these results are very preliminary and may change as the Treasury completes its study. The results, which are indicated in Table 7, suggest that unit costs are likely to have fallen between 1984 and 1994. This is consistent with the change in the slack coefficients (note change label from Table 3 to Table 7).

We have also attempted a characterization of the pre and post reform systems with equal weights on all arrangements (cum accountability/transparency mechanisms) in each of the three expenditure categories. The results are indicated in Figure B.1a and Figure B.1b in Annex B. As shown there are changes in the slack coefficients but the direction of the change remains the same and the relative change in magnitudes are not significant. This suggests that within reasonable weighting parameters, our characterization has relatively robust ordinal properties, i.e., big changes remain big and small changes remain small.

Table 7. Percent Change in Unit Costs in New Zealand, Selected Activities

Activities	*Period of study*	*Percent change in average unit costs*
A	1989-94	Fall of 10 to 20%
B	1989-92	Rise of 25%
	1992-95	Fall of 25 to 30%
C	1990-94	Fall of 10 to 40%
D	1987-94	0%

* Unit cost levels dropped down to approximately 1989 levels.

12 The Treasury expects to release the study late this year at which point we can identify the activities and have better data.

Australia

Australia has instituted a medium-term expenditure framework, which focuses the budget process on changes in strategic priorities within aggregate fiscal parameters. It has introduced measures that grant considerable flexibility to line agencies and provide them with incentives to identify savings options themselves. At the same time, the reforms have sought to focus attention on outcomes and introduce some form of accountability, although these are not formalized.

These reforms consist of six main, interrelated elements. *First*, a cornerstone of the Australian reforms has been a system of Forward Estimates, or three-year forecasts of the minimum cost of existing policies and programs, which are automatically rolled into budgetary allocations if there is no change in policy. This has removed from ministerial consideration the bulk of outlays in any budget which do not involve any changes in policies. Ministers now allocate the limited time for budget consideration to policy development rather than zero basing an entire set of appropriations; indeed, this has freed up cabinet time as evidenced by the decline in cabinet meetings from 370 in 1981 to 180 in 1988-89 to 121 in 1989-90. The lock-in feature has also provided line agencies with more certainty about present and future resources, thereby potentially enhancing technical efficiency. Finally, the requirement to publish a reconciliation table which shows and explains the deviation between the forward estimates for the year and actual allocations in the annual budget, including their outyear implications, has served as a transparent and accountable mechanism to show areas of policy change as well as the future demands on resources of these policies.

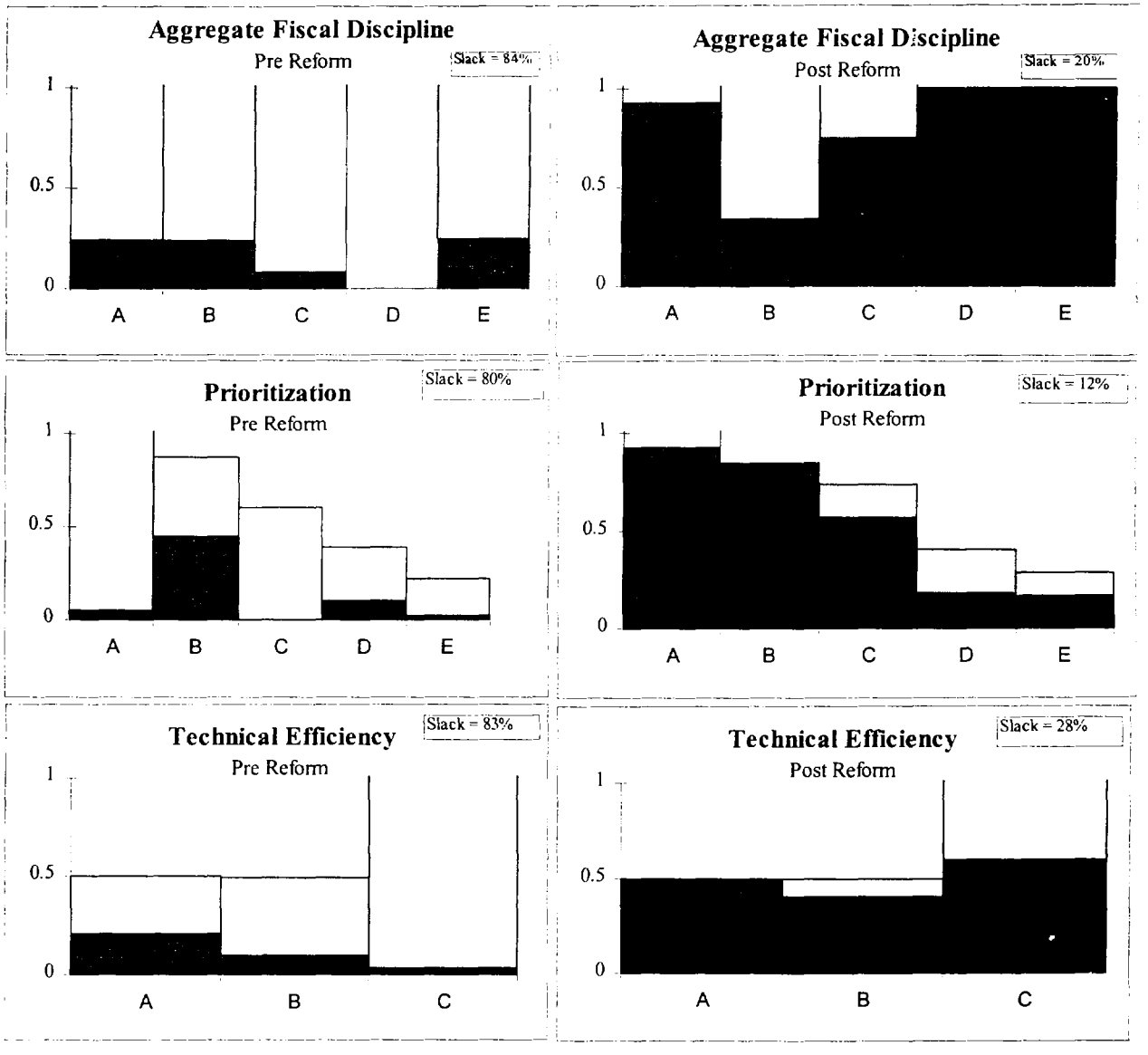
Second, mechanisms for macroeconomic planning reconcile the forward estimates with the target deficit to identify the scope for new spending and savings. Aggregate fiscal discipline in the determination of target deficits has in turn been induced by public commitments to aggregate targets (e.g., the Hawke government's trilogy of commitments not to increase spending and taxes, and to reduce the deficit) and implicitly enforced through open financial markets and media. *Third,* decision-making mechanisms were instituted at a political level through the "Trilaterals" and the Expenditure Review Committee (ERC) of the Cabinet to decide upon competing priorities for spending and savings to achieve the net fiscal targets. Individual portfolios are required to submit spending and savings proposals to stay within their targets, but it is up to the ERC to decide whether to choose only the savings or spending options, or both. *Fourth,* a system of portfolio budgeting was introduced. This devolves priority setting to individual portfolios by encouraging and requiring line agencies to themselves identify savings and spending options within their portfolio to meet their net savings targets. This capitalizes on the superior information of line agencies by inducing them to identify their least cost-effective program in order to fund new programs. *Fifth,* the development of the running costs system further devolved authority within departments or portfolios. All administrative and salary expenses, which previously consisted of 20 or more items, were consolidated into a single running cost item, and department managers were given the authority to allocate this expenditure item to various inputs—including staff numbers and salaries—as they saw fit. Additional flexibility was provided by allowing agencies to bring forward or carry over running costs between years, up to a limit of 10 percent. A partial quid pro quo for this freedom is the annual efficiency dividend of 1 percent that agencies are expected to achieve in their running costs every year.

Finally, while portfolio budgeting and the running cost system devolved authority to line agencies, program management and budgeting was introduced to focus attention on outcomes. This entailed classification of portfolio activities into programs, and introduction of accountability mechanisms by requiring departments to report on the performance of programs within their portfolios. At the same time, ex-post evaluation was introduced to assess whether programs were achieving their intended results. Various reviews, however, have concluded that program budgeting and evaluation has had limited impact on budgetary allocations, but has helped create a performance-oriented culture.

Using the methodology above, we are able to characterize the principal features of these reforms, and assign slack coefficients to both pre-reform and post-reform systems. As shown in Figures 5a and 5b The coefficients corroborate our qualitative findings that the greatest emphasis in the Australian reforms has been on improving strategic prioritization (i.e., slack coefficient declined from 80 percent to 12 percent) and aggregate fiscal discipline (i.e., reduction in coefficient from 84 percent to 20 percent). At the same time, there has been less emphasis on introducing measures for accountability to enhance technical efficiency.

Figure 5. Australia

5a. 5b.



The reforms have had a dramatic impact on the level and composition of spending. Aggregate budgetary outlays declined from 29.8 percent of GDP in 1984-85 to 23.7 percent in 1989-90. This involved three consecutive years of negative real growth in outlays (1987-88 to 1989-90) and four years of resulting budget surplus (1986-87 to 1990-91). The budget deficit moved from 4.1 percent of GDP in 1983-84 to a surplus of 2 percent of GDP in 1989-90!

The reduction in forward estimates of outlays from 1987 was even more dramatic than the reduction in actual expenditures. Figure 6 shows that there was a strong tendency in the early 1980s for forward estimates of outlays on existing outlays to rise steeply. This meant that the reduction in annual growth of spending involved a double task: reversal of growth in forward estimates to bring spending down to the preceding year, and further reductions in spending to achieve net declines. From 1987, however, the forward estimates of outlays begin to show declines in the outyears, under the influence of budget decisions that reduced outlays over a period of time.

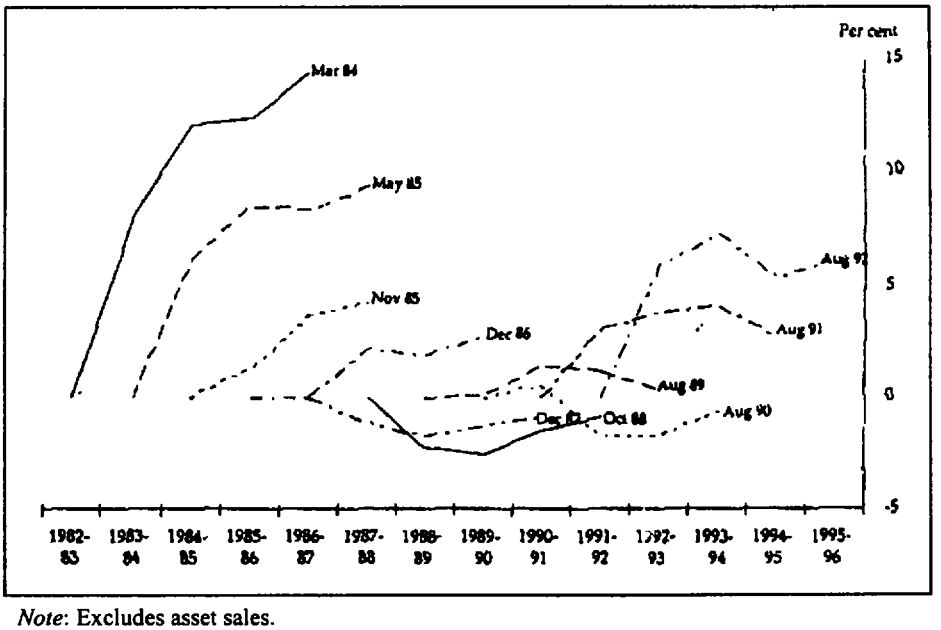
What is striking about the Australian experience is that these dramatic cuts were achieved by significant changes in the composition of intrasectoral expenditures on account of savings identified by line agencies themselves (Figure 7). The distribution of real savings measures undertaken by line agencies show that the spending cuts involved some major policy shifts, particularly in the social security function, where a much higher degree of outlays targeting was achieved. However, the bulk of the changes in expenditure composition came from measures of a highly activity specific nature, involving program redesign and elimination of particular, less cost-effective aspects of program spending. These achievements contrast sharply with an attempt to reduce spending by an earlier administration in the early 1980s, which unsuccessfully tried to eliminate redundant functions in a centralized manner and merely ended up making modest reductions through across-the-board cuts.

New Zealand versus Australia: A Comparison

New Zealand and Australia are often mentioned together as being at the cutting edge of institutional reform. Our analysis above reveals that while they share some important principles in their reform efforts, they have by and large taken dramatically different paths, which provide quite separate paradigms for other countries.

Perhaps the most important shared characteristic of the two reforms is that they each have sought to alter underlying *incentives* which govern the allocation and use of resources. Within this, a common feature is *transparency*, which binds key players to particular fiscal outcomes and makes it costly for them to misbehave. Transparency pervades all key aspects of the New Zealand reforms—e.g., explicit delineation of outputs the contracts of chief executives, budgetary appropriations explicitly based upon outputs purchased, publication of balance sheets showing net worth of government, and legislatively mandated full and frequent disclosure. In Australia, transparency is best exemplified in the requirement to publish a reconciliation table for the forward estimates, explicitly indicating how much particular outlays were changed in the annual budget vis-a-vis the forward estimates, the reasons behind these changes, and their outyear implications.

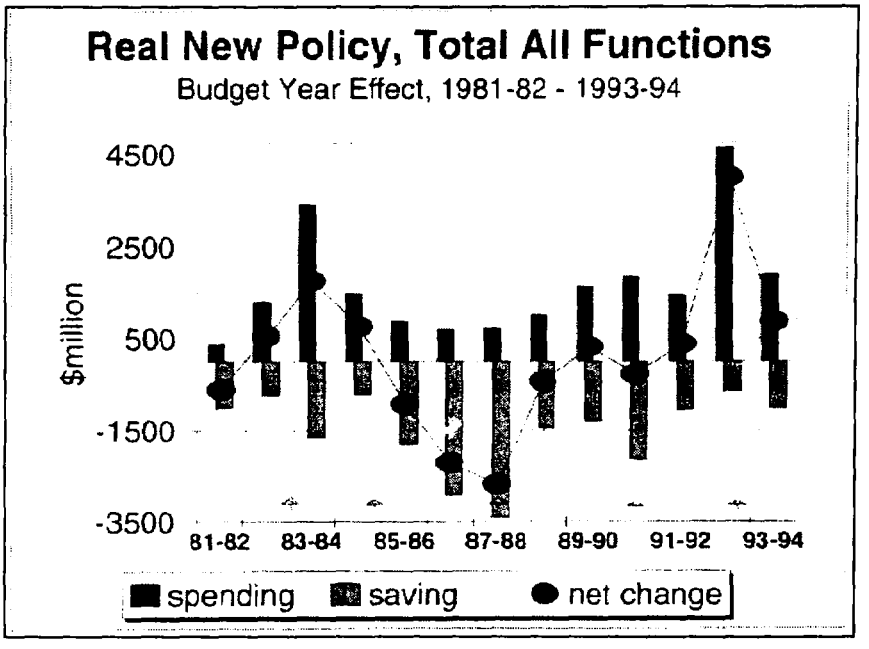
Figure 6. Budget and Forward Estimates, Cumulative Real Growth, Australia



Note: Excludes asset sales.

Source: Dixon (1996, p.10).

Figure 7. Real New Policy, Total All Functions, Australia



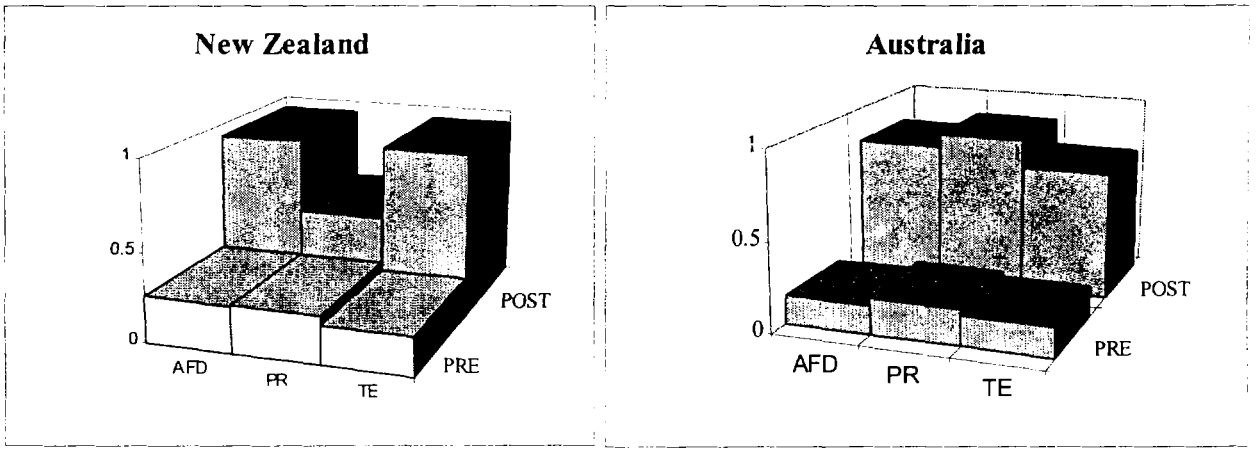
Another shared feature is *considerable devolution to line agencies* to perform their tasks. In both countries, this has created incentives which make it worthwhile for line agencies to identify savings, and move them toward a greater interest in both allocative and technical efficiency. In New Zealand, chief executives have complete autonomy over the allocation of inputs to produce the outputs, including the right to hire and fire. In Australia, all administrative expenses of line agencies have been consolidated into a single running cost item, and managers have complete flexibility in the allocation of these costs across inputs, including staff numbers and salaries. Further, portfolio budgeting in Australia devolves priority setting to individual departments, encouraging them to identify the specific spending and savings measures to meet their net fiscal targets. Another shared feature is *contestability* in service delivery. In both countries, there is a strong emphasis on unbundling the provision of public services, and introducing competition in service delivery—including from the private sector—in order to achieve technically efficient outcomes. While New Zealand has gone much farther down this route, Australia too has instituted explicit measures for contestability—even for policy advice.

A final common characteristic has been a *binding commitment to aggregate fiscal discipline*. Each country has publicly committed itself to targets for fiscal prudence, and has instituted mechanisms which facilitate the achievement of fiscal targets. At the same time, the openness of financial markets and the media have provided an external disciplining mechanism to ensure adherence to prudent fiscal targets.

Past this, however, Australia and New Zealand have adopted dramatically different reforms to achieving aggregate fiscal discipline. A principal distinguishing feature has been the relative emphasis placed on *technical efficiency* in New Zealand as opposed to *strategic priority setting* in Australia. This is clearly revealed in their relative slack measures corresponding to the two outcomes as shown in Figure 8. This in turn has reflects relative emphasis on technical efficiency in the delivery of *outputs* (i.e., goods and services produced) in New Zealand, as opposed to the cost-effective achievement of *outcomes* (i.e., the impact of outputs on beneficiaries) in Australia. The different reforms in the two countries have been path-dependent, reflecting the particular background and historical conditions driving each reform.

Figure 8.

8a. 8b.



On the eve of reforms, New Zealand inherited an overexpanded public sector not dissimilar to the command economies of the former socialist countries. Consequently, a principal emphasis was on restructuring the role of the state by privatizing large chunks of the public sector. This extended itself into the paradigm of instituting private sector incentive mechanisms within the remaining core public sector in order to achieve technical efficiency in the delivery of outputs. There is a strong emphasis on formal contracts for accountability in the efficient delivery of outputs. Management contracts between ministers and chief executives, as well as budgetary appropriations, have been based upon outputs.

By contrast, the Australian reforms were launched when a preceding administration had been unsuccessful in reducing public spending by identifying redundant functions. A centralized, top-down Commonwealth Review of Functions failed to identify egregious anomalies in the role of the state in Australia. Consequently, the Australian reforms sought to rely on a more nuanced and finely surgical process of identifying savings. They did so by focusing the budget process on changes in strategic priorities, and relying heavily on line agencies to themselves identify savings options. The system seeks to achieve results by creating an environment in which strategic priorities are articulated at the political level, and managers are given considerable flexibility—through portfolio budgeting and the running cost system—to achieve the intended outcomes. The system seeks to achieve accountability through reporting on performance and ex-post evaluations, but there are no formal outcome- or output-based contracts.

Consequently, in Australia, tightly specified accountability mechanisms based on outputs as in New Zealand have been sacrificed in favor of a greater collective as well as individual focus on outcomes. This reflects a fundamentally different philosophical emphasis driving the two reform efforts, with Australia placing a greater faith on trust and consensual relationships and New Zealand instituting formal accountability mechanisms to resolve incentive incompatibility stemming from a principal-agent paradigm.

The weakness of the New Zealand system is that with everyone focused on outputs and technical efficiency, the link with outcomes has been overlooked until recently. The broad priorities (so-called SRAs and KRAs), which deal with outcomes, have only recently been implemented to forge a closer link with outcomes. The weakness of the Australian system rests in much looser systems of accountability, necessitated to some extent by its federal structure.

It is worth asking whether a country could not merely adopt the best of the two countries—i.e., a focus on strategic priorities as well as technical efficiency. In a world without transactions costs, one could well envisage a system where there is a focus on outcomes, which is then translated into corresponding outputs through formalized contracts. However, our research suggests that in reality, because of transactions costs, there are tradeoffs that systems face at the margin between allocative efficiency (i.e., cost-effective

achievement of outcomes) versus technical efficiency. The alternative paths taken by New Zealand versus Australia demonstrate this tradeoff that other countries must make.

East Asia

Thailand

Unlike Australia and New Zealand, Thailand has not undertaken any major reform of its budget system since the late fifties when a new military government created four elite central agencies and gave them considerable control over the budget process. Overall, the Thai budgeting system is highly centralized. It embodies a long standing set of arrangements, rules, and procedures that together help exert discipline on aggregate fiscal management. It grants very little autonomy to line agencies over their budgets. And third, it imposes weak accountability on line agencies for their performance.

Aggregate fiscal discipline has been the hallmark of the Thai system. Four central agencies interact to control the level of spending and thus the deficit: the National Economic and Social Development Board (NESDB), the Ministry of Finance (MOF), the Bank of Thailand (BOT), and the Bureau of the Budget (BOB) in the Prime Minister's Office. This "gang of four" basically provides the macroeconomic framework from which they determine the aggregate expenditure ceiling. They also determine for the most part the ministerial ceilings. The Cabinet may recommend changes but this has generally not resulted in any changes in the ceilings, and certainly not in the aggregate ceiling. In Parliament, the Budget Scrutiny Committee, which is chaired by the Minister of Finance, is primarily responsible for evaluating the government's proposal. Committee members can propose to amend the government's proposal. However, the Committee seldom makes any significant changes to allocations to line agencies. Part of the reason for this is that members of Parliament have very limited technical staff to assist them in evaluating government proposals. However, politicians do intervene to alter some allocations within each of the line agencies. Once deliberations and negotiations are completed, the Committee presents the budget bill to Parliament. Parliament almost always accepts the bill.

This institutional set-up is complemented by formal rules that effectively set legal limits on the budget deficit. For example, in any particular year, public borrowing cannot exceed 20 percent of the total government expenditure for that year plus 80 percent of the amount earmarked for the repayment of the principal for both domestic and external debts. As another example, Parliament is prohibited from amending the government's proposed budget ceilings upward. These constraints however need to be juxtaposed with the existence of extra-budgetary funds (Krongkaew 1995) and the exclusion of financial support for at least some large public enterprises.[13]

The Thai system is weak in terms of encouraging efficient and effective use of resources by the line agencies. By international standards, the system is extraordinarily centralized. Our field interviews revealed that over 90 percent of total government expenditures are incurred by the central government. At the central government level, the BOB exerts extensive control over an agency's expenditures, setting ceilings on each of the seven categories of expenditures, e.g., wages and salaries, O & M, and enforcing stringent rules governing the release of funds. That is, a line agency is subject to extensive input controls and thus has very little autonomy. On the flip side, an agency is subject to very lax accountability which is to be expected: if an agency has little autonomy, it cannot be held accountable for its performance. Although line agencies are required to submit frequent reports on project implementation, the BOB does not have the capacity to evaluate the performance of the project or the accuracy of the information submitted. There is a National Audit Office which handles the financial auditing of the line agency programs. But it is terribly undermanned.

Prioritization resides largely in the gang of four. One of its major tasks is to ensure that the budgetary requests of line agencies and the programs they embody are consistent with the objectives of the five year development plan. The plan is prepared by the NESDB in consultation with the Prime Minister and the different ministries. The NESDB has considerable influence over the final outlines of the plan. Given the gang

13 There is some question about the relative size of these funds (Krongkaew 1995). There is however no debate about their existence.

of four's control over aggregate allocations to agencies and to expenditure categories, this implies that the gang exerts considerable leverage over priority setting. Very little feedback is obtained from Parliament, the line agencies, and other claimants.

There are other problems with prioritization as well. Only the capital or investment budget is linked directly to the development plan. Recurrent expenditures are set separately and on an annual basis, i.e. no medium term focus. And there are no systematic reconciliations of ex-ante budgetary allocations with ex post expenditure allocations. Moreover there is little evidence that economic analysis is much used to guide the allocation of expenditures.

A preliminary characterization of Thailand's system is presented in Figure 9a. As shown, the system is relatively strong on aggregate fiscal discipline but weak on both prioritization and technical efficiency.

Indonesia

Indonesia is similar to Thailand in that it places a heavy emphasis on aggregate fiscal discipline. Unlike Thailand, there are institutional arrangements in the system which are more explicitly focused on priority setting. However, measures to enhance efficiency and effectiveness of line agencies remain weak.

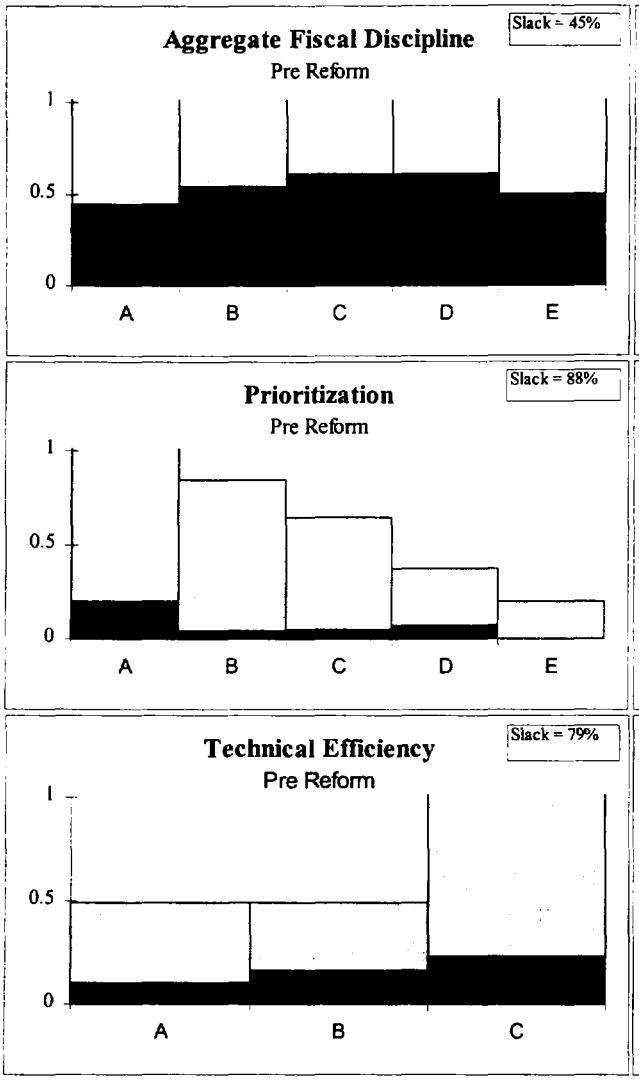
The constitution in Indonesia explicitly specifies that the budget must be in balance. However, the definition of budget balance is such that aggregate government expenditures must be equal to domestic revenues plus external borrowing. While domestic borrowing from the public or the central bank (i.e., printing money to finance deficits) is prohibited, there is nothing in principle to prevent the government from borrowing excessively from abroad except self discipline and the discipline of market lenders. The granting of authority over macroeconomic policy to the technocratic cadre (the so-called "Berkeley mafia"), located primarily in Bappenas (the planning body), the Ministry of Finance and the Central Bank, has been a key factor in accounting for restraint on aggregate spending. These policymakers share an ideological coherence and commitment to macro discipline and are responsible for providing a macroeconomic framework that defines the parameters upon which annual aggregates are based. Moreover, they are judged on the basis of their success in maintaining macroeconomic stability and are subject to implicit sanctions by the political leadership. The open capital account that Indonesia instituted decades ago has provided a complementary disciplining force for these policymakers. Fiscal indiscipline in this context would result in a run on foreign exchange reserves and a depreciation of the exchange rate. The experience with the Pertamina crisis in 1975 (Pertamina is the parastatal oil company) has served as a reminder of the negative repercussions of excessive borrowing. Since then, there have nevertheless been some, smaller bouts of excesses which have necessitated the imposition of some rules governing external borrowing. A intergovernmental committee, Commercial Offshore Loan Team (COLT), has been set up to approve and contain external loans by public sector entities. There are also guidelines for private sector borrowing, which is monitored by the Central Bank.

The five-year development plan or the Repelita constitutes the principal vehicle for prioritizing a given aggregate level of spending. Bappenas is responsible for preparing the development plan. It takes the macro targets in the plan, and selects projects from the budget submissions of line ministries that are consistent with these targets. There has been concern, however, that the targets in Repelita are too aggregated to provide sufficient guidance for sectoral expenditures. Consequently, more detailed annual targets for each ministry have been developed in recent years which involve consultation between Bappenas and line ministries, and are made explicit in the so-called Sarlita.

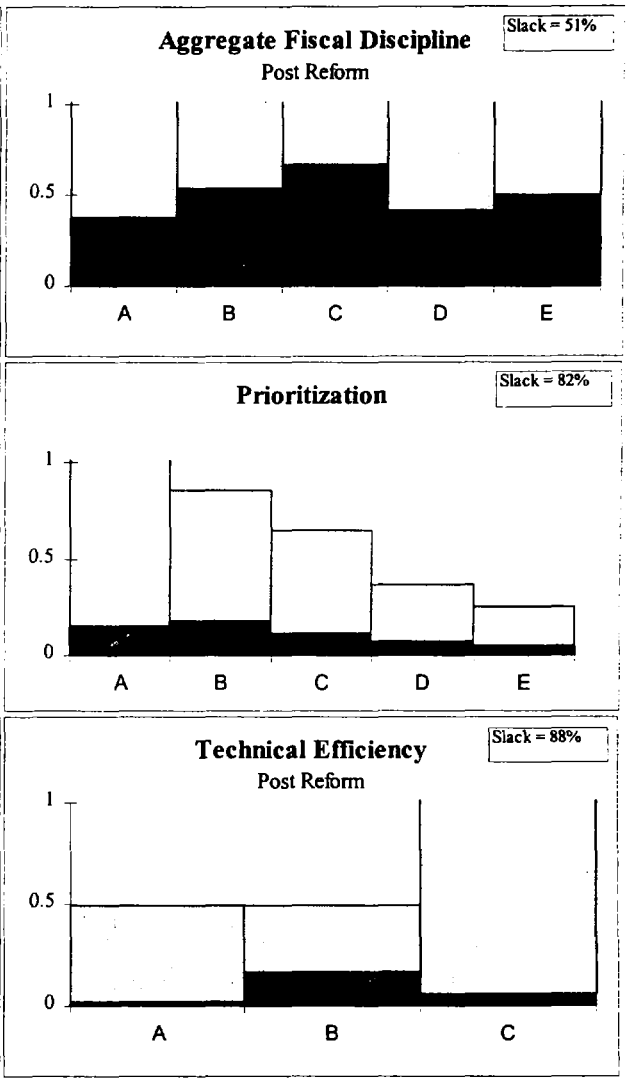
The "INPRES" account constitutes another mechanism for prioritization that has been growing in importance in recent years. INPRES, which stands for Presidential Instructions, consists of specific purpose transfers to state and local governments. These are generally targeted to activities that have been demonstrably associated with poverty reduction, such as primary education and public health care. The allocations for INPRES programs have been protected during years of fiscal austerity.

Figure 9.

9a. Thailand



9b. Indonesia

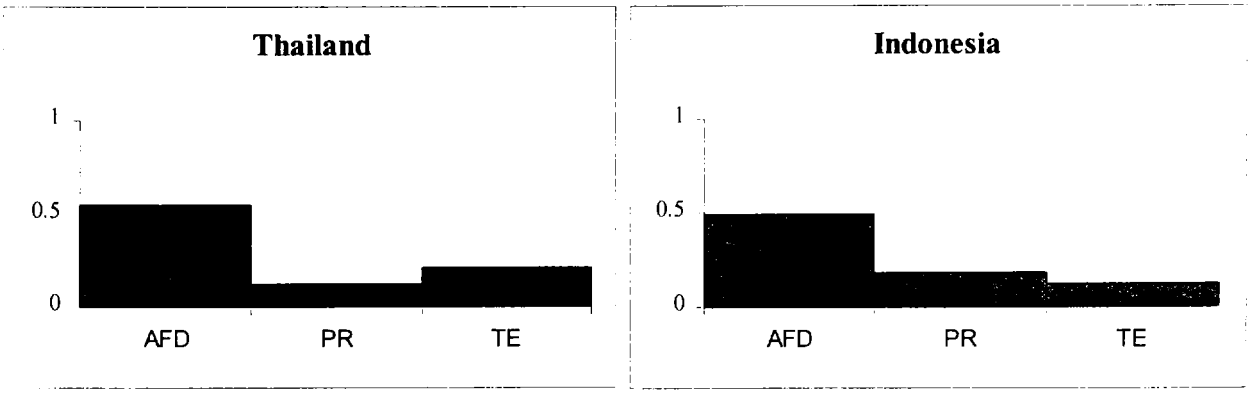


While the above arrangements help to prioritize development expenditures, there does not appear to be an equivalent set of arrangements to evaluate and prioritize current expenditures. Further, Indonesia is only now confronting the difficulties presented by the segmentation of budgeting for capital and current expenditures. Until recently, Bappenas has had principal responsibility for budgeting capital expenditures while the Ministry of Finance prepares the routine budget which includes recurrent expenditures.

Measures to enhance technical efficiency have focused primarily on financial audits. Three types of financial audits are carried out. First, each agency has internal auditors that evaluate the financial accounts of projects within the agency. Second, there is an audit unit ("BPKP") within the Executive Branch of government that reports directly to government. Finally, there is the office of the auditor-general ("BPK") which reports directly to Parliament. But the capacity of these institutions is limited and weak. Like Thailand, line agencies have very little autonomy and accountability. But the Indonesian system is worse in that a merit based recruitment and promotion system is sadly lacking and compensation of civil servants lags equivalent compensation in the private sector much more significantly (Campos and Root 1996).

By comparison with the Thai system, the Indonesian system appears just slightly less effective in restraining aggregate spending but slightly more effective in setting strategic priorities.[14] This is indicated in Figure 9b (in comparison with Figure 9a) and Figure 10. This characterization is consistent with known facts about the two countries. Both have on average had small deficits (relative to GDP) but Thailand has experienced greater imbalances in expenditures for the social sectors. In particular, Thailand's expenditures on secondary education have been substantially below the average for developing countries and more so relative to other East Asian countries (World Bank 1993).

Figure 10. Thailand vs. Indonesia



Ghana, Uganda and Malawi

Using the analytical framework and methodology above, we evaluate the institutional arrangements in three African countries. Below, we summarize the principal institutional features shared by these countries, and, using examples from Ghana and Uganda, present some corresponding expenditure outcomes. We also describe the recent initiatives being undertaken by each country to address its institutional problems and offer a critique of these initiatives. We end this section with suggestions for possible reform experiments.

Two key factors stand out which affect the three levels of expenditure outcomes in each of the sample African countries, albeit to varying degrees. First is the *central role of donor assistance*. While donor assistance has provided incentives for short-term aggregate fiscal discipline, it has also impeded expenditure prioritization because of the manner in which expenditure cuts have been imposed. Moreover, multiple donor projects have fragmented the budget. Donor conditionality on the broader composition of expenditures has not been effective, nor have been donor driven attempts to improve technical efficiency. A second feature is the *lack of transparency and accountability* in underlying and surrounding systems, resulting in poor enforceability of existing rules. Budgetary decisions are often made in an ad hoc manner with minimal consultations with broad groups in civil society, and there are few credible penalties for inefficiencies in the allocation and use of budgeted resources.

Aggregate Fiscal Discipline

Donor assistance and associated conditionality appear to have provided strong incentives for governments to adhere to short-term aggregate fiscal targets. In *Ghana*, Fund-Bank programs have been accompanied by conditionality on the achievement of macroeconomic targets, including the budget deficit. These have been closely watched by the donor community, as they signal whether the program is "on track" and therefore whether the government will continue to receive the volume of planned assistance from Fund-Bank and other donor sources. Other factors have also been important. A key factor has been the continuity and competence of

14 The same features also hold if equal weights are used for each arrangement cum accountability/transparency mechanism (see annex B, figures B.2a and B.2b).

a core technocratic team in the central ministries. The team has had a shared commitment to reforms as well as dominance in enforcing aggregate fiscal discipline. The impact on aggregate fiscal discipline has been impressive. The fiscal deficit in Ghana improved from an average deficit of 3.5 percent of GDP during the economic trough of 1982-84 to an average surplus of 0.8 percent in 1989-91. However, there was a considerable weakening in fiscal discipline in the wake of the 1992 elections, triggered by an 80 percent, across-the-board increase in wages for civil servants. This led to a slowdown in donor disbursements, and the government took actions to engineer a substantial fiscal turnaround during 1993 and 1994. A key development to monitor will be whether the program will once again go "off track" in the wake of the 1996 elections.

Uganda had continuing, sporadic problems with aggregate fiscal discipline since initiating reforms in 1987. This resulted in stop-and-go delays in the disbursements of Fund-Bank and other donor assistance until adjustments were made to bring the program back on track with the Fund-Bank targets. This pattern, however, culminated in a full-blown fiscal crisis in 1991/92, when the budget deficit jumped from 4.4 percent of GDP in the preceding year to 7.7 percent of GDP. However, swift action came not as much from donors as from President Museveni himself. The then-Minister of Finance was replaced, and the Ministries of Finance and Planning were merged. The President gave a speech which is plastered on the walls of many Ministry of Finance staff: "Inflation is indiscipline. If there is no money, you must walk or close down ministries." The political commitment that this signaled was buttressed by the computerized, monthly cash management system that was developed to impose cash limits and improve coordination among the central agencies. The result is that the budget deficit has been more than halved from 7.7 percent of GDP in 1991/92 to reach 2.9 percent of GDP by 1994/95.

Expenditure Prioritization

Donors have also sought to influence the composition of expenditures through direct project assistance, as well as through conditionality on the broader composition of expenditures, informed by a series of PERs. Direct project assistance has been substantial, financing about 80 percent of capital expenditures, or 35 percent of total expenditures in the two countries (Table 8). This has meant that the bulk of the Public Investment Program has been determined by donor-driven priorities, thereby fragmenting and undermining the priority setting process within the countries.

In *Ghana*, an attempt to further prioritize projects and protect them from expenditure cuts during budget implementation led to the creation of the "core" program. This proved ineffective because line agencies and sectoral donors continued to enter into bilateral deals, creating pressures which expanded the "core" program. The result was that an additional "Supercore" was created. This, too, proved ineffective because underlying incentives to add projects persisted. Both the core and Supercore were abolished in 1990.

A succession of Bank PERs for Ghana continued to flag the problem of unsustainable recurrent cost requirements, but there was no attempt to understand and frontally deal with the problem of underlying incentives between donors and government which led to the problem in the first place. Instead, the Bank imposed conditionality requiring minimum allocations for operations and maintenance (O&M) expenditures. However, the norms were applied only to the Ministries of Education, Health and Agriculture—the ministries the Bank had most been involved in. While these ministries benefited immensely in terms of enhanced allocations (World Bank 1992), the overall resource constraint meant even smaller allocations for others. In the event, the O&M norms have not proven effective and have been dropped.

Table 8. Africa: Donor Financing of the Budget

	Ghana	*Uganda*
Project financing as percent of capital expenditures	71	87
Project financing as percent of total expenditures	27	43
Total donor financing as percent of total expenditures	32	67

In *Uganda*, donors sought to improve the broader composition of public spending by imposing conditionality to increase allocations for Priority Program Areas (PPAs). A Bank PER undertaken in 1991 identified key programs or PPAs (e.g., primary education, primary health care and road maintenance) which were grossly underfunded, and associated conditionality in adjustment loans sought to increase and protect allocations for PPAs. However, as with the core and Supercore in Ghana, the list of PPAs has since more than doubled to include several administrative and judiciary programs. Further, while budgeted allocations for the PPAs were significantly increased in the initial year, it has proven difficult to ensure a flow of actual expenditures to these programs. Indeed, even though allocations to PPAs have been increased in recent years, the rate of increase was less than the general increase in the nonwage component of the recurrent budget and in many instances, less than the inflation rate.

In actuality, a key underlying problem in both countries is that budgeted priorities have been undermined by the short-term and ad hoc manner in which expenditure cuts have been made. In *Ghana* in 1993, the government undertook to understand the underlying problems itself by assuming responsibility for carrying out the PERs hitherto undertaken by the Bank. The two recent PERs undertaken by the government document the problems with budget preparation and execution. The problem starts with delays in the formulation of the macroeconomic framework itself. The delay takes place partly due to lags in the availability of relevant data and partly due to the late timing of negotiations with the Fund and Bank on the macro framework. The result is that line ministries are asked to submit budget proposals without any credible ceilings, resulting in bids far in excess of available resources. For instance, in 1995 the Ministry of Highways proposed 510 billion cedis, while only 110 billion were ultimately allocated. The result is that the central ministries have resorted to across-the-board cuts on budget submissions to meet fiscal targets, without any link to strategic priorities or outcomes.

However, whatever expenditure allocations are made in the budget are further undermined as drastic expenditure cuts are made in an arbitrary and non-transparent manner during budget implementation. Part of the problem—albeit to varying extents in the three countries—stems from overoptimism in the macroeconomic framework and its associated resource envelope, reflecting donors' internal incentives to show ambitious fiscal targets in order to get loans approved as well as the Ministry of Finance's interest in deferring an upfront battle on expenditure priorities. A recent OED report, for instance, shows that revenues and external flows in Ghana had typically been overestimated during the 1980s. This often necessitated draconian expenditure cuts imposed in an ad hoc manner by the Controller and Accountant General during budget implementation to meet the deficit targets, which then undermines the approved budget.

The result of similar problems in each of the three countries is that actual expenditure allocations are often at large variance with budgeted priorities, undermining the legitimacy of the formal budgetary process. In *Uganda*, for instance, large amounts of supplementary expenditures have been incurred by powerful ministries (e.g., over 10 percent of total expenditure as opposed to a target of 3 percent). The result is that the average deviation in actual allocation versus budgeted allocation for PPAs has been over 90 percent, with the range varying between 70 percent for the Ministry of Education and 590 percent for the Ministry of Justice. In *Ghana*, the problem is even worse, because information about actual expenditures are simply not available within any reasonable timeframe.

Technical Efficiency

Finally, poor incentives for civil servants to deliver public services—resulting from very low salary levels, poor definition of responsibilities as well as a lack of credible accountability mechanisms—constitutes the most serious obstacle to achieving a minimum level of technical efficiency (slack coefficient of 83 percent), without which efforts at prioritization or aggregate fiscal discipline will be rendered meaningless. In response to the general malaise in the system, donors have typically created enclaves of better performance and accountability for their own projects, with top-ups for project staff and strict rules for procurement, accounting and auditing.

Broader efforts to improve technical efficiency have focused primarily on civil service reform. In Ghana, for instance, the Civil Service Reform Program (CSRP) ran from 1987 to 1993 with a principal emphasis on reducing the number of civil servants and decompressing the pay structure. Even though this achieved

significant retrenchment as the size of the civil service declined by 48 percent, total public sector employment declined by substantially less (24 percent) as retrenched civil servants returned to the payroll through "subvented organizations." Further, the increase in average pay and decompression of the wage structure has not yielded discernible improvements in productivity. Similarly, in Uganda, the removal of "ghost" workers and redundant employees has reduced the size of central government employment from 320,000 in 1990 to around 148,000 in 1994. In addition, there has been significant real increases in salary, although without discernible improvements in technical efficiency.

The initial reform efforts have not attempted to institutionalize measures to accord greater autonomy and predictability in resources for line agencies, and to make line agencies more accountable for their performance (e.g., through clear delineation of tasks, client surveys).

Characterizing the Public Expenditure Management Systems

Using our methodology and indices, we developed measures for each of the principal institutional arrangements in the African sample. To capture the effects of donor assistance, we carried out a "comparative statics" exercise to begin with the institutional arrangements in the governments' own systems, and then examine the impact of donor assistance. The summary representation is presented in Figures 11 and 12. This confirms that the above analysis that while there has been less slack in aggregate fiscal discipline, institutional mechanisms for expenditure prioritization and technical efficiency have been very weak (slack coefficients of over 90 percent). Furthermore, this shows the impact of donor assistance. Donor conditionality reduces slack for aggregate fiscal discipline (from 86 percent to 66 percent). However, the manner in which ad hoc expenditure cuts are made during budget implementation undermines budgeted priorities as well as predictability in the flow of resources for technical efficiency. Further, the multitude of donor-driven projects in the dual budget structure fragments the budget and undermines prioritization. The net result is a weakening of the overall priority-setting process on account of donor assistance (slack coefficient increases from 92 percent to 97 percent). Enclaves of accountability for donor projects improves technical efficiency for those projects, but undermines government's own systems of accountability. The net result is no appreciable gain in technical efficiency, as measured by the slack coefficient.

Critique of Recent Reform Experiments

In response to the above set of problems, each of the three countries is undertaking a different set of reforms. Below, we summarize our critique of these reforms, including some suggestions for reform experiments based upon the findings of our research.

Ghana. The government of Ghana has assumed responsibility and ownership of the process to review public expenditures which had traditionally been carried out by the World Bank. These reviews have highlighted the lack of a proper accounting system as the principal problem. Consequently, the government and the donor community are placing central emphasis on improving the financial management information system. While this will facilitate financial or legal accountability by ensuring that actual expenditures are in line with budgeted allocations, other efforts will be required to ensure that the original budgeted allocations are driven by strategic priorities or a focus on outcomes to begin with, and that there are systems in place to evaluate whether these have in fact been achieved.

Figure 11. Africa

Government | Government and Donors

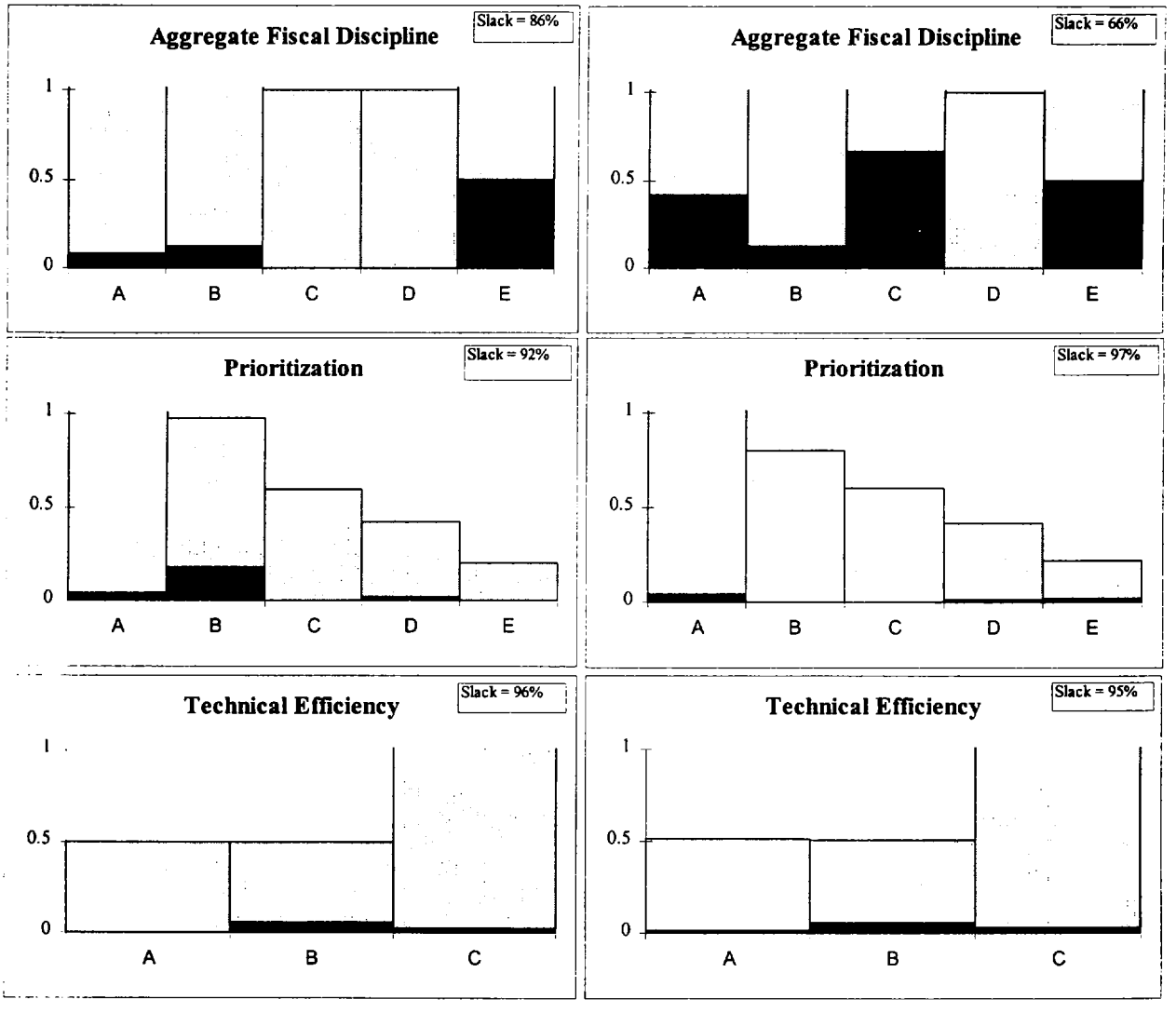
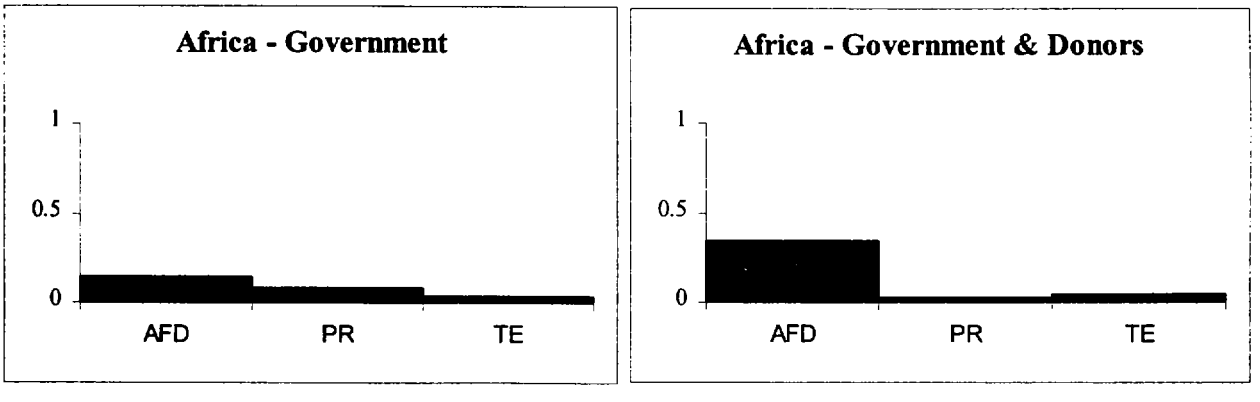


Figure 12. Sub-Saharan Africa: The Impact of Donor Assistance



In this regard, Ghana has taken some important strides in preparing integrated Sector Investment Programs (SIPs). Through SIPs, donors are financing a time slice of sectoral expenditures in a coordinated manner (e.g., in highways, education, health). However, these SIPs are not embedded in an overall medium-term expenditure framework, where intersectoral and intrasectoral priorities have been articulated by the government within an explicit medium-term resource envelope. To achieve such an integration and consistency with the government's expenditure program, a medium-term expenditure framework (MTEF), along the lines of Uganda or Malawi, needs to be put in place. The government is now taking steps in this direction.

To improve technical efficiency and organization performance, Ghana is launching some innovative reforms which are worth monitoring. These include the replacement of permanent secretaries of ministries with Chief Directors on fixed-term contracts, the requirement to carry out client surveys for several departments and agencies, establishment of a Public Complaints Unit, and dissemination of minimum standards for the delivery of certain services.

Uganda. Uganda has moved aggressively to institute reforms to control aggregate spending and prioritize recurrent expenditures through a medium-term expenditure framework (MTEF). As in Ghana, this is an attempt by the government to internalize the expenditure prioritization process previously undertaken by Bank PERs. Strategic prioritization of resource allocations in the MTEF has first emphasized expenditures for the Priority Programme Areas (PPAs), including primary education, primary health care, road maintenance. However, the MTEF applies only to recurrent expenditures. Development expenditures or the de-facto aid budget still consists of fragmented donor-driven projects which have yet to be integrated into a coherent framework and whose recurrent expenditure implications have yet to be incorporated into the MTEF. Nevertheless, the recent merger of the Ministries of Finance and Ministry of Planning has helped foster a closer link between the recurrent and development budget. But even the recurrent budget allocations in the MTEF are not yet linked to the achievement of specific objectives or results in key sectors. Consequently, the MTEF in Uganda needs to be strengthened by putting in place a bottom-up system of forward estimates, as in Malawi, together with performance measures as well as measures to grant flexibility to line agencies (as in Australia). The government has recently begun reform initiatives to achieve this.

To improve prioritization and service delivery, Uganda has launched a far-reaching decentralization program. However, it has not been able to put in place the institutional prerequisites for successful decentralization. To improve technical efficiency, the government has been taking steps to improve civil service salaries. To give these measures further bite, it would appear promising to undertake initiatives to revitalize the institutions responsible for overseeing the proper use of public funds (e.g., reactivation of the Public Accounts Committee of Parliament) and undertake public dissemination of and dialogue on ex-ante and ex-post expenditure allocations and their outcomes.

Malawi. Among the three countries, Malawi is initiating perhaps the most coherent program to institute a strategic approach for expenditure planning through a medium-term expenditure framework (MTEF). A notable achievement is how the government has taken complete responsibility and ownership of the process. While the top-down allocation of resource envelope among competing ministries has not been done systematically as in Uganda through the PPAs and needs to be improved upon, there is a more systematic bottom-up process that is being implemented. In particular, four pilot ministries (agriculture, health, education and works/roads) were selected and asked to (i) review and define sectoral objectives and policies; (ii) identify the program of activities needed to implement the sectoral policies; (iii) estimate the actual costs of provides these services; and (iv) identify the activities that could be scaled back or stopped altogether to fit within their expenditure ceilings. A series of workshops were held during 1995 through which the four ministries undertook to identify and cost out the sector programs. Preliminary indications are that progress in expenditure prioritization has been mixed across key ministries (e.g., successful in Education but weak in Health), although the process is in its very early stages and needs to be monitored over a period of time.

As in Uganda, a key shortcoming of the MTEF process thus far in Malawi is that it is only being carried out for recurrent expenditures. Although lead donors have been designated for particular sectors, the development budget is still an amalgamation of individual donor-driven projects which do not sum up to a

coherent sectoral strategy, and whose recurrent cost implications have not been factored into the MTEF. Consequently, there is a need to integrate development expenditures into the MTEF, and attempt coordinated donor financing of a time-slice of the resulting expenditure program. Finally, ex-post evaluation needs to be instituted (e.g., Australia, recent reforms in Colombia) to complement the ex-ante planning in order to ascertain whether sectoral allocations are achieving their intended objectives.

Key Elements of a Larger Research Project

For subsequent research, we envision a larger research project consisting of five related activities. The first will involve a refinement of the methodology for characterizing a public expenditure management system. The second will entail focused analytical work on the role of donors in the budgeting process. The third will involve monitoring five pilot experiments in Ghana, Uganda, Malawi, Laos and Colombia to evaluate quantitatively the impact of a focused set of institutional arrangements. A fourth activity will entail using the refined methodology to undertake a time-series analysis of the impact of reforms to budgetary institutions in Malaysia, where considerable innovations have been ongoing since the late-1980s. And the last will carry out two types of cross-country econometric analysis: (i) the relationship between our index of the quality of a public expenditure management system and growth; and (ii) a more in-depth analysis of the impact of openness of financial markets, freedom of the press and the enforceability of the rule of law on aggregate fiscal discipline.

Through this pilot project, we have been able to develop a prototype for a methodology to characterize a public expenditure management system. The elements of this methodology include the use of a questionnaire for completion by country expert(s), the construction of indices to represent key institutional arrangements, and the formulation of a set of composite measures that help identify principal areas of weakness in a system. In the next research phase, this methodology and its constituent elements need to be refined and tested more rigorously. For instance the effect of using different weights across institutional arrangements on our composite measures needs to be analyzed using a much larger sample of countries. Our questionnaire can be completed by World Bank country economists or project officers with the assistance of local country experts. These results and expenditure outcomes in the corresponding countries can be used to carry out sensitivity analyses and identify the biting arrangements or mechanisms with greater statistical rigor.

The role of donors is central in aid-dependent countries. Our study has only begun to explore the theoretical issues that underpin donor-related problems. A focused analytical piece further clarifying the essence of these problems and associated institutional arrangements that can potentially address these problems will help improve our understanding of the budget process in aid dependent countries.

This pilot project has clarified in our minds that the best way to evaluate the impact of specific institutional arrangements is to monitor controlled experiments over time within a country. This entails identifying well-defined measures of performance (e.g., results from client surveys), carrying out baseline measurements and tracking changes over time. Since most experiments thus far have been undertaken in developed countries, reform experiments need to be set up in developing countries to help us better understand the impact of certain arrangements. To this end, the larger research project could monitor experiments in Uganda, Malawi, Ghana, Laos and Colombia. In Uganda and Malawi, this will involve working with the country departments and client governments to help institutionalize specific features to make the budget more transparent and comprehensive. These features will include publishing both expenditures and outcomes associated with the medium-term expenditure framework (MTEF) introduced last year, and undertaking integrated budgeting of donor assistance and capital-recurrent spending within the MTEF. In Laos, the reform experiment could include measures to unify the budget, integrating donor assistance and capital-recurrent expenditures. Ghana could provide a suitable control experiment, because it primarily seeks to improve the financial information system without instituting an MTEF. In Colombia, the ex-post evaluation system being put in place could be monitored. In each case, the impact of the innovations could be tracked by examining changes in the composition of expenditures as well as through assessments of key stakeholders (e.g., parliamentarians, NGOs, business groups, consumer groups, labor, central and line agency officials) using surveys.

Using the refined methodology as identified above, a time-series analysis of reforms to budgetary institutions can be carried out in Malaysia. Since the late 1980s, Malaysia has been carrying out a series of reforms designed to improve strategic prioritization. These include the establishment of a budget dialogue group with business, labor and other stakeholders from civil society, greater devolution of decision making to line agencies and associated accountability mechanisms similar to those implemented in New Zealand and the United Kingdom.

A more extensive and in-depth analysis of the role of financial markets, the press, and the rule of law should be undertaken. Our initial foray into this set of issues provides some confidence that further exploration is likely to yield useful policy levers (see Annex A). Confirming that more open financial markets helps instill aggregate discipline independent of the relative freedom of the press or the enforceability of the rule of law will give reformers one policy lever to improve the effectiveness of a public expenditure management system.

Finally, the composite measure we have constructed can be used in a large cross country econometric analysis to assess the relative contribution of the quality of a public expenditure management system to economic growth. This will involve circulating the revised diagnostic questionnaire to country experts in a range of countries and using their responses to derive country specific composite measures. These measures can then be correlated with the residuals from a standard growth regression.

Concluding Remarks

In this paper, we have developed a methodology for evaluating the quality of a public expenditure management system. Using theories developed within the field of the new institutional economics and the experiences of seven countries—Australia, Ghana, Indonesia, Malawi, New Zealand, Thailand, and Uganda—with public expenditure management, we have been able to identify key institutional arrangements that affect aggregate fiscal discipline, strategic prioritization, and technical efficiency in the use of budgeted resources. We argue that these arrangements can be effective only if there are mechanisms that bind public officials to these arrangements. By this we mean that public officials will incur a sufficiently high cost if they violate the arrangements. Within the limitations of our data, we have been able to show that certain mechanisms that enhance transparency and accountability can indeed introduce such costs and thus lead to better expenditure outcomes.

The elements of our proposed methodology include the use of a questionnaire for completion by country experts, the construction of indices to represent key institutional arrangements, and the formulation of a set of composite measures that help identify principal areas of weakness in a system. This methodology and its constituent elements, however, need to be refined and tested more rigorously. For instance, the effect of using different weights across institutional arrangements on our composite measures needs to be analyzed using a larger sample of countries. Also the impact of different arrangements on expenditure outcomes needs to be evaluated more rigorously. Both require more extensive research. One difficulty that arises in this context is the difficulty of (a) obtaining data on unit costs, so that some evaluation of technical efficiency can be made, and (b) developing a metric for evaluating the effectiveness of the strategic prioritization process.

The paper does not address a particularly significant issue: under what conditions could better institutional arrangements and accountability-transparency mechanisms be transferred to other settings? It is one thing to show that a medium term expenditure framework (MTEF) has worked well in Australia and another to evaluate how well this might work in a developing country. As Levy and Spiller (1994) have shown within the context of of the design of regulatory systems, the latter problem is very complex and requires in-depth comparative analysis across countries of more fundamental underpinnings, e.g., the relative independence of the judiciary, and their mapping onto specific institutional arrangements, e.g., regulation via an agency or via contract.

Annex A

Aggregate Fiscal Discipline and the Role of Financial Markets

Some Preliminary Evidence from Developing Countries

"It's the deficit, stupid!" Such was the headline of an article in a recent Australian news magazine, the *Bulletin* (Walsh, 1995). The Australian electorate, it seems, has become more aware of the unsavory effects of a large, lingering current account deficit. A poll of voters conducted by the *Bulletin* reveals that 65 percent of voters are aware of the record high A $2.5B current account deficit and 79 percent of those who are aware understand what it means. Moreover, the poll shows that 57 percent of voters consider the size of the current account deficit as the most important issue that may influence their vote in the next election, higher even than interest rates on loans (50%) and the level of personal taxation (49%) and closely following the level of unemployment (61%). Not surprisingly the *Bulletin* concludes that "what Labor [*the party in power*] should be recognizing is that the high current account deficit problem is . . . a lightning rod for voters' worst fears about their job security and their home loan repayments."[1] Indeed, the current account deficit has become an important performance criteria upon which government is judged by the general population.

This anecdote has certain implications for the study of budget deficits and their determinants. It suggests that a government's incentive to control the budget deficit, which under certain circumstances is the mirror image of the current account deficit, can very well be influenced by the population's awareness and understanding of the impact of deficits on their personal lives (and therefore their willingness to continue to support the government).[2] In Australia, the Labor government effectively tied its own hands (as well as future governments') by liberalizing financial markets and educating the public on the evils of the twin deficits. Since financial liberalization began in the early 80's, developments in financial markets have become very highly played up in the press (relative even to countries like the United States).[3] This has emerged in part because of the aggressive campaign of the Labor government beginning around 1983 to make the public aware of the implications of a burgeoning budget deficit on their standard of living (GAO, 1994). Consequently, the general public and especially the business community has become much more aware of the link between government performance (as measured in terms of the twin deficits), the exchange rate, the inflation rate, and interest rates. The latter are particularly significant because they directly affect the standard of living of a majority of households; the former of course affects businesses adversely particularly if the change is sudden and swift.

The Australian experience may offer some lessons for the control of fiscal deficits. It could very well be the case that, through liberalization of financial markets, a government can be held accountable for macroeconomic mismanagement. With open financial markets, individuals and firms can take their funds in and out of the country swiftly. A burgeoning deficit could trigger fears of a devaluation and a rise in inflation leading to an outflow of foreign exchange and the subsequent realization of these fears, i.e. self-fulfillment. This would confront the government with a minor, if not a major, economic crisis which could conceivably contribute to its downfall through the polls or otherwise. In fact, it is conceivable that investors are extremely forward looking so that they foresee a burgeoning deficit as leading ultimately to the fall the government and thus to some political instability to which they respond by transferring their funds to safer, more stable

1 Walsh (1995, p.22).

2 Withdrawal of support could mean rejecting the government at the polls or, more subtly withdrawal from the formal sector of the economy (Brunetti and Weder 1994).

3 This account is based on extensive interviews with high ranking government officials in The Treasury, the Ministry of Finance, and the Prime Minister's Office in the Cabinet.

environments. In these ways, open financial markets can potentially impose some discipline on a government's control over the deficit.[4]

In many countries, the press is highly suppressed. But where it is not, the Australian experience also suggests that it too can contribute to enforcing aggregate fiscal discipline. Because it helps educate the general public and because it helps transmit information on government performance more quickly and widely, it could potentially magnify the response and impact of financial markets.

This Annex attempts to explore these conjectures. Specifically, it undertakes preliminary tests of two hypotheses based on a sample of developing countries: first, the more open the financial markets in a country, the smaller will be the country's fiscal deficit; second, the freer the press, the greater the impact of open financial markets on the fiscal deficit. *Preliminary is the operative word.* Because of data constraints and the lack of a structural model of budget deficits,[5] its findings should be interpreted as evidence that further exploration of these issues may be warranted.

This Annex is divided into four sections. Part one discusses the potential role of financial markets in instilling fiscal discipline. Part two presents various hypotheses about possible determinants of budget deficits. Part three outlines the empirical model and describes the data that is used to test the model. And part four presents the empirical results. The paper concludes with possible directions for future research.

Why Open Financial Markets Matter

To understand why openness of financial markets influence the government's incentives to control the budget deficit, it is instructive to compare the case when financial markets are open—meaning funds can be brought in and out with no restrictions and markets are allowed to clear—and the case when they are closed—there are stringent controls on the movement of funds in and out of the country grounded on a fixed nominal exchange rate. Let us start with the latter case. Suppose the government decides to run an inordinately large deficit and to finance it by monetizing it, i.e., create money to finance it. This would lead to inflation and would create pressure on the current account potentially giving rise to a current account deficit. Alternatively, the government could choose to sell bonds to the general public. This would lead to an increased demand for loanable funds and thus would raise the interest rates. In a rational expectations world, individuals will foresee that the government will not be able to meet its obligations in the future and so will refuse to purchase the bonds. Further, recognizing that the government will not be able to sell the bonds, they can predict that inflation will occur. Thus they will attempt to purchase foreign exchange in the black market. In any of these scenarios, a contraction of funds occurs, either of loanable funds or foreign exchange.

Now suppose instead financial markets were open. By running a large deficit, the government triggers fears among investors that inflation and thus a devaluation will occur. This induces them to move their funds to other countries where real returns will be higher. But then this creates pressure on the current account and thus makes the devaluation come true. And with the devaluation comes inflationary pressure. To control inflation, the government contracts the money supply which leads to a rise in interest rates. Higher interest rates attract funds back into the country which would tend to push interest rates back down. But, given investors would now "rank" the government lower in terms of macroeconomic management, the resulting equilibrium rate would have to be higher, i.e. a premium is required.

In either case, the government suffers a political cost. Higher interest rates and/ or inflation makes the general public question the effectiveness of the government and thus its right to continue to govern. But, under openness, inflation and the rise in interest rates are likely to be lower, given the flexibility of markets, so the political costs are also likely to be lower. This would seem to suggest that closed financial markets would impose more of a discipline on the government's spending. But the experiences of many developing countries (especially those in Latin America) when their financial markets where closed reveals quite the opposite—continuously high inflation and high interest rates. What explains this puzzle?

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4 This is roughly akin to the effect a well functioning stock market can have on corporate governance.

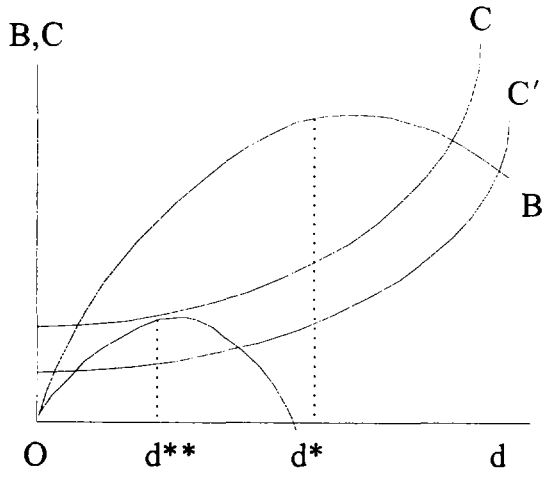
5 We are not aware of any structural model of budget deficits. The empirical work that we have come across all adopt a "hodge-podge" approach to evaluating the determinants of budget deficits based on reasonable conjectures.

To understand this dilemma, one needs to look at the underlying political economy of the two financial market regimes. In the closed regime, the government actually enjoys some political benefits from running a deficit. Because a deficit creates a scarcity of funds and because the government controls these funds, the government actually creates opportunities for itself to allocate funds in ways that are politically beneficial. There is extensive evidence of governments in developing countries using their control over scarce funds to perpetrate themselves in power by allocating these funds in politically strategic ways (see Bates 1981, for Africa; Amsden 1989, for Korea; and Wade 1990, for Taiwan). In the open regime, the government loses much of its control over loanable funds and foreign exchange. Consequently, it loses much of the benefit from running a deficit and thus would be less inclined to run one or, if it does, to run smaller ones.

With closed financial markets, the government actually has access to two instruments which it can use to build and maintain political support. The artificial scarcity of loanable funds and foreign exchange which is induced by controls over financial markets gives the government the capacity to allocate the funds to reward supporters, i.e. running deficits creates scarcity rents that have high political value. So while deficits might raise inflation and interest rates, the government can allocate funds in ways that compensate key groups for the resultant erosion in their standard of living. Thus the government can actually defend itself from deposition. In contrast, when financial markets are open, the government can no longer exercise effective control over the allocation of foreign exchange and loanable funds. So, it actually loses the capacity to compensate supporters for a fall in their standard of living. The implication of this is that if, under closed financial markets, the politically tenable rate of inflation and interest rates are x and y respectively, then under open markets the corresponding rates would have to be less than x and y. That is, while the government might still decide to run deficits when financial markets are open, its calculus of political benefits and costs would constrain the deficit to levels below what they would have been if financial markets were closed.

A simple graphical illustration will clarify the argument. Assume that the political costs of running a deficit are increasing and strictly convex (in the deficit) and the political benefits strictly concave. Let C in FigureA-1 represent the political costs and B the political benefits under a closed regime. The optimal deficit for the regime would thus be d*. Now, given the costs are lower under the open regime, the corresponding cost curve must be lower than C. Let this be C′. Moreover, since the government has very little control over loanable funds or foreign exchange under an open regime, the political benefit curve must drop considerably, say to B′ (in fact, in the extreme case, it disappears). Consequently, the optimal deficit falls to d**. That is, the open regime induces the government to scale down deficit spending.

Figure A-1



"Ad Hoc" Determinants of Fiscal Deficits?

Interest in the determinants of fiscal deficits has increased substantially in the last ten years. Continuing difficulties that governments in both developed and developing countries have had reducing deficits and the impact that deficits have had on their economies have raised pressing questions about the relevance of normative economic theories of fiscal policy—what should governments do—and have stimulated a search for a positive theory—why do governments do what they do. In particular, the equilibrium approach to fiscal policy, which has given rise to the so-called "tax smoothing" hypothesis (Barro 1979), has come under heavy criticism. The approach presumes that the government desires to minimize the deadweight losses from taxation subject to a dynamic budget constraint. The equilibrium to this constrained minimization problem requires that explicit tax rates (taxes as a percentage of GDP) be constant over time.[6] Its implication is that (a) budget deficits occur only during times of unusual spending, e.g., wars and (b) the rate of taxation for different types of taxes must be highly correlated (since at the margin, all tax rates must yield the same deadweight loss).[7]

Roubini and Sachs (1989) have shown that neither implication of the equilibrium approach is supported by evidence from the OECD countries post 1973.[8] If at all budget deficits have persisted since the 1973 oil crisis.[9] Moreover, the seignorage tax as measured by the inflation rate does not appear to bear any significant relation with explicit tax rates.[10] Performing similar types of tests for a large sample of developing countries, Roubini (1991) provides empirical evidence that the equilibrium approach also fails to explain the pattern of fiscal deficits within countries over time.

The failure of the equilibrium approach to adequately explain the observed pattern of budget deficits has motivated others to look at the potential role of political factors. The underlying presumption is that if one is to understand why governments behave the way they do then one necessarily has to delve into politics.[11] Following up on his critic of the equilibrium approach, Roubini (1991) provides econometric evidence that frequent changes in political regimes produce larger budget deficits in developing countries. Roubini and Sachs (1989) show that, within the OECD, both the number of parties in the ruling coalition and the tenure of the coalition influence the size of budget deficits—the larger the number of parties and the shorter the tenure, the larger the deficit. Alesina and Tabellini (1990) demonstrate that deficits are likely to be higher, the lower the probability of a government being reelected and the greater the polarization between the government and the opposition. In a related context, Alesina and Drazen (1989) construct a "war of attrition" model in which macroeconomic stabilization is delayed until one group eventually succumbs and "agrees" to shoulder the full burden. The implication of all these is that political instability affects budget deficits in systematic ways. The more politically unstable a country, the higher budget deficits will tend to be.

While politics matters, institutions are also important. Shepsle (1979) has demonstrated that institutional arrangements help overcome the chaos inherent in social decision making (see Arrow 1963). In particular, he shows that the nature of the arrangements that underpin the decision making process in a legislature, e.g., the committee system, affect equilibrium outcomes. Considerable empirical work over the last fifteen years has provided solid support for this thesis.[12] Given the public sector budget is a, if not the, major focus of discussions and debates within government, this would imply that institutional arrangements that surround the budget process are likely to have some influence on budgetary outcomes. Von Hagen (1992) has constructed

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6 Some versions of the model show require that explicit tax rates behave like a random walk with mean zero.

7 See Mankiw (1987).

8 Roubini and Sachs (1989) confirm that budget deficits in the OECD countries did exhibit decline after the Second World War up to 1973, which is consistent with the equilibrium approach.

9 They also show that explicit tax rates have been increasing over time in parallel to aggregate spending (as a percent of GDP).

10 The seigniorage tax is an implicit tax that individuals and firms pay due to inflation.

11 This insight of course is not new. It dates back to Adam Smith and Karl Marx and is the bedrock of the so-called new political economy which has been evolving for the last twenty years or so. For overviews, see for example, Colander (1984), Enelow and Hinich (1984), Staniland (1985), and Rowley, Tollison, and Tullock (1988). And on the issue of macroeconomic stabilization, see Haggard and Kaufman (1992) and Williamson (1994).

12 For an econometric analysis, see Inman and Fitz (1990) and for case studies, see Krehbeil (1991).

an index representing the various types of budgetary institutions in countries comprising the European Community and has used it to evaluate the impact of institutional arrangements on budget deficits in these countries. Alesina and others (1995) have undertaken a similar task for Latin American countries. Bohn and Inman (1995) have investigated the potential impact of constitutional rules on the ability of states in the United States to run budget deficits. In each case, institutional arrangements are shown to systematically influence budget deficits. For example, the existence of constitutional constraints to the deficit or the public debt are shown to help reduce deficits.

The effect of budgetary institutions is predicated on the applicability of the rule of law. Indeed much of the work on institutional arrangements and the budgetary process has focused on the industrialized democracies, and in particular on the United States, where general adherence to the rule of law can be and is presumed. In fact, most models (both empirical and theoretical) that underpin this work assume that the citizenry desire the benefits of better budgeting and so are willing to obey the rules that are necessary to generate these benefits. But in most developing countries, the rule of law is less likely to have widespread adherence and is relatively more binding in some and less so in others. Hence, in many of these countries, the institutional arrangements that ostensibly govern the budget process may not have as much of an effect on aggregate fiscal management and in some may not even matter.

Given weak adherence to the rule of law, can some degree of aggregate fiscal discipline still be instilled? As discussed earlier the liberalization of financial markets is one possible factor. With open financial markets, investors can respond to fiscal mismanagement by pulling their funds out and taking them elsewhere. With the outflow of funds, foreign exchange becomes more expensive which would lead to a devaluation. A devaluation would make imports more expensive and thus could fuel inflation. This in turn could lead to higher interest rates. To the extent that exports become cheaper and some foreign funds flow back to take advantage of the higher interest rates, the initial rise in rates may be dampened but in the new equilibrium it would still have to be higher.[13] Higher inflation and higher interest rates would induce the general public to blame the government for an erosion of their standard of living which would make the government more disciplined in its spending and thus in controlling the deficit. The implication of this is that countries with more open financial markets will likely run smaller deficits and that a country that liberalizes its financial markets is likely to have smaller deficits post liberalization.

In the context of open financial markets, the role of the press may also be important. If the press is free to publish reports on the performance of the government and the economy then financial markets are likely to have a greater impact. A free press makes the budget process more transparent because it can help uncover anomalies and questionable activities related to government spending. It can also help educate the general public on the links between the deficit and the standard of living, By transmitting these types of information more widely and more quickly, the press can hasten the response of financial markets and heighten the reaction of the general public to fiscal indiscipline. This would increase the cost to the government of fiscal indiscipline.[14]

An Ad Hoc Empirical Model

Following other empirical work on the determinants of budget deficits, we construct an ad hoc econometric model to test our two hypotheses. Again, we emphasize that the model is not derived from any structural theoretical model of budget deficits but, like other empirical models, consists of a hodge-podge of variables that one might reasonably expect to influence budget deficits. The model is as follows:

$$(1) \qquad b_{it} = c + a_o POL_{it} + a_1 CON_{it} + a_2 FIN_{it} + a_3 [FIN_{it} xFP_{it}] + a_4 G_{it} + a_5 INT + e_{it}$$

where,

13 Given investors and fund managers see increased deficit spending as a sign of fiscal mismanagement, they will require a risk premium to put or return funds into the country's financial markets. This means that in equilibrium, the new interest rate would have to be higher than the world interest rate.

14 In terms of figure 1, this raises the cost curve C'.

b is the ratio of the *budget surplus* to GDP (a negative value would signify a deficit), POL a dummy variable representing *political instability*, CON an index of adherence to the *rule of law*, FIN a measure of the *openness of financial markets*, FP a measure of *freedom of the press*, and G the per capita GDP growth rate, and INT a measure of the sustainability of the deficit. The subscript i refers to country i and the subscript t to year t.

The political instability variable POL is based on the Barro index (1991) which measures the frequency of coups and/or assassinations in a country. It takes a value of 1 if there was an assassination or a coup and 0 otherwise. *We expect this to be negatively correlated with the surplus.*

To reflect the degree of adherence to the rule of law, an index CON for the enforceability of contracts among private parties is used.[15] This index is based on responses of businessmen to a survey questionnaire. The surveys have been done annually since 1982. It takes integer values from 0 to 4 with higher values representing better enforceability. *Thus the higher CON the larger the surplus (to GDP).*

Budgetary rules may also impact aggregate fiscal discipline. Unfortunately, we do not yet have an index that can be used to run statistical tests. Alesina and others (1995) have developed an index for Latin American countries and Von Hagen (1992) for the OECD countries. The indices are not exactly comparable because they are based on different sets of questions. The availability of data for the other variables, in particular the financial openness indices, precluded us from using either index. Thus we had to omit budgetary rules as a variable. We note however that, if private contracts cannot be enforced, it is highly likely that the rule of law is weak. And if the rule of law is weak then budgetary rules are unlikely to have significant impact on the fiscal deficit.

We use three different indices for the (relative) openness of financial markets (FIN). The first and second indices are taken from Levine and Zervos (1995). The first, APTALP, is based on the international arbitrage pricing model and the second, ICAPALP, on the international capital asset pricing model. Both indices are measures of the integration of a country's financial markets with global markets. The third index is the (absolute value) of the uncovered interest parity, UIP, defined as (r - R* - log e) where r is the domestic interest rate, R* the London interbank offer rate on one month U.S. dollar denominated deposits, and log e an exchange rate adjustment factor. In each of the three cases, *smaller index values reflect greater integration and thus openness of financial markets.*

To represent the (relative) freedom of the press, we use Gastil's index of freedom (1983). Higher index values are associated with less freedom. The index is only roughly reflective of press freedom as it is a composite index of political freedom and civil liberties. We presume that there is a sufficiently high correlation between this index and press freedom.

Finally we introduce some control variables. To account for the possible role of business cycles, we introduce the growth rate in per capita GDP (G). The presumption is that the faster the economy grows, the more revenue the government can raise and/or the less income transfers it needs to make. Thus deficits are likely to be lower when the economy is growing rapidly. It would have been better to use unemployment rates since they reflect more directly the impact of recessions but lack of data for developing countries ruled this out. We also include the variable INT defined as (PD/GDP)x(R* - G) where PD is the nominal level of the public debt and R* is as defined above. This variable is meant to capture the sustainability aspect of deficits. Governments are presumed to respond to a higher debt burden by cutting down on the deficit in recognition of the fact that they may not be able to make payments in the future.

Empirical Results

Given the data constraints, the results of our empirical analysis can only be viewed as indicative. The sample size is small and the observations are based on a small number of disparate countries. In some cases we had only one observation for a country and in other cases as many as eight (years). Moreover, there are missing variables for which data is not currently available.

15 Data for this comes from Keefer and Knack (1995).

As a first cut, we compare the average ratio of the budget deficit to GDP in twenty one countries, including eight developed countries, before and after the introduction of financial liberalization measures. Levine and Zervos (1995) have identified the dates at which liberalization policies were introduced in each of these countries. For each of these countries, we calculated the average ratio both before and after these "cut-off" dates. The results are indicated in Table A-1. Fourteen of the twenty one countries (67%) show a reduction in the mean deficit (as % of GDP) following liberalization. Among the developing countries, ten out of the thirteen (77%) and, among the developed countries, four out of the eight (50%) had a lower mean deficit post liberalization. In fact, three countries—Thailand, Finland, and Sweden—moved from deficit to surplus.

Table A-1. Test of Differences in Deficit before and after Capital Control Liberalization Policies

		Mean deficit (% of GDP)	
Country	*t-statistics*	*Before*	*After*
Developed countries			
Australia	1.21	-1.97	-0.96
Austria	-3.60	-2.52	-4.77
France	-0.50	-1.47	-2.17
Italy	-1.67	-10.01	-11.93
Netherlands	-0.085	-3.63	-3.74
Norway	0.35	-1.182	-0.29
Finland	0.42	-0.54	0.14
Sweden	2.78	-3.82	3.72
Developing countries			
Indonesia	0.92	-2.06	-1.25
Thailand	6.16	-3.69	2.98
Chile	0.242	-1.35	-0.23
Colombia	-0.09	-1.73	-1.89
India	-0.59	-5.71	-6.96
Jordan	0.07	-7.16	-6.98
South Korea	1.43	-1.63	-0.84
Malaysia	1.62	-7.75	-1.55
Mexico	0.34	-6.81	-5.36
Pakistan	0.38	-7.15	-6.73
Philippines	-1.03	-1.84	-2.65
Portugal	0.55	-8.18	-6.41
Turkey	-0.17	-3.76	-4.16

Next, we run several regressions based on (1) above. The results of each of these regressions are indicated in Table A-2. Columns (1) and (3) present the results of regressions corresponding respectively to the two alternative measures of openness—APTALP, and ICAPALP. In each case, the index for financial openness has the correct sign (higher values are associated with larger deficits or equivalently with smaller surpluses) and the t-tests are statistically significant. Columns (2) and (4) add in the freedom of the press index interacted correspondingly with each of the financial openness indices. The coefficient of each of the interaction terms is positive and the tests significant. The positive sign seems to suggest that a freer press (lower index values) dampens rather than amplifies the influence of open financial markets. However taking the partial derivative of (1) with respect FIN which gives,

(2) $$\partial b / \partial FIN = a_2 + a_3 FP,$$

indicates that a freer press does magnify the marginal impact of financial openness. In both regressions, a_2 is negative and is greater in absolute value than a_3FP.[16] Moreover, the greater the freedom (and thus the lower FP), the lower the value of a_3FP and thus the more negative $(\partial b / \partial FIN)$.

Table A-2. Dependent Variable: Deficits as Percent of GDP

	(1)	*(2)*	*(3)*	*(4)*
Constant	-6.082	-5.007	-7.714	-7.963
	(-1.65)**	(-	(-	(-2.17)**
G	-0.083	-0.149	-0.065	-0.079
	(-0.706)	(-138)***	(-0.54)	(-0.66)
INT	-0.008	-0.009	-0.008	-0.009
	(-3.59)*	(-4.23)*	(-3.77)*	(-3.82)*
CON	2.243	1.776	2.61	2.596
	(1.51)**	(1.32)***	(1.72)**	(1.72)**
POL	0.286	0.608	0.943	1.192
	(0.32)	(0.73)	(1.05)***	(1.29)***
APTALP	-0.389	-1.169		
	(-2.59)*	(-4.39)*		
APTALPxFP		0.206		
		(3.42)		
ICAPALP			-0.202	-0.375
			(-	(-1.96)**
ICAPALPxFP				0.063
				(1.08)***
R-Squared	0.474	0.577	0.443	0.457
No. of Observations	54	54	54	54

Note: t-statistics are in parentheses; * indicates significant at the 1% level, ** at the 5% level, and *** at the 10% level.

All the coefficients for CON are positive and their tests statistically significant. This suggests that the general adherence of society to the rule of law may in fact have an effect lowering budget deficits. We of course cannot be certain exactly how this occurs. One possibility which we suggested above is that, in countries where adherence is weak, there will be a greater tendency to circumvent what ostensibly are good budgetary rules, or worse, to purposely avoid establishing such rules. Another possibility is that CON actually reflects the taxing capacity of the country. Countries in which the rule of law is weak are likely to have very weak capacity partly because the transactions costs of collecting taxes is high and partly because of the lack of accountability of tax administration officials. Under any of these circumstances, fiscal management is likely to be poor.[17]

The signs of the coefficients for the political instability variable, POL, run counter to what we predicted. They indicate that increased political instability leads to smaller deficits. But the t-tests for these coefficients are mostly insignificant. These results are not surprising given the nature of the variable POL. POL measures instability in terms of irregular changes in government, i.e. coups and assassinations, but what may be more relevant is the turnover of government whether regular or irregular. Using an index based on irregular changes,

16 At the highest value of FP (which is 7), the absolute value of a_3 FP is lower across most of the regressions.

17 Roubini (1991) uses GDP per capita to capture this effect. We think CON is a better measure.

Roubini (1991) found essentially the same thing—"wrong" sign and insignificant t tests.[18] But using another index which basically measured the rate of turnover of regimes, he did find that political instability reduces deficits. Roubini and Sachs (1989) also provide empirical evidence that the rate of turnover is important in explaining the pattern of deficits in the OECD countries. Taking this cue, we ran the same four regressions with a different instability index, POL2 based on the data set of Bienen and van de Walle (1991). POL2 refers to the number of chief executives the country has had over the last seven years (including the current year).[19] The more chief executives there are over the period, the more unstable the country is during the given year. In contrast to the previous measure, POL2 reflects the fact that instability does not go away instantaneously. The results are shown in Table A-3. POL2 has the expected sign—greater instability leads to larger deficits—but the t-test is significant only for the APTAP based model, i.e. (2) in Table A-3. The basic results do not change for the remaining variables.

The signs of the coefficients for the growth rate variable G are negative in all eight regressions which is inconsistent with what one would expect. But most of the t-tests were also highly insignificant. Closer scrutiny indicated that the impact of the growth rate may likely have been reflected already in the variable INT. Recall that INT is defined as PDx(R* - G). In all eight regressions, INT has a negative sign, as predicted, and the t-

Table A-3. Dependent Variable: Deficits as Percent of GDP

	(1)	*(2)*	*(3)*	*(4)*
Constant	-3.988	-2.845	-4.443	-4.431
	(-1.28)***	(-0.95)	(-1.41)***	(-1.38)***
G	-0.095	-0.139	-0.082	-0.083
	(-0.85)	(-1.30)**	(-0.73)	(-0.72)
INT	-0.009	-0.009	-0.01	-0.01
	(-4.11)*	(-4.22)*	(-4.17)*	(-4.12)*
CON	1.469	1.196	1.373	1.366
	(1.17)****	(0.33)	(1.07)****	(1.05)****
POL2	-0.12	-0.267	-0.073	-0.076
	(-0.57)	(-1.28)***	(-0.34)	(-0.35)
APTALP	-0.298	-1.002		
	(-2.31)**	(-3.10)*		
APTALPxFP		0.163		
		(2.39)**		
ICAPALP			-0.149	-0.156
			(-1.55)***	(-0.83)
ICAPALPxFP				0.003
				(0.06)
R-Squared	0.531	0.584	0.516	0.511
No. of Observations	51	51	51	51

Note: t-statistics are in parentheses; * indicates significant at the 1% level, ** at the 5% level, and *** at the 10% level, and **** at the 15% level.

18 We substituted the Barro index (1991) for socio-political instability which is essentially a weighted average of the number of coups and assassinations. The results were no different.

19 We chose a seven year period because this is the maximum constitutionally set presidential term that we found among the countries in the sample. We tried another version of POL2 which uses a shorter time period, four instead of seven. We essentially got the same results.

tests are highly significant. Hence, (PD x G), which is highly correlated with G, has a positive sign. Recognizing this, we re-ran four additional regressions without the growth rate variable and with the alternative political instability variable POL2. The results are presented in Table A-4. The coefficients of all the variables are of the expected sign and all the t-tests are significant except for the ICAPALP financial openness index and its corresponding interaction term.

Because of the limited number of observations we could use with the APTALP and ICAPALP indices, we decided to try another index, the (absolute value) of the uncovered interest parity, UIP. We were able to calculate this for several more countries which gave us a larger number of observations—133 as opposed to 54. We ran two regressions with the growth variable and the original index for political instability (POL) and another two regressions without the growth variable and with the alternative political instability index (POL2). In all cases, the signs for the coefficients of UIP and the interaction term were as predicted and the tests significant. In the latter two regressions, the remaining variables had the correct sign and their t-tests were significant.

Finally, we note that in all the regressions, INT has a negative coefficient and the corresponding t-tests are highly significant. We are not sure why this is the case. We would have expected a positive sign. The obvious interpretation is that the sustainability thesis simply does not hold. But then it could be that the variable is simply capturing the effect of an increased interest burden. If it is the latter then a possible solution would be to use the primary deficit (% of GDP) as the dependent variable. Data limitations precluded us from pursuing this line of inquiry.

Table A-4. Dependent Variable: Deficits as Percent of GDP

	(1)	*(2)*	*(3)*	*(4)*
Constant	-5.145	-4.612	-5.435	-5.435
	(-1.85)**	(-1.71)**	(-1.89)**	(-1.89)**
INT	-0.008	-0.007	-0.008	-0.009
	(-5.27)*	(-4.76)*	(-5.47)*	(-5.47)*
CON	1.732	1.599	1.607	1.607
	(1.43)***	(1.37)***	(1.28)***	(1.28)***
POL2	-0.141	-0.282	-0.09	-0.092
	(-0.68)	(-1.34)***	(-0.42)	(-0.42)
APTALP	-0.286	-0.917		
	(-2.06)**	(-2.88)*		
APTALPxFP		0.148		
		(2.18)**		
ICAPALP			0.0004	-0.143
			(-0.009)	(-0.81)
ICAPALPxFP				0.003
				0
R-Squared	0.524	0.568	0.505	(-0.01)
No. of Observations	51	51	51	51

Note: t-statistics are in parentheses; * indicates significant at the 1% level, ** at the 5% level, and *** at the 10% level, and **** at the 15% level.

Concluding Comments

The results of our empirical analysis need to be interpreted with caution. As we have mentioned several times, because of problems with getting data, we worked with a small number of countries and observations. A larger sample size may conceivably reverse our findings. However we note that in practically all our regressions (including those which we did not present or discuss) the coefficients of the financial openness indices (all three) all had the same sign, negative, which is consistent with our expectations. Given the data problems, the t-tests may not be all that informative. But the robustness of the signs suggests to us that our hypotheses about financial openness and the press should not be easily dismissed and that further work on this issue should be encouraged.

This Annex makes preliminary inroads in investigating the potential role open financial markets and a free press can play in instilling fiscal discipline. More work needs to be done to confirm its findings. First of all, a structural (theoretical) model that links openness with other macro variables including the deficit needs to be developed. This way an empirically testable model based on a coherent theory can be constructed. If this is not possible then the next best approach is to construct an ad hoc empirical model which incorporates various versions of the openness indices and control variables (or their equivalents) which have so far been used in the literature. In either case, additional data on the indicators for financial openness has to be collected to incorporate more countries, create a longer time series, and thus have a much large number of observations. This can easily be done for the first index, UIP, but considerably more work will be required for the other two indices. The freedom of the press index needs to be refined since the Gastil index is an indicator of a composite of freedoms. Extending the time series on political instability that Bienen and van de Walle (1991) have gathered to the 1990s will probably provide better information since the period beginning the late eighties witnessed considerably more activity on financial liberalization in developing countries.[20] Indices for budgetary institutions may in fact be important and so also need to be developed.[21] And finally, the dependent variable, fiscal deficits (as % of GDP) has to include non-central government expenditures and preferably should reflect only the non-interest component. All these point to the need for further, more extensive research.

20 For most countries, the time series ends in 1985.

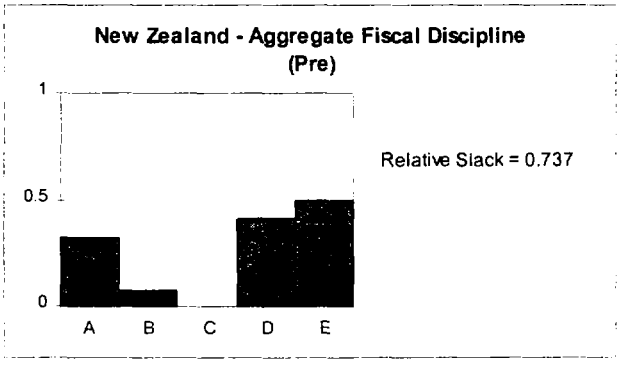
21 Part of the difficulty with any index of budgetary institutions is that it is difficult to construct one for the past. These indices, including that currently being developed by Campos and Pradhan (1995), are based on questionnaires which experts are asked to answer. Recalling the past creates difficulties for the experts and thus problems for the index.

Annex B

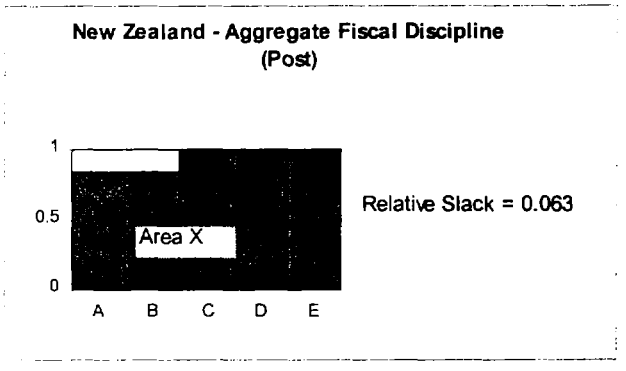
Results of Unweighted Indices

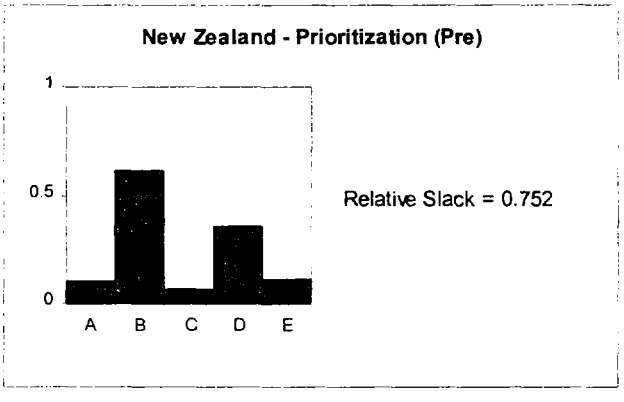
Figure B-1. New Zealand

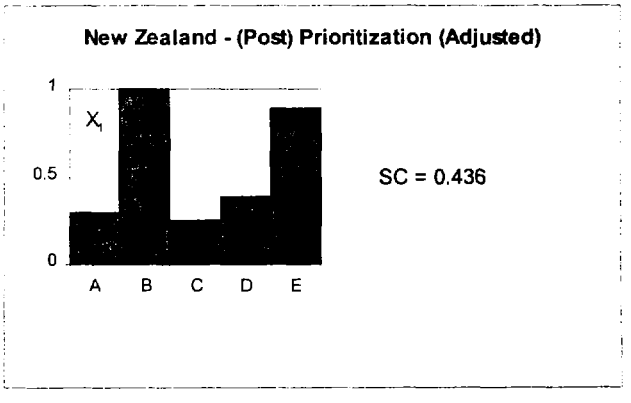
B-1a.

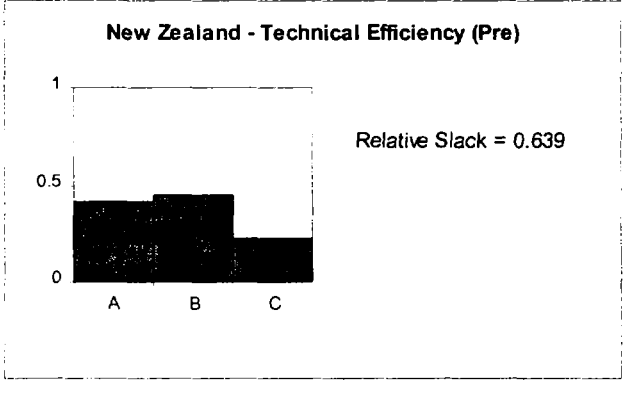


B-1b.









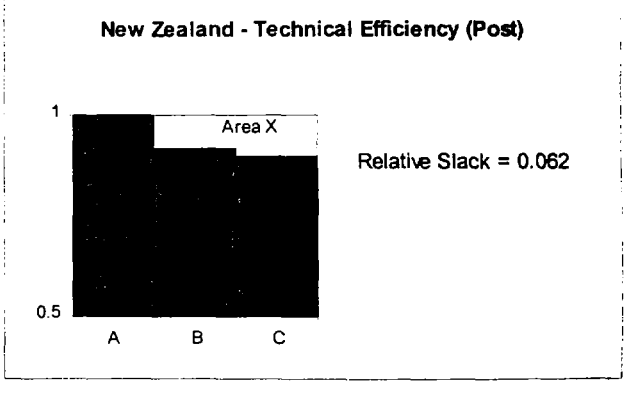


Figure B-2. Australia

B-2a. B-2b.

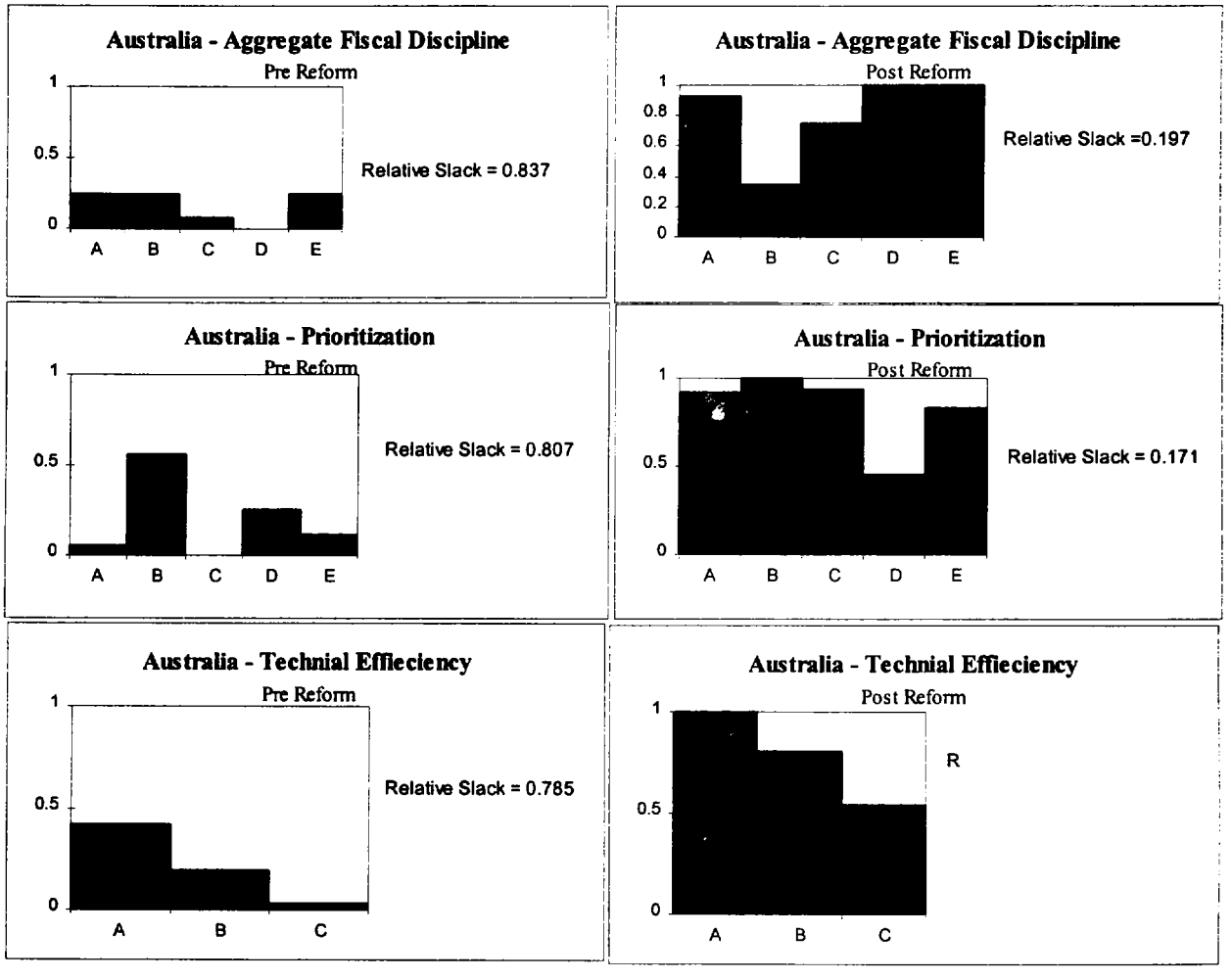


Figure B-3. Thailand

B-3a. B-3b.

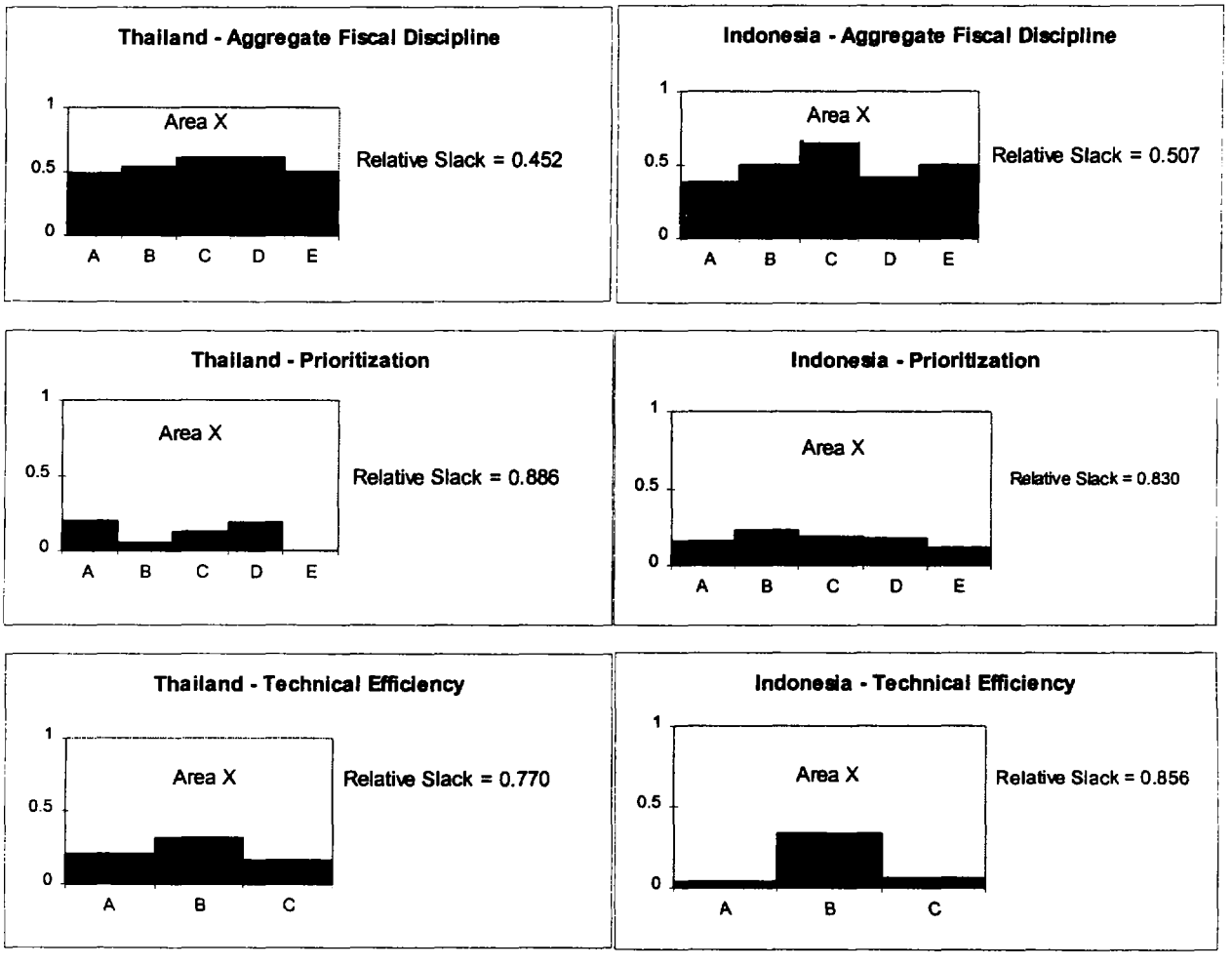


Figure B-4. Africa

B-4a. B-4b.

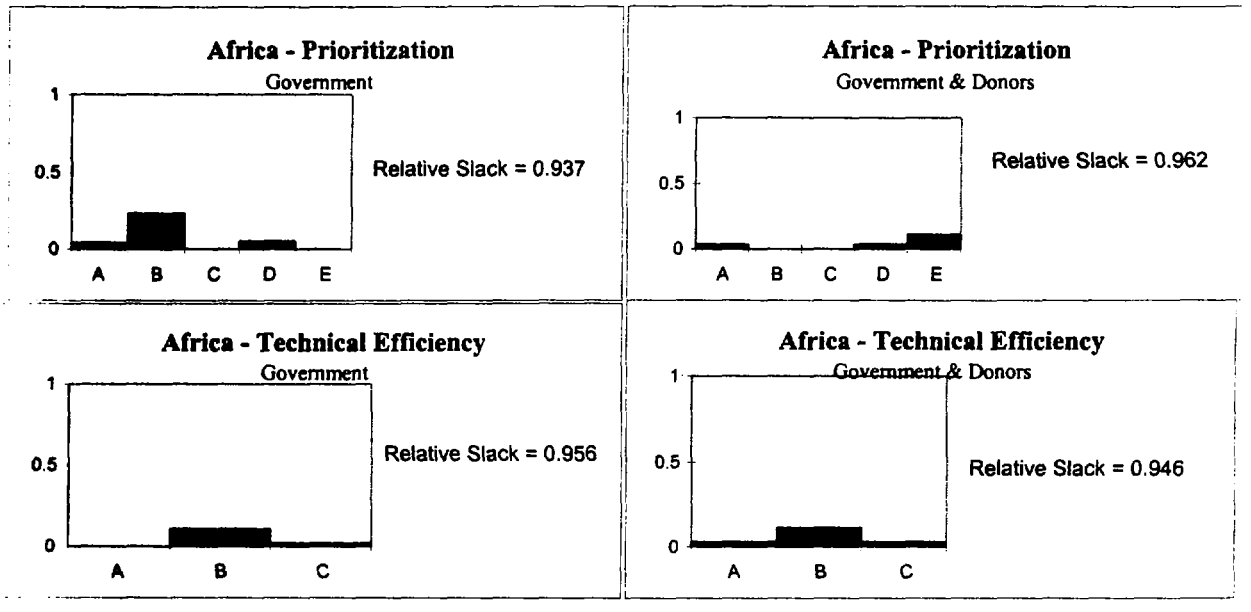
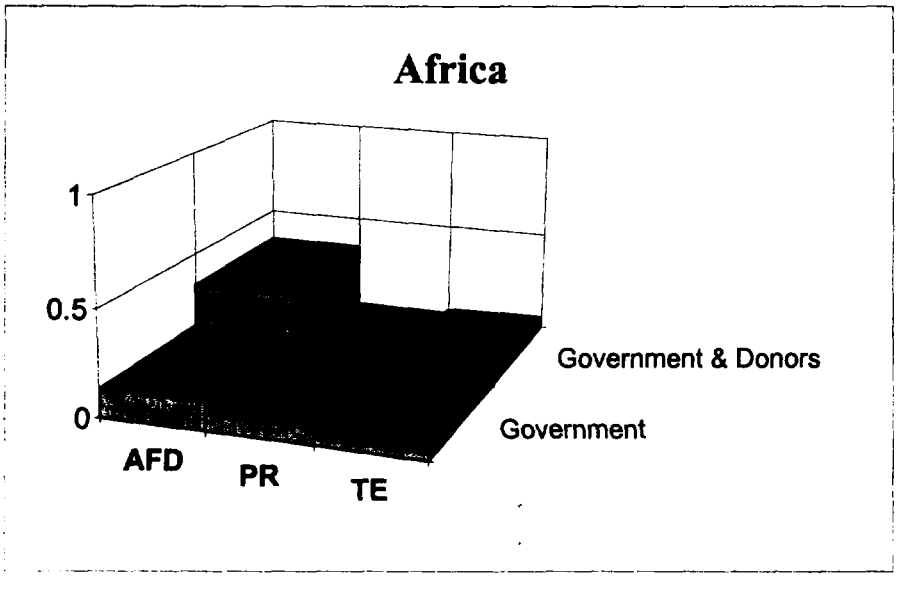


Figure B-5. Africa



Annex C

Institutional Arrangements and Their Index Parameters

Institutional arrangements		*Accountability*		*Transparency*	
I. Aggregate fiscal discipline					
A. Existence of macro framework		Ex-post reconciliation aggregate of actual vs. ex -ante spending/ deficit		Results are	
No	0	No	0	Not Published	0
Yes		Yes	1	Published	0.5
Non Consistent				Published and made public	1
Annual	.1				
Med. Term	.3				
Consistent					
Annual	0.5				
Med. Term	1				
B. Dominance of central ministries					
(% deviation between total spending as proposed by the central ministries vs. approved)		Are ministers of finance and/or planning under a performance contract?		Results are	
>20% Low	0	No	0	Not published	0
11-20% Med	0.5	Yes with		Published	0.5
0-10% High	1	Weak sanctions	0.5	Published and made public	1
		Strong sanctions	1		
C. Formal constraint on spending and borrowing		Ex-post reconciliation of actuals		Results are	
No	0	vs. targets		Not published	0
Implicit	0.5	None	0	Published	0.5
Explicit	1	Yes	0.5	Published and made public	1
		Yes w/ sanctions	1		
D. Hard budget constraints on line ministries and local gov'ts		Ex-post reconciliation of over expenditures		Results are	
No	0	None	0	Not published	0
Yes	1	Yes		Published	0.5
		W/o Sanctions	0.5	Published and made public	1
		W/ Sanctions	1		
E. Comprehensiveness of budget					
1. Are local gov't expenditures included in the budget?					
No	0				
Yes	1				
2. Is financial support for public enterprises					
No	0				
Yes	1				

Institutional arrangements		*Accountability*		*Transparency*	
3. Extra Budgetary Funds					
(as a % of total expenditures)					
Low (less than 5%)	0				
Medium (6% - 15%)	0.5				
High (greater than 15%)	1				
II. Prioritization of expenditure composition					
A. Allocations linked to strategic outcomes					
1. Is there a process for articulation of strategic outcomes?		Are outcomes reported?		Results are	
No	0	No	0	Not published	0
National Plan	0.2	Yes	1	Published	.33
Intermediate Outcomes	0.6			Published and made public	.67
Program Level Outcomes	1			Made public and comprehensible	1
		Are there ex-post evaluations?		Results are	
		No	0	Not published	0
		Yes	0.5	Published	.33
		Yes with sanctions	1	Published and made public	.67
				Made public and comprehensible	1
2. What is the expenditure planning horizon?		Correlation of forward estimates w/budget allocations?*		Results are	
Less than a year	0	Low (<20%)	0	Not published	0
One year	0.5	Med (21-75%)	0.5	Published	0.5
Medium term (3 -5 years)	1	Hi (>75%)	1	Published and made public	1
		Is there ex-post reconciliation of forward estimates with annual budget bids?		Results are	
		No	0	Not published	0
		Yes	1	Published	0.5
				Published and made public	1

*(*Forward estimates refer to medium term projections of expenditure allocations by each line agency across their own respective program projects)*

3. Discussion of competing priorities		Is there an aggregate hard budget constraint?			
a. Are competing priorities identified?					
No	0	No	0		
Yes	1	Yes	1		
b. Is there cabinet review of competing priorities		Are outcomes reported?		Results are	
None	0	No	0	Not published	0
Limited	0.5	Yes	1	Published	0.5
Extensive	1			Published and made public	1

Institutional arrangements		*Accountability*		*Transparency*	
B. Existence of consultation mechanisms					
1. With Parliament		Does Parliament have and adequate technical support staff?			
No	0	No	0		
Yes	1	Yes	1		
		Are actual allocations reconciled with those as approved by parliament?			
		No	0		
		Yes	1		
2. Broader consultations with civil society		Are actual allocations reconciled with those discussed in consultation?		Results are	
No	0	No	0	Not published	0
Limited	0.5	Yes	1	Published	.33
Yes	1			Published and made public	.67
				Made public and comprehensible	1
3. Are there opinion surveys?		Are actual allocations reconciled with those discussed in consultation?		Results are	
No	0	No	0	Not published	0
Yes		Yes	1	Published	.33
Irregular	0.5			Published and made public	.67
Regular	1			Made public and comprehensible	1
C. Flexibility of line ministries		Is there a hard budget constraint on line ministries?			
		No	0		
		Yes	1		
1. What % of expenditures do line agencies have control over?		Are outcomes reported?			
Low (0-10%)	0	No	0		
Med (11-50%)	0.5	Yes	1		
High (>50%)	1				
		Are there ex-post evaluations?			
		No	0		
		Yes	1		
2. Identification of new spending and cutbacks on existing programs		Are outcomes reported?			
No	0	No	0		
Yes	1	Yes	1		
		Are there ex-post evaluations?			
		No	0		
		Yes	1		

Institutional arrangements		*Accountability*		*Transparency*	
D. Comprehensiveness of budget					
1. Are the recurrent expenditures and capital budgets		Are actual expenditures on O & M reconciled with estimates based on existing capital stock & new investment		Results are	
Segmented	0	No	0	Not published	0
Integrated	1	Yes	1	Published	0.5
				Published and made public	1
2. Are there extrabudgetary funds?		What % of total expenditures?		Information is	
Yes	0	>15% High	0	Not published	0
No	1	6-15% Med	0.33	Published	0.5
		1-5% Low	0.67	Published and made public	1
		0% none	1		
3. What is the extent of earmarking?					
(as % of expenditures)					
High (greater than 20%)	0				
Med (6% - 20%)	0.5				
Low (less than 5%)	1				
E. Allocations based on economic analysis					
Are there systematic and objective criteria used in evaluating competing priorities?	0			Information is	
(% of total expenditures)				Not published	0
0-5%	0			Published	0.5
6-10%	0.25			Published and made public	1
10 -15%	0.5				
16-25%	0.75				
>25%	1				
III. Technical Efficiency					
A. Civil service compensation					
(% differential between private and public sector)					
1. Senior Management		Performance based recruitment and promotion		Compensation	
<40%	1	No	0	Not published	0
41-70% Med	0.5	Yes		Published	0.5
>70% High	0	Some Agencies	0.5	Published and made public	1
		All Agencies	1	Recruitment and promotion	
				Not published	0
				Published	0.5
				Published and made public	1
2. Entry level professional		Performance based recruitment and promotion		Compensation	
<40%	1	No	0	Not published	0

Institutional arrangements		*Accountability*		*Transparency*			
41-70% Med	0.5	Yes		Published	0.5		
>70% High	0	Some Agencies	0.5	Published and made public	1		
		All Agencies	1	Recruitment and promotion			
				Not published	0		
				Published	0.5		
				Published and made public	1		
B. Relative autonomy of line agencies							
1. What % of expenditures do line agencies have control over?							
Low (0-10%)	0						
Med (11-50%)	0.5						
High (>50%)	1						
2. Does the head of an agency have the authority to hire and fire?		Performance based recruitment and promotion		Oversight by Civil Service Commission			
No	0	No	0	No	0		
Yes	1	Yes		Yes	1		
		Internal competition	0				
		External competition	1				
3. Predictability of expenditure allocations to line ministries							
A. Within annual budget							
(% of allocated expenditures line agencies can be certain of getting)							
Low (>50%)	0						
Med(10-49%)	0.5						
Hi (<10%)	1						
B. Over medium term							
(% difference b/w forward estimates and actual budget allocations)							
Low (>50%)	0						
Med (10-49%)	0.5						
Hi (<10%)	1						
C. Accountability							
1. Tenure of agency head		Recruitment and promotion based on performance		Degree of open competition			
Permanent	0	No	0	None	0		
Temporary	1	Yes	1	Internal (w/in gov't)	0.5		
				External*	1		
				(Open to the public)*			
2. Are there financial accounts				Published?		Made public?	
No	0			No	0	No	0.5
Yes	1			If so, with what lag?		Yes	1
				>2 yrs	0.1		
				1-2 yrs	0.3		
				3 mos.- 1 yr	0.8		
				< 3 mos	1		

Institutional arrangements		*Accountability*		*Transparency*			
3. Are financial audits undertaken?				Published?		Made public?	
No	0			No	0	No	0.5
Yes	1			If so, with what lag?		Yes	1
				>2 yrs	0.1		
				1-2 yrs	0.3		
				3 mos.- 1 yr	0.8		
				< 3 mos	1		
4. Are performance audits undertaken?				Published?		Made public?	
No	0			No	0	No	0.5
Yes	1			If so, with what lag?		Yes	1
			0	>2 yrs	0.1		
				1-2 yrs	0.3		
			0.1	3 mos.- 1 yr	0.8		
			0.4	< 3 mos	1		
5. Do line agencies undertake client surveys			1	Published?		Made public?	
No	0		1	No	0	No	0.5
Yes				If so, with what lag?		Yes	1
Irregular	0.5			>2 yrs	0.1		
Regular	1			1-2 yrs	0.3		
				3 mos.- 1 yr	0.8		
				< 3 mos	1		
6. Are outputs of line agencies explicitly defined?							
(for what % of agencies)							
Lo (less than 10%)	0						
Med (11% - 50%)	0.5						
High (greater than 50%)	1						
7. Are there rules for procurement?							
No	0	Auditing (% of procurement)		Open bidding (% procurement.)			
Yes	1	None	0	No	0		
		Systematic		0-10% Low	0.1		
		0-10% Low	0.1	11-50% Med	0.4		
		11-50% Med	0.4	>50% High	1		
		>50% High	1				
		Random	1				

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