

Findings



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Monitoring Structural Adjustment at the Microeconomic Level

Achieving higher impact on the ground is a central focus of the World Bank's assistance strategy. This will require a closer examination of adjustment programs with a view to identifying measures that facilitate adjustment and those that delay or render it more difficult. Central to this identification is the timely feedback of high-quality macroeconomic and microeconomic data. Moreover, in order to know when and how to assist governments in making course corrections to reform programs when things go wrong or do not work as expected, the program needs to be monitored, with data being collected as the reforms unfold.

This paper describes a methodology for collecting information to monitor reform programs at the microeconomic level. Since narrowing the focus makes the explanation of this methodology more tractable the paper restricts its attention to the industrial sector. A more comprehensive monitoring of adjustment would include other economic sectors, as well as social indicators, such as poverty alleviation. A rather standard reform package is also assumed, one that has been implemented in several African countries. Additionally, since adjustments to changes in incentives take time and may proceed at different rates at different points of time, the monitoring exercise is designed to collect data over a sufficiently long period of time to capture the continuing process of adjustment. The details of what might be done in the first three years of such an exercise are examined here.

The Structural Adjustment Program

In highly-regulated African economies, even casual observation indicates that the prevailing restrictions and distorted price incentives make manufacturing firms less productive. Firms are technically inefficient because high protection allows them to use outmoded technology and operate it badly. Firms are scale inefficient because trade barriers in small markets permit them to operate at too small a scale. Firms are allocatively inefficient because price distortions create incentives which drive a wedge between marginal products of inputs and factor costs. In addition, trade policies, like quantitative restrictions that result in exceedingly large rents, induce

entrepreneurs to spend their efforts appropriating rents rather than engaging in socially productive activities. The first aim of a structural adjustment program is to induce a new long-run equilibrium in which existing resources and investments are better allocated and more efficiently used. The second aim is to induce higher overall rates of savings and investment, and higher learning rates in firms to put the economy on a higher growth trajectory.

The assumption of the monitoring methodology outlined here is that the reform program will go about achieving these aims by: (a) introducing better macroeconomic management and reforming macro price distortions; (b) by reducing government intervention in the economy; and (c) by increasing the role of market forces and private enterprises.

At the microeconomic level, the expected effects of the reforms are: (a) that production incentives will become much more neutral between domestic and foreign markets and between consumer, intermediate, and capital goods; (b) that the incentive structure will become more stable in that it is no longer subject to erratic changes. Less uncertainty over time will enhance planning for investment and resource allocation will be made more efficient; (c) that reducing foreign exchange and trade restrictions will facilitate more efficient and less costly inventory management; (d) that factor mobility will be enhanced, allowing more efficient input mixes; and (e) that product market competition will be increased, reducing barriers to entry and imperfect competition.

What should be monitored?

The objectives of the monitoring program should be fourfold. First, the monitoring program should provide information to signal whether or not key objectives of reform and key loan conditions are being implemented. Second, monitoring should evaluate the magnitude, speed and direction of adjustment. Third, the program should provide an assessment of the structural and institutional factors that might be delaying firm adjustment or making it more difficult. Finally, monitoring should also provide insights into what additional reforms or support programs are needed to enhance supply response in cases where adjustment is not having the desired impact. To achieve these objectives, the monitoring program should be designed with the following data collection directives:

- Quantify progress of implementation of reforms and conditionality;
- Quantify how the reforms are affecting the structure of incentives at the firm level — this should include an assessment of changes in regulatory and institutional constraints facing firms;
- Identify the steps that firms are undertaking to adjust to the new system of price incentives, regulations and institutions;
- Quantify the impact of firm responses to adjustment, such as changes in efficiency, growth, and employment;
- Evaluate the perceptions of entrepreneurs and business managers about the credibility of the reforms and the condition of the government-business relationship. Also, it is important to assess future plans for investment, as well as strategic concerns, like competitive conditions and current business problems.

Quantification of incentives on the ground

The monitoring effort should provide evidence on the outcomes of various aspects of reform at the firm level. For example, price comparisons are needed to see how much protection still impacts exporting and import-competing firms as trade liberalization progresses. And, since regulatory constraints raise the real costs of doing business, evidence on the changes in compliance costs due to reforms should be included. Quantification of the progressive changes in incentives and regulatory constraints can be carried out to some degree using the effective protection coefficient (EPC) calculation, together with the effective subsidy coefficient (ESC). The former measures incentives which affect the prices of both inputs and outputs and provides a measure of the degree to which the structure of tariffs and other trade distortions place producers at a comparative disadvantage in world markets. The EPC, when adjusted for prevailing taxes and subsidies, provides the ESC indicator, and thus permits the inclusion of the impact of fiscal measures.

Adding the impact of changes in the regulatory regime facing firms is more complex. Regulatory constraints affect firm costs depending on whether or not they can be avoided or must be complied with. Avoidance and compliance, in turn, depend on the cost of the regulation to firms and the extent to which lower cost alternative courses of action are open to the firm. Among the options available to firms are: (1) compliance with laws and regulations without avoidance; (2) compliance with laws and regulations with some avoidance; (3) influencing discretionary government decisions; and (4) evasion of laws and regulations. Costs may range from direct out-of-pocket expenses to imputed costs that result from tying up resources that otherwise might be put to more productive use. There can also be implicit costs associated with risk and uncertainty.

To illustrate how such costs are estimated, take the example of a firm that fully complies with laws and regulations without avoidance. Some of the *direct* compliance costs might be:

- fees required for registration of the business or for real or personal property;
- port charges and other fees, such as additional customs charges for import or export;
- legal and accounting fees required to understand and comply with laws and regulations;
- direct costs associated with gaining access to foreign exchange;
- labor compensation that must be paid as a result of laws protecting workers.

Once the nature of the cost is understood and the degree of compliance determined, estimation of direct costs is straightforward.

In addition, the firm may also incur substantial imputed costs in its attempts to comply with laws and regulations. The most important of these are the value of managerial and employee time and the cost of capital tied up awaiting government action. The cost of capital may include inventories and other types of capital, fixed plant and equipment, real estate and various forms of human capital. Some of the actions that cause these imputed costs are:

- registering and putting up as collateral personal, real or intellectual property;
- time to execute sales and other contracts;
- time to obtain bank loans;
- time to obtain approvals for investment by foreign companies;
- time in obtaining trade licenses, clearing customs and product standards approvals;
- time in dealing with foreign exchange requirements;

- advance payment of foreign exchange for imports;
- time to obtain approval for access to investment incentives and free trade zones, and time in implementing once access has been approved, including tax holidays, duty drawbacks, exemptions and so on.

Measurement of such transaction costs requires: (1) ascertaining the nature of the costs; (2) estimating the quantity of resources (management and worker time, capital) tied up; and (3) multiplying the quantity-time by the cost of resources (wages, interest rate).

Identification of firm adjustments

The monitoring exercise should collect information on the steps that firms are taking to respond to policy reforms. The questions of major concern for the analysis in this exercise would be, as adjustment proceeds:

- are firms shifting from activities with high domestic resource cost to activities with low domestic resource cost? and
- is efficiency and product quality increasing in existing firms?

First, focusing on resource shifts, the monitoring exercise should seek information on where investment is taking place in the economy. For example, in what sectors are firms entering and growing? How are product mixes of firms changing? Is export production increasing and in what sector? Early signs of adjustment problems should also be included here.

Second, an investigation of changing efficiency would require an examination of the progress of total factor productivity (TFP) in existing enterprises. This would involve collecting some detailed data on firm-level production and cost accounts over the years of the adjustment program. In the first years of adjustment, before any substantial changes in TFP take place, the focus would be on the following areas which will ultimately influence productivity:

- changes in production activity and capacity utilization;
- nature and extent of new investments;
- changes in plant layouts;
- changes in competition in product markets; and
- inventory policy changes.

Also, since technology transfer is crucial to raising productivity, an important piece of information would be an assessment of any changes in the inflow of know-how to firms through such mechanisms as increased direct foreign investment, access to training, access to technical assistance, and improvements in ability to hire foreign experts.

Evaluation of perceptions of business managers and entrepreneurs

The credibility of the reform program is crucial to its success. If entrepreneurs and managers perceive that government is not committed to the reforms, they will hold back on any response to

the new structure of incentives. Consequently, soliciting information from this audience on businesspersons' perceptions and the actions they plan to take in response to the reforms is important. In addition, information should be gathered on entrepreneurs' perceptions about the actual impact of reforms on their operations. The purpose of the questions would be to elicit their ideas about the most favorable and unfavorable effects of the reforms on these businesses.

How should these data be collected?

The data collection instruments used in the monitoring exercise should be firm surveys and a series of flexible, well-targeted case studies. The surveys should be administered to a panel of representative firms, selected randomly, based on a sample-frame drawn from the national enterprise census or from other such sources. The case studies should be conducted using a small, stratified sub-sample of the firm survey.

The survey of representative firms would provide statistically valid data on the range of issues we have outlined above. The case studies should be designed to complement the surveys. Each of these case studies would gather supporting qualitative information, which is generally not feasible to collect in a large survey, on important issues where more detail is needed to develop operational assistance programs.

It is recommended that the monitoring effort should be implemented in at least two phases — the first would run for about three years. In the first year (year 1 of the reform for countries just beginning structural adjustment, or just before the reforms are announced), the major objective of data collection would be to develop a baseline or benchmark by which progress of the adjustment program could be measured. In years 2 and 3, the monitoring exercise would begin to measure the impact of the reform process. For example, indicators of progress, such as year-to-year changes in enterprise growth and sectoral resource shifts might be calculated, as well as other aspects of supply response, like changes in firm-level investment and employment, and changes in exports and domestic sales. Several narrowly-focused case studies should also be carried out in years 2 and 3 looking at problems which might be reducing firms' ability to respond to the new business environment, such as access to finance and problems in acquiring technology.

Following this first phase, two or three years could be skipped in the monitoring program. Thereafter, a survey of the panel enterprises might be resumed every other year or every two years. Case studies on important topics should continue over the years to cover specific aspects of reform progress. In this second phase, several factors should be considered in designing both the survey and the case studies.

- Course corrections in the structural adjustment program may be needed and monitoring of these changes should be incorporated in the study designs.
- New policy reforms may be undertaken as part of a phased set of reforms and these new reforms should be monitored.
- Firm-level interventions may be initiated by government, NGOs, or donors to address constraints to supply response made evident by reforms. It may be useful to evaluate the firm-level impacts of these interventions.

- As a response to policy reform, new sectors of economic activity may spring up. Activity in these new sectors needs to be monitored.

Building local capacity

The panel surveys and case studies should be carried out by joint teams of African researchers Bank staff. One of the objectives of the monitoring exercise should be to assist in building local capacity to carry out such monitoring efforts over time.

An important aspect of the process of institutionalizing the monitoring program locally will be to include stakeholders in the exercise. Joint collaboration between policy makers, business associations, university researchers and the donor would:

- initiate a useful dialogue on policy issues among these groups;
- build capability in each of these local groups to collect and analyze information; and
- create joint institutional ownership of the monitoring program among the stakeholders.

This article is excerpted from : Tyler Biggs and Pradeep Srivastava. 1996. *On Monitoring Structural Adjustment at the Microeconomic Level*. RPED Paper no. 68. World Bank, Washington, D.C. For more information, please contact Melanie Mbuyi, Room J4-169, World Bank, 1818 H Street NW, Washington D.C. 20433. Tel. no. : (202) 473-9574; e-mail address: Mmbuyi@worldbank.org