Part II  Management in Development

4  The search for efficiency

Part I of this Report has highlighted the economic difficulties facing most developing countries, lending urgency to efforts to improve their performance. Part II concentrates on the measures needed to produce such an improvement.

Over the past two decades, governments in most developing countries have played an activist role in development, building infrastructure and often engaging directly in productive activities. Their policies have also been critical in determining the environment in which the private sector operates. Much of this activism has produced encouraging progress: over twenty years, developing countries have on average achieved growth rates that had not been managed before, either by the developing countries or by today's developed market economies at a similar stage of their development. In relation to expectations and potential, however, progress in many countries has been unsatisfactory.

To bring performance into line with potential, governments must play a central role in ensuring:
- A stable macroeconomic environment, by adopting sustainable monetary, fiscal, and foreign exchange policies
- A system of incentives that encourages resources to be allocated efficiently and used optimally
- A pattern of growth whereby benefits are widely shared.

Since the world is beset with uncertainty, governments need the flexibility to respond to unforeseen events and to resolve the inevitable conflicts between competing interest groups.

After the experience of the past ten years, the importance of macroeconomic management needs no underlining. In a hostile world environment of modest growth, high interest rates, and fluctuating exchange rates, the macroeconomic policies of developing countries will continue to be critical in ensuring price stability, balance of payments equilibrium, and conditions conducive to growth. While recognizing the importance of shorter-term macroeconomic policies, Part II of this Report is chiefly concerned with management for long-term development.

Faced with widespread poverty and slow economic growth, governments are naturally keener than ever to promote development. But their progress is constrained by weak institutions and management. These constraints vary greatly among countries, and their capacity to deal with them reflects differences in population, incomes, natural resources, and political systems. In many countries, however, managerial weaknesses are explained in part by the shortage of experienced and well-trained people. While this bottleneck will ease as education spending yields dividends, the immediate need is to use existing resources, including managerial skills, more effectively and economically.

Although managerial capacity places an overall limit on a country’s development, it is far from homogeneous. The skills needed to frame macroeconomic policy differ from those needed to run a productive enterprise; and large organizations place greater demands on management than do small ones. Governments tend to be involved in the management of big organizations, such as running state farms and marketing boards, rather than relying on peasant farmers, small traders, and individual truckers. And the mistakes that big organizations make have more serious consequences.

The main criterion for judging economic management is "efficiency"—a concept that has meaning only in the context of an agreed set of objectives. This chapter first clarifies the concept, then illustrates the potential long-term gains from increasing efficiency, and provides an analytical framework for Part II of this Report.

The analysis of efficiency

The search for efficiency is not merely a matter of finding technically optimal solutions; it is also a
political process. Governments seeking change have to start with existing institutions that have their own historical inertia and underlying political interests. The process of reform therefore involves negotiation and compromise, accepting "second-best solutions" that are politically feasible. This Report recognizes that individual countries attach different weights to particular political and economic objectives, and so draws from the experience of countries with a wide range of political and economic systems.

In every country efficiency has two distinct but related aspects that are critical to economic performance: efficient resource allocation—through prices, markets, and administrative interventions (discussed in Chapters 6 and 7); and operational efficiency—to maximize the use of labor and capital through the sound management of enterprises, projects, and programs in both the public and private sectors (discussed in Chapters 8, 9, and 10).

These in turn contain both static and dynamic dimensions. In static terms, efficiency may be defined as maximizing the present value of output from a given level of inputs. Alternatively, when the goal is to achieve a particular social objective (such as malaria eradication) or to provide a specific service (for example, a telephone link), efficiency may be defined as cost minimization. Either way, a key factor determining efficiency is the

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Box 4.1 The concept of efficient pricing

An economy is considered production efficient if the supply of any good (or service) cannot be increased without reducing the supply of some other good. One important way in which economies can make goods available is by exporting some goods in exchange for others; thus production efficiency also implies that a country has made best use of its foreign trade possibilities. If a country cannot affect prices in the rest of the world (a reasonable assumption for most developing countries), its foreign trade possibilities are defined by the relative border prices of exports and imports.

This definition in turn helps determine opportunity costs. The opportunity cost of any good or service is the value of forgone alternatives. If the alternative to using a good were to export it, for example, the opportunity cost would be measured by the border price of the good and the resulting foreign exchange that could have been used to purchase some other import or to replace some other export. The scarcity value measures what the good is worth to the economy—calculated, for example, by the value of the extra exports the good enables to be produced. If the economy is producing efficiently, scarcity values must be equal to opportunity costs, and their common value is the efficiency price—which, for imports and exports, will then be identical to the border price. For nontraded goods, efficiency prices can be measured by the opportunity cost of their production when the alternative would be to produce traded goods, or by their scarcity value in displacing traded goods.

An economy is efficient, as opposed to just production efficient, if it is impossible to make anyone better off without making someone else worse off. In addition to producing efficiently, the final consumers must have exhausted all possibilities of mutually beneficial exchange. This in turn requires that they all face the same market prices, and that these are equal to efficiency prices. However, an economy may be efficient and yet produce a distribution of income and wealth that is deemed unacceptable. The government may then impose taxes and subsidies, or intervene in other ways to improve the distribution of income and wealth. Such intervention may make consumer prices deviate significantly from efficiency prices. But by preserving production efficiency, the largest possible quantity of goods and services will be made available for distribution among consumers. Hence the concepts of production efficiency and efficiency prices remain important for producer prices (for example, before indirect taxes are added) even when market prices (consumer prices) are distorted.

Shadow prices, also known as accounting prices, are the same as efficiency prices if society is concerned exclusively with efficiency in the sense here defined. Typically, however, societies are interested in other objectives—a more equitable distribution of income, for example—as well as efficiency. In this event, shadow prices are measures of social costs and benefits that reflect concern with these other objectives.

The case for removing distortions and moving market prices closer to efficiency prices rests on the argument that prices influence production decisions, and the reform will increase production efficiency. Since choices between alternatives depend on relative prices, it may not be enough to eliminate a few distortions, since this could move relative market prices even further from relative efficiency prices. In some cases, however, it may not be desirable to eliminate distortions (such as carefully targeted food subsidies or indirect taxes), since this will prejudice other social objectives; but in many cases these social objectives are best served by other instruments or by more carefully chosen taxes and subsidies. Thus, it is often possible to confront producers with efficiency prices while keeping indirect taxes and subsidies for distributive purposes. From a policymaker's viewpoint, the appropriate prices are those that best achieve these broader social objectives. Choosing appropriate prices is therefore equivalent to choosing the best set of taxes and subsidies, a choice central to the design of public policy.
pricing of inputs and outputs to reflect relative scarcities. Prices of goods that deviate significantly from their scarcity value (or "opportunity cost") may be regarded as "distorted" (see Box 4.1).

Efficiency must also be viewed in a dynamic context. The process of capital accumulation allows new technology to be incorporated into the economy, which implies both discarding obsolete plant and retraining staff. Efficiency therefore requires capital and labor to be priced according to their marginal productivities at international prices. In other words, labor costs per unit of output must be kept internationally competitive and interest rates should reflect the cost of foreign borrowing. If this is done, countries will invest and expand in ways that reflect the relative scarcity of capital and labor—avoiding, for example, capital-intensive production methods if they have abundant manpower.

It is precisely this dynamic element that lends so much importance to sound macroeconomic management. Efficient financial institutions are vital for mobilizing savings for investment, while smoothly operating financial markets ensure that money goes to investments yielding the highest returns. Yet both these tasks will be undermined if macroeconomic policy attempts to keep interest rates negative in real terms.

This view of efficiency is consistent with government goals for alleviating poverty and meeting basic needs. The ability of a government to tackle poverty is much enhanced when economic growth is rapid, while many initiatives to boost efficient production—such as reducing capital subsidies or keeping producer prices up to international levels—also directly affect the welfare of the poor by creating jobs and raising farm incomes. There will, of course, be occasions when the goals of efficiency and distribution conflict and will have to be traded off. There is, however, usually more than one way to achieve distributional objectives. The effect of different options on both efficiency and distribution should be carefully evaluated so that the desired objectives can be achieved at the lowest possible cost.

The potential for greater efficiency

During the past two decades, developing countries have invested heavily to expand their agriculture and industry, build their infrastructure, and provide essential services. Their investment rate rose from about 20 percent of GDP in 1960 to about 26 percent in 1980, compared with the 23 percent average for industrial market economies in 1980. Although this rise in investment was partly financed by foreign capital, it was chiefly made possible by higher domestic savings rates. Despite increased investment, however, the annual growth rate of GDP in developing countries has remained at about 5 percent, indicating that GDP growth per unit of investment has declined by nearly a quarter between the 1960s and the 1970s (see Figure 4.1). This decline in the aggregate return on investment in the 1970s—a rough index of the trend in the total productivity of the economy—had many causes: the recession in world trade, oil price shocks, strains in the financial system, lower returns on capital locked in aging industry, ineffective macroeconomic policies that postponed rather than promoted adjustments, and more capital-intensive investment—all have played a part.

The declining returns to investment, combined with rising real interest rates, were an important factor behind increasing debt servicing difficulties in 1980–83. In sixteen countries of twenty-two requiring debt rescheduling during 1982–83 (see Box 2.2), the rate of return on investment had declined below 20 percent in the late 1970s and early 1980s. The decline in the return on investment has been even more marked in the industrialized countries, and many of the efficiency issues discussed in this
Report are relevant in developed as well as developing countries.

The implications of this lower productivity are profound, given the conclusion reached in Chapter 3 that foreign lending to developing countries is likely to slow down in the 1980s. For developing countries even to maintain the growth rates of the 1970s, they will either have to boost their own saving—at great sacrifice to consumption—or they will have to maintain the present investment rate but make better use of resources. Certainly, a recovery in the world economy alone will improve productivity; but with good management the gains can be much greater, particularly in the following areas.

Macroeconomic policies

In many developing countries, ineffective exchange rate and monetary and fiscal policies and excessive borrowing during the 1970s resulted in inflation and unsustainable balance of payments positions. This led unavoidably to significant retrenchment, with adverse effects on both the rate of investment and its productivity. Abrupt policy changes introduce uncertainty, which dampens overall investment rates, while controls on interest rates have resulted in savings being channeled to less productive uses.

Distorted incentives

Several studies have shown that output losses due to inappropriate trade policies alone could have reduced GDP in some developing countries by up to 10 percent. As reported in Chapter 6, Bank cross-country analysis for the 1970s confirms the findings of the 1960s that price distortions slowed GDP growth in developing countries. During the 1970s the growth rate of countries with highly distorted prices was as much as 2 percent less than the average for developing countries.

Low-yielding investments

Losses from the misallocation of resources as a consequence of poor investment analysis can also be enormous. In the mid-1970s a series of unviable investments by Indonesia's national oil company, Pertamina, costing over $10 billion, cast a shadow over the country's creditworthiness later in the decade. In the Ivory Coast the rate of return on $8 billion of public investment undertaken in 1976–80 was approximately 40 percent lower than in 1970–75. This deterioration—which was partly due to heavy investment in six large sugar complexes, with production costs that were three times the world market price—led the government to greatly strengthen its project appraisal procedures. Industrial economies have also made costly mistakes—witness the Anglo-French Concorde, where the only two airlines that bought the aircraft have difficulty covering even their operating costs, and none of the development costs (several billion dollars) will be recouped.

Investment delays

Since governments are under constant pressure to start new projects, they frequently adopt an investment program that exceeds their financial and managerial capacity. They then stretch projects out over longer periods than initially intended, with a consequent loss of output. For a sample of countries, the World Bank has estimated that, assuming an opportunity cost of capital of 10 percent, the cost of a two-year delay in the implementation of a project—a common occurrence—would amount to 20 percent of the cost of investment. In practice, some delays are due to overoptimistic scheduling and unforeseeable contingencies and some to justified postponement owing to changed circumstances. But there is undoubtedly considerable scope for shortening the costly gestation period for investments through better project planning and execution. Embarking on fewer projects would also help.

Low capacity utilization

In industrial market economies, fluctuating demand and technical obsolescence are the main causes of excess capacity. In developing countries, unreliable infrastructure and market distortions—especially underpricing of capital and shortages of materials and skilled staff—often figure more prominently. Underused capacity is costly, in terms of forgone output and the ripple effect on the rest of the economy. For example, if in 1981 the Indian fertilizer industry had operated at 85 percent of rated capacity instead of 67 percent, India would have saved some $400 million of foreign exchange spent on importing fertilizers. Irrigation also provides a good illustration of the potential for efficiency gains (see Box 4.2), as does transport. The Republic of Korea, for example, increased the efficiency of its rail freight (as measured by the ton-
In several West African countries roads have had to be rebuilt at costs 20 to 40 percent higher than necessary had they been properly maintained earlier. For tarred roads, rehabilitation or reconstruction costs $125,000 to $200,000 per kilometer, four to eight times what it would have cost had roads been maintained and strengthened as weaknesses arose. In a recent survey of twelve developing countries, more than 25 percent of the tarred road network in eight of them required rehabilitation, strengthening, or rescaling. To prevent further deterioration, maintenance budgets need to be increased by at least 25 percent in three-quarters of the countries for which recent studies are available; in more than half, the required increase exceeds 75 percent. But more money is not the only answer. Maintenance costs could be significantly reduced by improved efficiency. For example, use of plant and equipment is often extremely low, sometimes only a quarter or a third of the rates achieved by the best maintenance organizations. Of a sample of seventeen countries, ten had utilization rates of 35 percent or less. Only three countries—the Dominican Republic, Malawi, and Niger—had rates of 50 percent or more. In 1981, Malawi was the only country to reach a 75 percent utilization rate, a reasonable target for all countries. The lack of spare parts and fuel is often to blame for poor plant utilization. In addition, maintenance costs are frequently inflated by serious overstaffing.

And foreign aid donors have sometimes undermined efficiency by:

- Making finance for new equipment readily available, but leaving it to the country to buy spare parts
- Promoting an uneconomic proliferation of different makes and models of equipment through tied aid or other procurement regulations
- Supporting capital projects that divert the country’s own resources from more urgent maintenance work.

When road authorities are not able to afford maintenance work, the costs passed on to road users are larger than the “savings” in public expenditure. Over the life of a road, the total operating costs of vehicles are typically four to ten times the costs of road construction and maintenance. Since operating costs may easily double on poorly maintained roads, the economic loss is considerable. Moreover, in most countries the extra costs chiefly involve spending foreign exchange on spare parts, fuel, and replacing vehicles.
in Brazil it is estimated that a significant proportion of the federal highway network built in the past ten years already needs major rehabilitation, while in Nigeria most of the roads built in the 1970s had to be rebuilt three to five years later. The poor state of the US interstate highway system is partly attributable to underfunding of maintenance work.

The framework for improving efficiency

Although both policy and institutional aspects of efficiency are interwoven, for the purposes of analysis it is useful to distinguish between them. In both, however, the state plays a pivotal role: it is government that determines the policy environment in which enterprises and farmers must operate; government that provides the social and physical infrastructure that underpins productive activities; and government that frequently contributes to production through state-owned enterprises.

In many countries the expansion of the public sector has stretched its managerial capacity to the point where serious inefficiencies result. Chapter 5 examines the role of the state, indicating a need to reassess priorities, prune what has become unmanageable, and strengthen the effectiveness of the state’s core responsibilities. Less reliance on controls and more on incentives to achieve social and economic objectives would also reduce the administrative burden on the public sector. When governments have tried to control too much economic activity, efficiency has been impaired—usually because key prices (such as exchange rates, interest rates, and energy prices) have been distorted. Chapter 6 details the potential gains to be derived from reducing price distortions.

The virtues of microeconomic efficiency can be magnified or undermined by the choice of macroeconomic policies. Successful macromanagement requires a strong capacity for policy analysis, backed by mechanisms to translate policies into actions and a reliable monitoring and evaluation system. These important linkages are frequently lacking in developing countries—issues which are taken up in Chapter 7.

The state’s role as a producer is considered in Chapters 8 and 9, the former focusing on state-owned enterprises and the latter on the design and execution of government projects and programs. These chapters pinpoint the important causes of inefficiency that project and enterprise managers cannot themselves resolve, even within a framework of sound economic and budgetary policies. Country-wide skill shortages, poor personnel management, and weak administrative structures and procedures all constrain the initiatives that can be taken by the individual agency or enterprise. Chapters 10 and 11 consider these systemic issues associated with managing public bureaucracies.