Latin America
Facing the Challenges of Adjustment and Growth

Volume 3
Structural Adjustment
Rationalizing the Public Sector

Joaõ do Carmo Oliveira, editor

Assisted by:
Caroline Fawsett
Kamlesh Gillespie

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NATIONAL ECONOMIC MANAGEMENT DIVISION
Latin America
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Preface

In July 1990, the National Economic Management Division (EDIEM) of the World Bank's Economic Development Institute conducted a Senior Policy Seminar that examined the issues of adjustment and growth in Latin America. The three day seminar held in Caracas, Venezuela brought policymakers and academicians together to discuss their experiences in Latin America and to compare these experiences with those outside the region. The seminar was directed by Joao do Carmo Oliveira, at that time of the National Economic Management Division (EDIEM) and now in the Bank's South Central and Indian Ocean Department Country Operations Division (AF3CO). The discussion of the seminar revolved around two themes: the consensus on the main causes and consequences of the current Latin American instability and the conditions for achieving stability and equitable growth in the next decade.

The seminar was organized around sixteen papers offered in three modules:

I. A Diagnosis of the Current Situation: Divergency or Consensus?

II. Structural Adjustment and Conditions for Stable Growth

III. Restoring Policy Credibility

The two papers in the first module examined the policy consensus and divergence within the adjustment process and established a policy framework for the seminar's discussion. The ten papers of the second module addressed the topics of macroeconomic balance, public sector rationalization, trade reform, domestic economy deregulation, and the social costs of adjustment. The third module focused on the topics of debt management and investment recovery and financing. Two country cases were presented on each topic: one an insider's analysis of a Latin American country, and the second a successful country experience outside the region.

Aiming at a wider dissemination of the seminar's findings, EDIEM publishes these sixteen papers along with the rapporteur's report as EDI Working Papers. The first series relates to Module I, and reviews the diagnosis of the Latin American economies. The papers included in this section are:

The Rapporteur's Report by Eliana Cardoso.

"Adjustment and Stabilization: Review of Some Latin American Experiences" by Roberto Frenkel, and

"On the Origins and Course of Latin America's Economic Crisis" by John Williamson.
The second module on "Structural Adjustment and Conditions for Stable Growth" covers five topics and is published in sets of two papers as follows:

Restoring Macroeconomic Balance

"The Process of Restoring Macroeconomic Balance in Israel" by Nissan Liviatan

"The Big Bang Approach to Macro Balance in Venezuela: Why so Sudden? Why so Painful" by Ricardo Hausmann

Structural Adjustment: Rationalizing the Public Sector

"Structural Adjustment and Rationalization of the Public Sector in Indonesia, 1983-1988", by Erik Thorbecke

"Rationalizing the Public Sector: the Mexican Experience in 1982-1990" by Guillermo Ortiz and Carlos Noriega

Structural Adjustment: Reforming the Trade Regime

"Spain's Experience of Structural Adjustment: Reforming the Trade Regime" by Angel Torres

"Trade Reforms in Chile: Policy Lessons for the Nineties" by Ricardo Ffrench-Davis and Joaquin Vial

Structural Adjustment: Deregulating the Domestic Economy

"Deregulating the Domestic Economy: Korea's Experience in the 1980s" by Kihwan Kim

"Structural Adjustment: Internal Deregulation of the Bolivian Economy, 1985-89" by Juan L. Cariaga
Mitigating the Social Cost of Structural Adjustment Programs

“Mitigating the Social Costs of Adjustment Programs in Latin America: Issues and Policies” by Roberto Macedo

“Social Policy During Adjustment: the Poor and Beyond” by Vanessa Cartaya and Gustavo Marquez

The last module on “Restoring Policy Credibility” covers two topics and again is published in sets of two papers as follows:

Managing Domestic and External Debt

“Debt Management in Turkey: Any Lessons for Latin America” by Dani Rodrik

“Renegotiating External Debt: An Inside View of the Case of Costa Rica” by Eduardo Lizano and Silvia Charpentier

Investment Recovery and Financing

“Investment Recovery and Financing: Thailand” by Viratongs Ramangkura

“Investment Determinants and Financing in Colombia” by Antonio Ocampo

Peter T. Knight
Chief
National Economic Management Division
Economic Development Institute
Structural Adjustment and Rationalization of the Public Sector in Indonesia, 1983—1988

Erik Thorbecke
Abstract

Following the collapse of world oil prices in 1981, Indonesia introduced major fiscal reforms to reduce its dependence on oil revenues. As implemented in 1987-88, the objective of the government budget program was to cut expenditures, particularly of capital investment. The Indonesian economy, long heralded for its growth rates of seven percent, faced a turning point with the significant decline of world oil prices in the early 1980s. The second oil shock of 1986 forced the government to undertake a series of budget reforms. This paper examines the budget retrenchment program and compares these reform efforts to alternative adjustment policies through simulation analysis.

Expenditures were cut, particularly of capital investment subsidies. Moreover, the composition of capital investment changed from direct production activities to that of infrastructure/production services and human resource development. Agricultural subsidies were cut significantly, but health and education expenditures only declined slightly.

Revenue reform broadened the tax base. Prior to the reform, the sales tax represented 16.4 percent of non-oil revenue; with the reform, it reflected 38 percent. The percentage of increase in tax revenue to the percent increase in non-oil revenues (the tax buoyancy) increased from 0.9 to 2.1 percent between 1984-1987.

To evaluate the effectiveness of these various policy measures, the author constructs a general equilibrium model, incorporating the real and financial sectors into his model. He then simulates alternative adjustment policies and evaluates their outcome vis-a-vis the actual Indonesian experience. The actual budget reforms were estimated as the optional strategy in light of the political constraints. Most notably, these reforms led to positive distributional effects.
1


Erik Thorbecke

Introduction

During the decade of the seventies and until 1982, the growth performance of the Indonesian economy was very good, with GDP growing at 7.2 percent per annum. Oil exports provided the major engine of growth for the entire economy during that period. In addition, within agriculture, growth was fueled by the boom in paddy production that converted Indonesia from the largest rice importing country in the world to virtual self-sufficiency by the mid-eighties. The two oil price booms of 1973, and more particularly 1979, fueled a major expansion of the economy that lasted until the crisis of 1982/83. The predominant role of the oil sector is clearly revealed by the fact that revenue from crude oil and petroleum products accounted for two-thirds of all export earnings, one-fourth of total GNP and 70 percent of government domestic revenues in 1982. Oil prices peaked in 1982 and revenues from this sector started to contract, drastically reducing the basis and prospects for economic growth.

Clearly 1982/83 represented a switching—if not turning point—from a regime of high growth, largely fueled by oil exports, to a new regime of decelerated growth and stabilization of the economy to reduce its vulnerability to external shocks. During the adjustment period (1983-87) the growth rate of GDP fell to 3.6 percent—about half of the rate evidenced in the pre-adjustment period.

Indonesia reacted quickly and forcefully to the drastic reduction in oil prices by implementing a set of stabilization and structural adjustment measures that within a five year period succeeded in restoring both internal and external equilibrium. In particular, the Indonesian government

1. This paper is based on, and draws extensively from, a recent volume by the author: E. Thorbecke, Adjustment, Growth and Income Distribution in Indonesia (prepared for the OECD Development Center, Paris, 1990). The information and statistical data presented in this paper, unless specifically mentioned, originate in the above volume which is available from the author. A variant of this paper is to be published in a Special Issue of World Development devoted to models of the structural adjustment process.
introduced major fiscal reforms to obtain new sources of revenues—as an alternative to the dwindling corporate taxes on oil products—and went through a careful budgetary retrenchment process. Perhaps the most surprising achievement was the reduction of poverty during the adjustment process.

This paper consists of the following sections: i) macroeconomic disequilibrium and the structural adjustment process with emphasis on the rationalization of the public sector; ii) impact of adjustment on socioeconomic performance; and iii) quantitative evaluation of alternative adjustment policies on the basis of a computable general equilibrium model of Indonesia that provides revealing insights into the likely effects on growth and income distribution of alternative counterfactual patterns of government expenditures and budgetary retrenchment measures. The paper ends with a short concluding section.

Macroeconomic Disequilibrium and the Structural Adjustment Program with Emphasis on The Rationalization of the Public Sector

The origin of the macroeconomic disequilibrium that affected the Indonesian economy starting in 1982/83 is clear and direct. First, the worldwide recession of the early 1980s affected the prices and demand for traditional Indonesian exports (mainly agricultural products) adversely. Second, and more dramatically, earnings from oil exports dropped from US $10.6 billion in 1981/82 to US $7.2 billion in 1982/83. The macroeconomic indicator that probably tracked these shocks best was the ratio of the current account balance to GNP which swung from a positive 4 percent in each of the three years preceding 1981/82 to a negative 3.64 percent that year and negative 8.4 percent in 1982/83. The slide in oil prices continued steadily until 1988. Indonesia’s crude export price reached a peak of $34 per barrel in 1981/82 falling to $25 per barrel in 1985/86 and collapsing in 1986/87, with the average price dropping to below $13 per barrel.

Even though many initial conditions in the pre-adjustment phase were quite favorable (such as the high growth rate of GDP, the rice boom, and the heavy investment in rural infrastructure) and dampened the impact of the oil crisis on income distribution and poverty, two key features of the Indonesian economy made it potentially vulnerable to shocks originating abroad. First, Indonesia became significantly more dependent on foreign trade between 1970 and 1982; the share of imports to GDP (at current prices) rose from 15.8 percent to 26.3 percent and that of exports increased from 12.8 percent to 22.4 percent. Second, at the outset of the crisis, Indonesia suffered from an extreme reliance on non-renewable exports (oil, liquid natural gas, timber products, and metals and minerals); these constituted roughly three-fourths of the value of total exports. Two other factors account for the direct, although somewhat asymmetrical, link existing between the government budget and oil prices and revenues. These were a) the relative importance of corporate tax on oil as the major source of total government revenues; and (b) the natural tendency on the part of the government to expand public expenditures on the upswing—as oil prices and revenues rise—and conversely, the natural reluctance to reduce planned programs when oil revenues declined.
The most remarkable feature of Indonesia's policy response to the oil crisis is that it was undertaken voluntarily in a timely and balanced fashion. Through basically conservative fiscal and monetary policies, both during periods of expansion and recession, Indonesia has avoided the magnitude of external and internal imbalance that could have undermined the confidence of its creditors and forced it to obtain stabilization and structural adjustment loans under conditions initiated by the IMF and the World Bank. Instead Indonesia, on its own, adopted a sequence of trade and market liberalizing policies and contractionary budget measures that are very close to what are typically required of countries subject to IMF conditionality.

The structural adjustment package that was adopted and implemented can be grouped under four broad categories: (a) fiscal policy and rationalization of the public sector; (b) exchange rate management; (c) monetary and financial policies; and, (d) trade policy and other regulatory reforms.

Since the focus of this paper is rationalizing the public sector, I examine adjustment measures that fall under this topic in greater detail. However, it is essential to stress that the relative success of the Indonesian structural adjustment program was largely due to the use of a number of reinforcing and complementary policies in all four categories above.

The rationalization of the public sector covers a widespread set of measures that can be broken down into the following subheadings, a) the budgetary process; b) changes in the level and pattern of government expenditures; c) changes in the level and pattern of government revenues, including tax reforms; d) public sector management issues as they relate more particularly to i) pricing policies for public services; ii) management of public enterprises (PEs); iii) decentralization and the role of local governments; and iv) civil service reforms. The government's performance in each of these areas during the structural adjustment period is reviewed briefly next.

A fundamental feature of Indonesian public finance, which contrasts sharply with the situation prevailing in Latin America, is that the government is constitutionally obligated to maintain the equivalent of a balanced budget. This means that any excess of government expenditures over and above domestic revenues has to be financed from abroad and almost totally from project aid.

Table 1 illustrates the course of Indonesian public finance throughout the 1980s. Given the extreme dependence of government domestic revenues on royalties from oil (row 7), total domestic revenues leveled off in real terms (row 1). It can be seen that government savings (row 3), at 1980 constant prices, (amounting to total domestic revenues minus total government current expenditures) remained almost constant before dropping sharply. Since total government capital expenditures (row 4) rose steeply until the mid-eighties, this entailed a very significant increase in foreign borrowing to bridge the gap mainly through project aid (row 8) until 1985/86 supplemented by a substantial program of loan disbursements in the next two years. Debt servicing jumped from 6.7 percent of total government
expenditures in 1980/81 to over 30 percent by 1987/88 (see row 9) and a staggering 36.8 percent in the budget year 1988/89. Faced with a second oil shock around 1986 and a mounting public foreign debt, the government was forced to undertake a drastic budget retrenchment exercise starting in 1986/87 with the burden of the budget cuts falling on government capital expenditures as opposed to current expenditures.

Table 1. Indonesia government budget in constant 1980 prices (billion Rupiah), selected years and annual average figures during Repelita III (1979/80 to 1983/84) and Repelita IV (1984/85 to 1988/89).

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Total Domestic Revenues</td>
<td>10227</td>
<td>10613</td>
<td>11740</td>
<td>9375</td>
<td>11137</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Total Government Current Expenditures of which:</td>
<td>6807</td>
<td>7071</td>
<td>7796</td>
<td>7675</td>
<td>8168</td>
<td>6821</td>
<td>7715</td>
</tr>
<tr>
<td>2a. Interest on Foreign Public Debt</td>
<td>(439)</td>
<td>(856)</td>
<td>(1039)</td>
<td>(1597)</td>
<td>(1909)</td>
<td>(555)</td>
<td>(1533)</td>
</tr>
<tr>
<td>3. Government Savings (1-2)</td>
<td>3419</td>
<td>3542</td>
<td>3944</td>
<td>2683</td>
<td>2969</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Total Government Capital Expenditures</td>
<td>4908</td>
<td>6393</td>
<td>6122</td>
<td>5041</td>
<td>6265</td>
<td>5241</td>
<td>5985</td>
</tr>
<tr>
<td>5. Foreign Borrowing (mainly Project Aid) (4-3)</td>
<td>1489</td>
<td>2851</td>
<td>2178</td>
<td>3341a</td>
<td>3296b</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Government Total Expenditures (2+4)</td>
<td>11716</td>
<td>13464</td>
<td>13917</td>
<td>12716</td>
<td>14433</td>
<td>12062</td>
<td>13700</td>
</tr>
<tr>
<td>7. Share of Total Domestic Revenues from oil Taxes (%)</td>
<td>68.6</td>
<td>66.0</td>
<td>57.9</td>
<td>45.5</td>
<td>48.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Share of Foreign Borrowing (Project Aid &amp; Program Aid) out of Total Government Expenditures (5-6) (%)</td>
<td>12.7</td>
<td>21.2</td>
<td>15.6</td>
<td>26.3</td>
<td>22.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Share of Debt Amortization out of Total Government Expenditures (2a+4a)+6</td>
<td>6.7</td>
<td>11.5</td>
<td>14.6</td>
<td>23.1</td>
<td>30.4</td>
<td>8.4</td>
<td>24.2</td>
</tr>
</tbody>
</table>

Repelita represents the five year development plan.

a. Includes for the first time program lending of $1137 billion and project aid of $2204.
b. Includes program lending of $390 billion and project aid of $2906 billion.
c. Indonesia received program loans only in 1986/87 and 1987/88.
Source: Thorbecke (1990), Table 3.3

Throughout Repelita III (the five-year development plan covering 1979/88 to 1983/84), the government continued to spend at an increasing rate—particularly on a variety of investment programs—notwithstanding the observed leveling off of domestic revenues in constant terms. Given the fiscal conservatism inherent to Indonesia (the balanced budget requirement), the rising gap between constant domestic revenues and rising capital expenditures had to be bridged through an increasing flow of...
foreign borrowing. As a consequence, total foreign debt rose from approximately US $20 billion in 1982 to about $45 billion in 1988, with over 90 percent of the debt being owed by the government.

An interesting indicator of the government retrenchment program is to compare the ratio of total realized to planned expenditures during Repelita IV (1984/85-1988/89). On average, during this five-year period, this ratio amounted to .79; in other words, realized expenditures fell in constant terms 21 percent short of planned expenditures (row 1 of table 2). An examination of table 2, which provides this ratio for the various categories of current and capital expenditures, is revealing. It shows that current expenditures on education and health and other wages and salaries were cut relatively much less than subsidies and capital expenditures on investment projects in the various sectors. Within capital expenditures, public investment in agriculture was cut substantially less than public investment in industry and mining and electric power. Several large public investment programs were cancelled or postponed while smaller labor intensive projects under the regional development INPRES Program were encouraged. In section 4, the impact of the budget retrenchment program on the Indonesian socioeconomic system is simulated within a computable general equilibrium (CGE) framework. In addition, alternative counterfactual budget retrenchment scenarios are simulated to compare and evaluate the impact of the adjustment program actually implemented by the government with that which would have resulted from alternative programs (using the same classification of expenditures as in table 2).

The changing composition of public investment is evidenced by the fact that the share of total development expenditures allocated to direct production (mainly in industry, mining, and tree crops) dropped from 22.1 percent in Repelita III to 10.7 percent in Repelita IV. In contrast, the share going to infrastructure and production services rose from 10.7 percent to 49.2 percent and that of human resource development and basic social services increased from 22.9 percent to 26.1 percent. This suggests that the new composition of public investment is meant to have a more direct and stronger impact on encouraging private investment and employment prospects.

One weakness of the public sector in Indonesia has been its limited capacity to operate adequately and maintain public infrastructure programs. There is evidence of a deterioration of public infrastructure (roads, irrigation networks, government buildings). The maintenance and rehabilitation needs of the existing infrastructure have been estimated at Rp 4.7 trillion, equivalent to 4.7 percent of GDP and about 22 percent of general government consolidated expenditures in 1986. A national policy on operations and maintenance (O&M) is called for. Reforming the whole O&M system is a difficult challenge facing the government.

Table 2. Ratio of Realized Central Government Expenditures to Planned Expenditures, 1979/80 to 1988/89 at Constant 1980 Prices
Billions of Rupiah

<table>
<thead>
<tr>
<th>Fiscal years</th>
<th>79/80</th>
<th>80/81</th>
<th>81/82</th>
<th>82/83</th>
<th>83/84</th>
<th>84/85</th>
<th>85/86</th>
<th>86/87</th>
<th>87/88</th>
<th>88/89</th>
<th>Yearly average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Repelita III</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total realized/planned (at constant 1980 prices)</td>
<td>1.16</td>
<td>1.51</td>
<td>1.61</td>
<td>1.50</td>
<td>1.72</td>
<td>0.90</td>
<td>0.89</td>
<td>0.73</td>
<td>0.74</td>
<td>0.59</td>
<td>1.50</td>
</tr>
<tr>
<td>A. Current expenditures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. On education and health</td>
<td>1.16</td>
<td>1.51</td>
<td>1.61</td>
<td>1.50</td>
<td>1.72</td>
<td>0.88</td>
<td>0.94</td>
<td>0.81</td>
<td>0.73</td>
<td>0.67</td>
<td>1.60</td>
</tr>
<tr>
<td>2. Other wages and salaries</td>
<td>1.18</td>
<td>1.20</td>
<td>1.57</td>
<td>1.52</td>
<td>1.59</td>
<td>1.01</td>
<td>1.11</td>
<td>0.96</td>
<td>0.85</td>
<td>0.75</td>
<td>1.41</td>
</tr>
<tr>
<td>3. Other goods and services</td>
<td>1.17</td>
<td>1.24</td>
<td>1.57</td>
<td>1.56</td>
<td>1.63</td>
<td>0.97</td>
<td>0.91</td>
<td>0.67</td>
<td>0.56</td>
<td>0.49</td>
<td>1.43</td>
</tr>
<tr>
<td>4. Interest on debt</td>
<td>1.18</td>
<td>1.22</td>
<td>1.13</td>
<td>1.52</td>
<td>2.34</td>
<td>0.73</td>
<td>0.65</td>
<td>0.94</td>
<td>1.03</td>
<td>1.01</td>
<td>1.48</td>
</tr>
<tr>
<td>5. Subsidies</td>
<td>1.21</td>
<td>1.87</td>
<td>2.13</td>
<td>1.29</td>
<td>1.04</td>
<td>0.70</td>
<td>0.55</td>
<td>0.23</td>
<td>0.43</td>
<td>0.15</td>
<td>1.51</td>
</tr>
<tr>
<td>a. On food</td>
<td>1.20</td>
<td>2.04</td>
<td>3.22</td>
<td>1.19</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>b. On chemicals</td>
<td>1.21</td>
<td>1.83</td>
<td>2.10</td>
<td>1.29</td>
<td>1.04</td>
<td>0.70</td>
<td>0.55</td>
<td>0.22</td>
<td>0.43</td>
<td>0.15</td>
<td>1.49</td>
</tr>
<tr>
<td>6. Others</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.96</td>
<td>0.97</td>
<td>1.00</td>
<td>0.99</td>
<td>1.02</td>
<td>1.00</td>
</tr>
<tr>
<td>B. Capital expenditures</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Debt amortization</td>
<td>1.15</td>
<td>1.50</td>
<td>1.59</td>
<td>1.54</td>
<td>1.94</td>
<td>0.92</td>
<td>0.87</td>
<td>0.65</td>
<td>0.71</td>
<td>0.72</td>
<td>1.54</td>
</tr>
<tr>
<td>a. Domestic</td>
<td>1.18</td>
<td>1.21</td>
<td>1.48</td>
<td>1.53</td>
<td>2.37</td>
<td>1.00</td>
<td>1.21</td>
<td>1.50</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>b. Foreign</td>
<td>1.21</td>
<td>1.23</td>
<td>1.51</td>
<td>1.56</td>
<td>2.48</td>
<td>1.00</td>
<td>1.22</td>
<td>1.50</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>2. Transfers to private</td>
<td>6.75</td>
<td>6.10</td>
<td>5.45</td>
<td>3.59</td>
<td>2.67</td>
<td>1.24</td>
<td>0.77</td>
<td>0.64</td>
<td>0.55</td>
<td>0.46</td>
<td>4.91</td>
</tr>
<tr>
<td>3. Investments</td>
<td>1.00</td>
<td>1.43</td>
<td>1.51</td>
<td>1.49</td>
<td>1.88</td>
<td>0.90</td>
<td>0.83</td>
<td>0.53</td>
<td>0.49</td>
<td>0.44</td>
<td>1.46</td>
</tr>
<tr>
<td>a. Agriculture</td>
<td>1.20</td>
<td>1.87</td>
<td>1.51</td>
<td>1.20</td>
<td>1.24</td>
<td>1.29</td>
<td>0.66</td>
<td>0.36</td>
<td>0.80</td>
<td>0.69</td>
<td>1.40</td>
</tr>
<tr>
<td>b. Industry and mining</td>
<td>0.97</td>
<td>1.20</td>
<td>1.80</td>
<td>1.81</td>
<td>3.33</td>
<td>0.87</td>
<td>1.04</td>
<td>0.51</td>
<td>0.25</td>
<td>0.21</td>
<td>1.90</td>
</tr>
<tr>
<td>c. Electric power</td>
<td>0.99</td>
<td>1.46</td>
<td>1.61</td>
<td>2.10</td>
<td>1.63</td>
<td>0.85</td>
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<td>0.49</td>
<td>0.41</td>
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</tr>
<tr>
<td>d. Transportation and tourism</td>
<td>0.91</td>
<td>1.28</td>
<td>1.19</td>
<td>1.17</td>
<td>1.83</td>
<td>0.98</td>
<td>0.89</td>
<td>0.58</td>
<td>0.63</td>
<td>0.63</td>
<td>1.28</td>
</tr>
<tr>
<td>e. Education</td>
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<td>1.60</td>
<td>1.41</td>
<td>1.10</td>
<td>0.79</td>
<td>0.72</td>
<td>0.52</td>
<td>0.43</td>
<td>0.35</td>
<td>1.46</td>
</tr>
<tr>
<td>f. Health</td>
<td>1.07</td>
<td>1.48</td>
<td>1.73</td>
<td>1.43</td>
<td>1.38</td>
<td>0.75</td>
<td>0.66</td>
<td>0.46</td>
<td>0.28</td>
<td>0.30</td>
<td>1.42</td>
</tr>
<tr>
<td>g. Housing and water supply</td>
<td>1.50</td>
<td>1.98</td>
<td>1.54</td>
<td>1.28</td>
<td>1.67</td>
<td>0.50</td>
<td>0.67</td>
<td>0.58</td>
<td>0.68</td>
<td>0.56</td>
<td>1.60</td>
</tr>
<tr>
<td>h. General public services</td>
<td>0.88</td>
<td>1.59</td>
<td>1.65</td>
<td>1.47</td>
<td>1.36</td>
<td>0.96</td>
<td>0.86</td>
<td>0.59</td>
<td>0.31</td>
<td>0.27</td>
<td>1.39</td>
</tr>
<tr>
<td>i. Other expenditure programs</td>
<td>1.05</td>
<td>1.35</td>
<td>1.45</td>
<td>1.55</td>
<td>1.61</td>
<td>0.91</td>
<td>0.87</td>
<td>0.60</td>
<td>0.48</td>
<td>0.44</td>
<td>1.40</td>
</tr>
</tbody>
</table>

* Realized expenditures in 1988/89 were assumed to be equal to the expenditures budgeted at the beginning of that fiscal year.

Source: Thorbeeks (1990) Table 2.5
Two significant subsidies in Indonesia account for virtually the entire amount spent on subsidies. These are the subsidies on fertilizer and pesticides; in the mid-eighties fertilizer subsidies were about nine times as high as subsidies on pesticides. Reducing the price of fertilizer to the farmer has been one of the most important measures utilized by the government in stimulating agricultural production and, more specifically, rice. The magnitude of the fertilizer subsidy to farmers is high, amounting to about 38 percent of the farm gate price in 1986/87. This price incentive encouraged the consumption of fertilizer, which increased by 77 percent during the 1980-85 period—a higher growth rate than in any other developing country. The public cost of the fertilizer subsidy amounted to almost 19 percent of total current expenditures (at constant 1980 prices) during Repelita III but was cut significantly in both absolute and relative terms to less than 6.4 percent of total current expenditures during Repelita IV.

On the revenue front, the corporate tax on oil and gas was the main source of central government revenues. The share of total domestic revenues generated by this corporate tax fell drastically from about 68 percent, at the outset of the oil crisis, to about 49 percent in the period 1985/86-1987/88, and is expected to continue to fall. In response to this rapid absolute and relative decline in the primary source of government receipts, Indonesia undertook important reforms in its tax structure. In 1984, an income tax was introduced based on three relatively low rates and a substantial personal deduction. A value added tax (VAT) replaced an old sales tax in 1985 and, subsequently, a number of additional taxes were imposed. Overall, the tax reforms are progressive and have been effective in raising non-oil tax revenues from 13 percent of total domestic revenues before the crisis to above 21 percent in 1985/86—1987/88.

In addition to revenue mobilization a key objective of the tax reform of 1984 was to improve the efficiency of the tax system. The tax base was broadened by substituting the sales tax by a VAT (value added tax) and by revamping the property tax. The tax reforms were intended to be progressive while at the same time sheltering the poor households. Prior to the reforms, the sales tax had yielded 16.4 percent of total non-oil taxes, but after the reforms the new VAT generated almost 38 percent of total non-oil taxes. However, Indonesia's total tax ratio (excluding petroleum revenues) as percentage of GDP is still considerably lower than in many other Asian countries. In 1987 the ratio was 9.4 percent in Indonesia but ranged between 13 to 15 percent in Thailand, Malaysia and Korea. The tax buoyancy—defined as the percentage increase in tax revenues to the percentage increase in non-oil GDP—has risen considerably from 0.9 before the reform (1974/75-1983/84) to 2.1 after the reform (1984/85-1986/87).

The government has made notable progress in two key areas of public sector management—the management of public enterprises and decentralization. But little progress has been achieved on two other areas.

important issues, namely, the efficient pricing of public services and a reform of the civil service. These last two are discussed under future reforms in the concluding section.

Indonesia has a relatively large number of PEs operating in most fields of economic activity. The performance of these PEs has been mixed; some performed well and generated financial surpluses, while others suffered from internal management and technical problems and drained resources from the central government. The current capacity utilization rate for many non-financial enterprises is reported to be 50 percent, and overstaffing appears to be a common characteristic of most. The government is presently working on a plan to reform the PE sector and, in particular, to identify enterprises that can enter into joint ventures with the private sector or issue shares to the public. Clearly the divestiture program is bound to be a long-term program that will have to be carefully thought through and, so far, the government has been reasonably successful in shrinking the relative size of the public enterprise sector. This is reflected by a dramatic fall in the overall budgetary burden of PEs from 4.6 percent of GDP in 1983/84 to less than 1 percent in 1987/88. It is relevant, in this context, to note that PEs in Indonesia are not allowed to borrow independently from foreign sources. This may be another contrasting feature with a number of Latin American countries.

The budgetary system is highly centralized in Indonesia both in terms of revenue collection and expenditure allocation. Central transfers still account for three-fourths of total revenues of local governments. The government is trying to decentralize this process by increasing the role and responsibility of local governments and agencies in the planning and implementation of public expenditure programs. A strong case can be made that property taxes represent a much underexploited source of revenues for local government in Indonesia. As part of the tax reform program, a new tax on land and buildings (PBB) was introduced in 1986, with the aim of strengthening the revenue base of local governments and improving the overall equity of property taxation. Under the new law, the present maximum effective tax rate is only 0.1 percent. It is obvious that a potential exists for significantly raising local revenues through an increase in this effective tax rate. As of 1986 property taxes accounted for only 4.4 percent of total local government revenues as compared to 21.8 percent coming from local taxes, fees and charges, and 73.8 percent from Central Government grants. It has to be recognized that in a highly centralized regime, delegating budgetary authority to local governments is a difficult process entailing some political risks.

During the adjustment phase Indonesia twice resorted to currency devaluation. In March 1983, the Rupiah was devalued by 28 percent and full currency convertibility was established. The second devaluation occurred in 1986 when the Rupiah was again devalued by 31 percent, in direct response to the rapid decline in oil prices. The adoption of full convertibility has resulted in an unusual situation: an economy that is under pervasive government regulation has virtually no control over the international transfer of domestic capital.

Throughout the adjustment period the government's monetary policy has been conservative and generally based on maintaining low rates of inflation. In 1983 a major reform of the banking system was undertaken to require banks to follow market principles in attracting deposits and allocating credit. Limits on both deposit rates and lending rates were removed; sectoral credit ceilings were lifted and subsidized liquidity credits were abandoned. A number of financial measures were adopted to encourage the development of a capital market and to strengthen the financial sector by increasing competition.

With regard to trade and other regulatory reforms, Indonesia adopted a series of measures that have had the effect of significantly liberalizing trade. Tariffs were reduced across the board and the number of tariff categories was significantly cut. The whole import licensing system was revamped and import restrictions were lifted from a wide range of products. Other major regulatory reforms affected the treatment of investment.

Prior to 1984 all major investments required government approval. Throughout the adjustment period Indonesia enacted a continuous stream of measures relaxing restrictions on investment and making the environment for investment more attractive. The results of this deregulation process have been encouraging. Approved domestic investment, which amounted to Rp 3643 billion in 1982-84 (3 year average) jumped to almost Rp 15000 billion in 1988. Likewise, approved foreign investment rose from US$1795 million to $4435 million over the same period.8

Impact of Adjustment on Socioeconomic Performance

The impact of adjustment policies on performance can be judged from the standpoint of:

1. economic growth and the structure of production and efficiency;
2. external equilibrium, particularly the balance of payments;
3. fiscal and monetary equilibrium; and,
4. income distribution and poverty alleviation. Table 3 includes major macroeconomic indicators during the adjustment period.

As expected the adjustment package occurred simultaneously with a pronounced deceleration of economic growth. The rate of growth of GDP fell by half from 7.2 percent per annum in the pre-adjustment period to 3.6 percent in the adjustment period (1982-1987). On the whole the sectoral composition and structure of production remained extremely stable during the adjustment period. In particular, agriculture's share of GDP has remained constant (at just below one-fourth). This suggests that in addition to a deceleration of aggregate growth, structural adjustment appears to have slowed down considerably the process of structural transformation that was occurring before the crisis.

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The same structural stability can be observed with regard to the sectoral pattern of employment. Here again, the employment share of agriculture remained constant between 1980 and 1985. The most noteworthy change appeared in the relative rise in the employment share of the trade sector from about 13 to 15 percent of the labor force, reflecting labor absorption into informal activities—another characteristic feature of the stabilization program.

There is some evidence that the widespread deregulatory measures initiated by the government have had favorable effects on economic efficiency. A World Bank study\(^9\) indicated that the rate of return on investment, which amounted to only about 13 percent per annum in 1982-85, rose to almost 22 percent in 1986-88. This same study revealed also that total factor productivity—which is an even more comprehensive measure of the gains in macroeconomic efficiency—improved during the adjustment phase.

If external equilibrium is defined as a current account deficit just compensated by a sustainable net capital inflow (and which is consistent with Indonesia's debt servicing capacity) then it can be argued that the country was appropriately achieving this objective. The balance of payments equilibrium was restored through a combination of reduced absorption (compressing aggregate demand through lower growth) and expenditure switching policies. The main measures that appeared to have contributed to the restoration of external equilibrium were the rephasing of large capital projects (these had the effect of reducing imports of capital goods); a changing budgetary allocation away from relatively high

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import-intensive sectors to less import-dependent sectors; and, the two relatively large devaluations. The devaluations by raising the prices of tradeables relative to domestic goods, led to a shift away from imports toward domestic import substitutes and encouraged exports, particularly, manufactured exports. A major achievement on the export side was the successful changing of commodity composition away from non-renewable resources. The proportion of non-renewable exports in total exports declined from three-fourths throughout the 1970s and at the outset of the oil crisis, to an estimated 46 percent in 1988/89. Indonesia has also significantly reduced its vulnerability to external shocks affecting oil and most the other non-renewable exports. The government has recognized that extreme reliance on exhaustible resources is a very precarious foundation upon which to base a sustainable development strategy.

In contrast with most other developing countries Indonesia was greatly facilitated by its continued access to concessional aid from a variety of sources. Its disbursed and outstanding debt roughly doubled between 1983 and 1987. This represents a very heavy burden on its public finances and its balance of payments. The ratio of debt service payments to total government expenditures rose from about 12 percent in 1983/84 to 23 percent in 1986/87 while the ratio of debt service to exports went up from 17 percent to 41 percent Such a burden greatly reduces Indonesia's flexibility in development policy as it particularly relates to the pattern of government current and capital expenditures. Strict fiscal conservatism will be required from now on to avoid a situation which could become unmanageable. The situation could become untenable if the government were to succumb to the existing temptation to rely too heavily on the almost excessive availability of concessional loans from abroad.

In the Indonesian context, fiscal equilibrium constitutes, in some sense, the mirror image of external (balance of payments) equilibrium. Given its constitutional mandate to maintain a balanced budget, the government cannot borrow from the Central Bank to finance the deficit. Any excess of government capital expenditures over and above government savings (i.e., total domestic revenues less total current expenditures) must be financed, essentially, through project aid or a drawdown of foreign exchange reserves. The trick is to adjust the level and pattern of government expenditures so that it: a) equals total domestic revenues plus what can safely be borrowed from abroad without straining the future debt repayment capacity; and b) is consistent with external equilibrium. The government managed to restore financial equilibrium by increasing the share of non-oil revenues (via tax reform) and budget retrenchment.

Indonesia has also been successful in achieving a degree of monetary equilibrium. Monetary equilibrium entails, first, achieving rates of interest that tend to equate the supply of savings to the demand for investment funds and, second, the maintenance of a relatively stable overall price level. In both of these areas Indonesia has been successful. Since the deregulation of the banking system in 1983, interest rates have been market determined. In the pre-adjustment phase, real interest rates were either very low or negative. Between 1984-1988 real deposit rates ranged between 7.5 and 9.8 percent but real lending rates were between 11 and 13.9 percent. The high rates were necessary to prevent capital flight and to expand banks' deposit base.
To reduce inflation the monetary authorities curtailed the expansion of reserve money but, more importantly, encouraged households to increase their holdings of money and, particularly, quasi money (time and savings deposits) by deregulating deposit rates. This phenomenon contributed to a large increase in the financial deepening of the economy. The inflation rate declined to less than 9 percent per annum during the adjustment phase.

The most remarkable and surprising achievement in the Indonesian context, is the apparent reduction in the overall incidence of poverty and undernutrition during the adjustment phase. Some of the trends relating to the sectoral composition of employment and the relationship between employment, endowment (particularly of land), and income that prevailed during the pre-adjustment phase continued after 1983. A case can be made that many of these trends that were already underway before the crisis, in fact, reinforced and accelerated by the adjustment program. Thus, the persistence of the trend toward land consolidation (smaller number of somewhat larger farms) and increased landlessness could be observed. Micro evidence suggests strongly that off-farm jobs have become increasingly available and have largely—if not more than—offset the absolute decline in job opportunities within agriculture on Java. This would suggest that the adjustment process toward more viable and economically sustainable farms on Java had been accelerated by the structural adjustment program. Furthermore, the factors attracting workers to employment opportunities outside of agriculture have become stronger than the factors pushing workers out of agriculture—particularly in light of stable and/or more likely increasing real wage rates and labor shortages observed in a sample of presumably representative villages.

The best and most comprehensive evidence available regarding the changing poverty and nutritional picture during the adjustment period is contained in two excellent recent studies based on a comparison of the Susenas tapes on household consumption for 50,000 randomly sampled households in 1984 and 1987.10

Three different poverty measures—the headcount ratio, the poverty gap and a distributionally sensitive measure—were used to estimate the overall incidence of poverty in 1984 and 1987 and to decompose the changes in poverty between these two years. For all three measures, the incidence of poverty was found to be significantly lower in both urban and rural areas in 1987 as compared to 1984. Another essential finding of the Huppi-Ravallion (1990) study is that very significant changes occurred in the income distributions of these groups. More specifically, in the great majority of employment sectors the distribution became significantly more even in 1987 than in 1984.

An analysis of the evolution of government current and capital expenditures on two key social sectors affecting poor households, namely, education and health, suggests that during the first years of the adjustment period the government shielded these two social sectors. On the other

hand, the relatively large retrenchment—particularly in capital expenditures (e.g., construction of schools, hospitals, clinics and dispensaries) after 1985/86—could well have a possible lagged negative social impact that might only be felt in the 1990s. Even though Indonesia appears to have been quite successful in protecting the poor during the adjustment period up to 1987, it is too early to assess in any definitive sense the impact of adjustment policies beyond that year.

Quantitative Evaluation of Alternative Adjustment Policies

A Computable General Equilibrium (CGE) Model of Indonesia

In order to undertake a quantitative evaluation of alternative adjustment policies, a computable general equilibrium model of the Indonesian economy was built. Space limitation precludes reproducing the full model in this paper. Instead its main features and characteristics are reviewed briefly.

The novelty of this CGE model is that it incorporates and integrates a real and a financial sector, and was purposely designed to explore the impact of adjustment on income distribution, as well as on many other macroeconomic and sectoral variables. In the present context, an exogenous shock (or crisis) brought about an internal and external disequilibrium in the form of a budget and balance of payments deficit, respectively. These disequilibria, in turn, triggered a countervailing adjustment policy response on the part of the government. The adjustment package that was implemented affected the whole socioeconomic system through two quite distinctive major channels. The first channel operates through the real side of the economy. It traces through the impact of such measures as budgetary retrenchments and changes in relative prices, following a devaluation, on the structure of production and the resulting factorial and income distribution by socioeconomic groups. Ultimately, the consumption patterns of these groups and their standards of living are influenced. Depending on the extent of the supply responsiveness of sectors producing tradeables and a whole set of institutionally determined wage and price rigidities, the full impact of these measures may only be felt in the medium to long run.

The second channel operates through the financial sector. Stabilization measures affect the prices and values of assets held by households, firms and other institutions and thereby the distribution of wealth. For example, capital flight by some agents in anticipation of a devaluation yields windfall gains to these agents if the devaluation is actually implemented. Similarly, the type of financial (credit) liberalization reform that Indonesia undertook led to a large increase in real interest rates affecting savings and shifting the financial portfolios of many institutions toward interest bearing assets. The second channel flows through financial transactions responding to different actual rates of return and expectations; its impact on the socioeconomic system is felt in the short run.

11. This complete model is presented and discussed in E. Thorbecke (1990). See in particular, Chapter 4 and Table 4.5.
Thus, this model of the Indonesian economy integrates a general equilibrium macroeconomic model describing the real side of the economy with a more micro-oriented financial model, explaining the behavior of the various institutions relating to changes in their portfolios of asset holdings. Both specifications contain some neo-classical features which are modified and complemented with a number of structural features to conform more closely to the underlying institutional structure and behavior of actors prevailing in Indonesia at the outset of and during the adjustment period.

The real side model consists of eight blocks of equations that endogenously determine prices; production, exports, and imports; the labor market; private consumption; incomes; public finance; savings; and the real market equilibrium conditions. In the financial model the asset holdings (portfolios) and monetary balance sheets of the various institutions (i.e., households, firms, commercial banks, central banks, governments and rest of the world) are determined endogenously and the financial market equilibrium is derived.

The first step in building a general equilibrium model integrating real and financial transactions is to capture the initial conditions prevailing at the outset of the adjustment period. This requires the specification of a financial statistical accounting matrix (SAM) in addition to a real SAM.

The real SAM transaction matrix which was adopted as a base for the model is presented in Table I in the appendix. It can be seen that the classification underlying the real SAM includes: a) four labor categories, five kinds of capital; b) eight socioeconomic household groups, one category of companies; c) fourteen different production activities; d) four types of government current expenditures categories and eight types of government capital expenditures by sector of destination; and, e) total government current and total government capital accounts, private capital, rest of the world, trade and transport margins, indirect taxes, and subsidies.

The financial SAM (not shown here) contains the same classification of households and production activities as the real SAM. In addition, five other institutions are identified, i.e. firms (companies), commercial banks, the central bank, government, and rest of the world; and six types of assets, (i.e., currency, demand deposits, time deposits, foreign deposits, equity, and foreign bonds).

The model, as designed, can be run in two distinct ways to simulate, short run and long run effects respectively. In the short run the sectoral capital stocks are assumed fixed and investment during the period only affects the economy from the demand side by generating a demand for primary and intermediate inputs during the construction phase but not by adding to capacity. Furthermore, public investment is not considered to affect sectoral productivity. The more limited output effects in the short run dampen, among other, labor demand and the resulting income distribution. The behavioral response of agents is also considered more inelastic in the short run than in the long run. For example, the elasticity of the real wage rate response to inflation in the sectoral wage equations is assumed to be lower in the short run. This implies a greater degree of nominal wage rigidity in the short run than in the long run (the degree of wage indexation is greater in the long run). In brief, to simulate short run
conditions, the model is run as a one period comparative static model. Although, the length of the short run period is left somewhat undefined, it can be taken to reflect changes occurring within a two-year timespan.

In contrast, when the model is run to simulate medium to long run effects, the timespan that it is supposed to track is the full adjustment period itself, i.e. 1983-88. Sectoral capital stocks are augmented by private and public investment flows during the whole period and cumulative government investment affects productivity. Exogenous variables are updated and agents respond somewhat differently in the long run.

The model does not replicate the observed values of the endogenous variables, year by year, between 1983 and 1988 and therefore cannot be used to check possible annual fluctuations around trends. Instead when the model is applied to simulate long run effects, it can be interpreted as a two period model, where the first period reflects the initial conditions and values of variables at the beginning of the adjustment period and the second period reflects the conditions and values of variables at the end of the adjustment period—which in this study was taken as 1988. Hence, the results generated endogenously by the model should be interpreted as annual rates of change over the five year adjustment period. This means, of course, that the exogenous variables (including policy variables) constituting the base run and the various counterfactual policy scenarios have to be expressed, likewise, as annual rates of change between 1983 and 1988.

**Policy Simulation**

The following alternative policy scenarios were chosen for simulation purposes:

**EXPERIMENT 0. BASE RUN:** All exogenous variables including exogenous policy variables under the control of the government are taken as observed during the adjustment period (1983-1988). The base run is the reference run reflecting the adjustment package actually implemented by the government against which all the counterfactual policy scenarios are confronted.

**EXPERIMENT 1. EQUIPROPORTIONAL BUDGET-RETRENCHMENT:** It is assumed that the government reduced its expenditures on each and every category (except for interest payment on the foreign debt and subsidies) by 20 percent.
compared to the base run. All other exogenous variables take their actual (observed) values during 1983-88 as in the base run.

**Experiment 2. Increased Government Investment and Reduced Government Current Expenditures:** While total government expenditures are assumed equal to their actual level during the adjustment period as in the base run, the composition of expenditures is changed. Government current expenditures are cut by 20 percent and government investment is increased by 27 percent (thus maintaining total public expenditures as in the base run). Two variants of this experiment were run: Experiment 2-1 allocated public investment by sector proportionately to the base run allocation; while Experiment 2-2 raised the allocation of investment to agriculture by 50 percent and to other sectors by 23 percent (resulting in an overall increase in public investment of 27 percent). All other exogenous variables take the same values as in the base run.

**Experiment 3. Reduction in Government Investment and Increase in Government Current Expenditures:** Total government expenditures are kept equal to their actual (observed) level as in the base run and in Experiment 2. A sixteen percent increase in government current expenditures was postulated and a twenty percent cut in government investment. All other exogenous variables remain as in the base run.14

The logic behind experiments 2 and 3 was to test the tradeoff over time between a pattern of government expenditures emphasizing public investment projects vs. an alternative pattern favoring government current expenditures (and, in particular, government consumption and a larger wage bill for civil servants). The objective was to compare the short run vs. long run consequences of these two alternative patterns of public expenditures on the socioeconomic system and more specifically on income distribution. A larger share of total government expenditures allocated to public investment entails a lower stream of aggregate consumption in the short run in favor of larger streams of incomes and consumption in the long run. Alternatively, maintaining high levels of government current expenditures shelters household incomes in the short run but results in lower growth rates and a contraction of incomes and consumption in the long run.

The results of these policy experiments were summarized and consolidated in tables 4 and 5. These tables show the impact in the short run and long run, respectively, of the five counterfactual policy scenarios on key endogenous indicators, including the income distribution by socioeconomic groups. For each counterfactual scenario the results on key indicators is expressed as index numbers relative to the base run to facilitate comparisons among them in panel 1. In addition, in panel 2, the average annual values of some key variables over the adjustment period (1983-1988) are given.15

14. Some additional experiments that are not reported here were also run on the model. They included simulating the impact of: i) an accelerated devaluation; and ii) monetary contraction and expansion. The above counterfactual experiments would have yielded outcomes clearly inferior to those resulting from the base run and Experiments 2 and 3.

15. It should be noted that for the short run, these values are expressed as two year averages while in the long run simulation they are expressed as annual averages.
Table 4. Short Run Simulation Results (Index numbers; billion Rupiah, million $)

<table>
<thead>
<tr>
<th>Baserun</th>
<th>EXP1</th>
<th>EXP2-1</th>
<th>EXP2-2</th>
<th>EXP3</th>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Cut</td>
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<tr>
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<td>100.04</td>
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<td>Gov't. For. Borrowing ($)</td>
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<td>10949.95</td>
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<tr>
<td>Gov't. For. Debt ($)</td>
<td>25920.56</td>
<td>24132.79</td>
<td>26154.46</td>
<td>26183.62</td>
</tr>
<tr>
<td>Price Index</td>
<td>100.00</td>
<td>95.85</td>
<td>100.99</td>
<td>100.98</td>
</tr>
</tbody>
</table>

over six years (1983-88). To make the comparison more meaningful the actual observed values are reported under the base run expressed in Rupiah at 1983 prices or in U.S. dollars using the average real exchange rate during 1983-1988. The set of values in panel 2 for the various counterfactual experiments (Experiments 1-3) was obtained by subtracting the differences between the original base run values and experiment values from the corresponding actual values given under the base run experiment.
Table 5. Long Run Simulation Results (Index number; billion Rupiah, million $)

<table>
<thead>
<tr>
<th>BASERUN</th>
<th>EXP1</th>
<th>EXP2-1</th>
<th>EXP2-2</th>
<th>EXP3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Expr.</td>
<td></td>
<td></td>
<td>Ag. Inv. Up</td>
</tr>
<tr>
<td>GDP FC (Real)</td>
<td>100.00</td>
<td>95.89</td>
<td>100.94</td>
<td>101.08</td>
</tr>
<tr>
<td>Agr. Employee (Real)</td>
<td>100.00</td>
<td>97.58</td>
<td>100.67</td>
<td>101.38</td>
</tr>
<tr>
<td>Small Farm (Real)</td>
<td>100.00</td>
<td>98.03</td>
<td>100.77</td>
<td>101.38</td>
</tr>
<tr>
<td>Med. Farm (Real)</td>
<td>100.00</td>
<td>98.50</td>
<td>99.96</td>
<td>100.05</td>
</tr>
<tr>
<td>Large Farm (Real)</td>
<td>100.00</td>
<td>98.61</td>
<td>99.65</td>
<td>99.55</td>
</tr>
<tr>
<td>Rural Low (Real)</td>
<td>100.00</td>
<td>94.25</td>
<td>101.07</td>
<td>100.93</td>
</tr>
<tr>
<td>Rural High (Real)</td>
<td>100.00</td>
<td>92.29</td>
<td>96.25</td>
<td>96.26</td>
</tr>
<tr>
<td>Urban Low (Real)</td>
<td>100.00</td>
<td>92.72</td>
<td>100.89</td>
<td>100.59</td>
</tr>
<tr>
<td>Urban High (Real)</td>
<td>100.00</td>
<td>91.38</td>
<td>98.15</td>
<td>98.25</td>
</tr>
</tbody>
</table>

Gov't. For.

<table>
<thead>
<tr>
<th>Borrowing ($)</th>
<th>3892.51</th>
<th>2214.95</th>
<th>3908.45</th>
<th>3946.18</th>
<th>3987.15</th>
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<tr>
<td>Gov't. Savings (Real)</td>
<td>4009.70</td>
<td>4780.81</td>
<td>5208.14</td>
<td>5224.46</td>
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<tr>
<td>For. Borrowing ($)</td>
<td>-1161.82</td>
<td>-497.30</td>
<td>-916.93</td>
<td>-952.20</td>
<td>-1463.23</td>
</tr>
<tr>
<td>Cur. Bop ($)</td>
<td>-2730.69</td>
<td>-1717.66</td>
<td>-2991.52</td>
<td>-2993.97</td>
<td>-2523.92</td>
</tr>
<tr>
<td>Export ($)</td>
<td>16071.37</td>
<td>16250.10</td>
<td>16179.49</td>
<td>16173.92</td>
<td>15907.58</td>
</tr>
<tr>
<td>Import ($)</td>
<td>15551.92</td>
<td>14781.71</td>
<td>15892.32</td>
<td>15889.17</td>
<td>15210.65</td>
</tr>
<tr>
<td>Priv. Inv. (Real)</td>
<td>9788.33</td>
<td>9849.38</td>
<td>10068.91</td>
<td>10049.37</td>
<td>9467.51</td>
</tr>
<tr>
<td>Gov't. Inv. (Real)</td>
<td>8053.10</td>
<td>7019.83</td>
<td>9097.85</td>
<td>9097.85</td>
<td>7019.83</td>
</tr>
<tr>
<td>Gov't. For. Debt ($)</td>
<td>31385.28</td>
<td>25513.82</td>
<td>31441.07</td>
<td>31573.10</td>
<td>31716.53</td>
</tr>
<tr>
<td>Price Index</td>
<td>100.00</td>
<td>97.13</td>
<td>98.53</td>
<td>98.52</td>
<td>102.08</td>
</tr>
</tbody>
</table>

Experiment 1 : 20 percent cut in total government expenditures
Experiment 2-1 : 20 percent cut in government current expenditures and 27 percent increase government investment
Experiment 2-2 : 20 percent cut in government current expenditures and 50 percent increase in agricultural government investment and 16 percent increase government investment
Experiment 3 : 20 percent cut in government investment and 16 percent increase government current expenditures

The exchange rate (Rupiah/$) is set at 1039 in the base run.

The first comparison is between the base run and Experiment 1. Not surprisingly, a drastic budget retrenchment (by 20 percent compared to the
base run) would have been highly deflationary and GDP growth would have come to a standstill (in the short run, GDP annual growth would have been 2.5 percent below the base run and in the long run 4.1 percent below it). Likewise, all socioeconomic groups would have been worse off income-wise than in the base run and more so in the long run than in the short run. The two urban groups and the two nonagricultural rural groups would have suffered relatively the most. The rate of inflation would have fallen by 2.9 percent in the short run and by 6.7 percent in the long run relative to the base run. Because of the large cut in government expenditures, the government would have reduced its net foreign borrowing by about half.

The next useful comparison is among experiments 2, 3 and the base run. Experiment 2 simulates a situation where the government emphasizes public investment relative to government current expenditures whereas Experiment 3 simulates an even larger share of total government expenditures allocated to current expenditures than in the base run and, conversely, a significantly lower share going to public investment. Hence, a comparison of these two counterfactual scenarios with the base run reveals the short run vs. long run consequences during the adjustment period of sheltering public consumption and the wage bill of civil servants at the expense of a reduction in public investment and vice versa. In the short run, Experiment 2 (emphasizing investment) results in a lower growth rate of GDP relative to the base run of respectively .84 percent and .76 percent in the two variants (2-1 and 2-2). The incomes of the rural high and urban high groups are significantly reduced by between 5.3 percent and 4.2 percent, annually, depending on which variant is considered. Since both of these groups include the bulk of the civil servants, they are directly affected by the 20 percent cut in the wage bill. Other socioeconomic groups are only marginally touched; indeed agricultural employees and small farmers even benefit very slightly under Experiment 2-2 from the additional employment opportunities and incomes generated during the construction phase of public investment projects in agriculture.

In contrast in the short run under Experiment 3 (emphasizing government current expenditures), the growth rate of GDP would have been about 1.1 percent higher than in the base run. All socioeconomic groups' incomes are higher than in the base run with the rural high and urban high households enjoying substantial improvements in their real incomes of the order of 5.48 percent and 4.56 percent per annum, respectively, above the base run.

In the long run, a strategy of concentrating on public investment projects pays off in terms of higher GDP growth (.94 percent and 1.08 percent above the base run, respectively, in 2-1 and 2-2). There are relative gainers and relative losers among household categories. Agricultural employees, small and medium farmers benefit as do, to a lesser degree, the rural and urban poor. On the other hand, the relative losers consist of the rural high and urban high groups and, to a very limited extent, the large farmers.

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16. Since actual GDP growth during the adjustment period was about 3.6 percent per annum, it means that stagnation would have resulted during the adjustment period.
Conversely, a pattern of government expenditures emphasizing current expenditures at the expense of capital expenditures (Experiment 3) leads to a slowdown of GDP growth (1.18 percent per annum below the base run), while contributing to inflation (1.71 percent per annum above the base run) and entailing larger foreign borrowing. The only groups which are better off in this counterfactual exercise are the urban high and rural high (mainly through the wage bill received by the civil servants) and the large farmers.

What a comparison of alternative experiments suggests is that a strategy of emphasizing public investment projects (Experiment 2) yields the largest level of indebtedness, but the differences are small—except for Experiment 1. Interestingly, Experiment 2 would have entailed only a marginal increase in indebtedness compared to the base-run scenario.

In comparing the outcomes of the various counterfactual scenarios with the adjustment package adopted by the government (the base run) the major conclusion reached is that the latter appears, not so surprisingly, most consistent with the multiple objectives of the government under both sets of experiments.

In particular, it sheltered the incomes of the civil servants in both the short run and in the long run relative to each and every alternative counterfactual experiment simulated above except Experiment 3 (which called for an even greater level of government current expenditures than in the base run scenario). Within the political economy context of Indonesia, civil servants make up a key and politically powerful constituency that the government cannot afford to offend. The shielding of the incomes of civil servants was to a large extent a political constraint that the government faced. The problem with Experiment 3 is that it would have entailed a conflict with GDP growth in the long run and required the government to borrow significantly more from abroad. In the interests of growth and fiscal stability (two important objectives of the government), the base run yielded outcome preferable to the expenditure pattern contained in Experiment 3.

Experiment 2 (emphasizing public investment) is potentially attractive in the long run in terms of higher GDP growth, lower inflation and higher incomes for most agricultural household groups, but these advantages have to be weighed against significantly lower standards of living (particularly in the short run) for the urban and rural high income groups. Given the political power of civil servants, this cost could not be borne by the government. Public investment benefits those socioeconomic groups whose employment opportunities depend, at least partially, on construction and public works projects (i.e., rural low, urban low, agricultural employees, and small farmers). These groups provide the bulk of the unskilled and manual labor required in the construction phase of investment projects and later enjoy the fruits of increased productivity.

Conclusions

This paper reviewed in some detail the various stabilization and structural adjustment measures that were implemented during the adjustment period (1982-1987) with particular emphasis on the rationalization of the public sector and changes in the pattern of
government revenues and government expenditures. The impact of the adjustment measures on socioeconomic performance between 1982 and 1987 was analyzed.

Among the set of measures relating to the rationalization of the public sector, Indonesia was successful in implementing tax reforms (a new value added tax and a progressive income tax) which provided new sources of revenues to compensate for the dwindling corporate taxes on oil. The government was also successful in carrying out a careful and selective budget retrenchment program that curtailed—in relative terms—expenditures on large capital intensive investment projects and many subsidies while largely sheltering current expenditures on wages and salaries, education, and health.

On the other hand, Indonesia made full use of its high international creditworthiness status by borrowing abroad heavily. This led to a doubling in the size of its public foreign debt during the adjustment period. The debt servicing burden has become relatively very large, i.e. about 36 percent of total public expenditures in 1988/89. This significantly reduces its flexibility in the allocation of other categories of current and capital expenditures.

There are two other public sector issues which need to be addressed by the government. First, many public services are provided free or at low cost for equity reasons so that, in principle, poor people should have access to them. However because of budgetary constraints, the provision of subsidized public services is severely rationed and consequently the poor often do not gain the intended access to the limited supply available. Charging efficiency prices, at least for those who can afford it, would contribute to better operations and maintenance thereby improving the quality of service.\(^\text{17}\)

Second, there is evidence that Indonesia suffers from a bloated civil service. The number of civil servants has doubled in the last decade (from 1.8 million in 1978 to 3.6 million in 1988). The share of personnel expenditures in central government routine spending (excluding debt service payments) has grown from 53 percent in 1979/80 to 83 percent in 1989/90. Overstaffing is reported to be of the order of 30 to 50 percent in many agencies.\(^\text{18}\) A reform of the civil service should have a high priority and the government should resist the temptation of being the employer of last resort. As pointed out previously, this reform is very difficult to implement from a political economic standpoint.

In the fourth section a CGE framework was used to model actual government structural adjustment strategy and the pattern of government expenditures with a few alternative counterfactual budget retrenchment scenarios. It appears that the adopted strategy was close to optimal particularly in light of the political economy constraints faced by the government in terms of sheltering its civil servants. Experiment 2—emphasizing public investment at the expense of current expenditures while

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maintaining the same total level of government expenditures as actually occurred (i.e., the so-called base run)—is potentially attractive over a 5 to 7 year period in terms of higher GDP growth, lower inflation and incomes for most agricultural household groups. However, these advantages have to be weighed against significantly lower standards of living (particularly in the short run) for urban and rural civil servants. Given the political power of civil servants, this cost could apparently not be borne by the government.

In conclusion, it is clear that the adjustment strategy that was in fact adopted and implemented contributed to the restoration of internal and external equilibrium. Even though it entailed an unavoidable slowdown in economic growth during the adjustment period, this strategy reinforced some of the desirable distributional trends that were underway in the pre-adjustment period and allowed them to continue after the oil crisis. The vulnerability of the Indonesian economy to external shocks has been reduced as judged by the higher share of renewable resource (e.g., manufacturing goods) exports in total exports and the declining relative importance of oil revenues in total government revenues.

At the same time it should be underlined that the adjustment process is a continuing one. Some of the recent cuts in current and capital expenditures may have a delayed negative impact on the observed trend toward poverty alleviation. Even though the adjustment experience of Indonesia between 1983 and 1988 appears to have been a successful one, it is still too early to pass any definitive judgment.
Rationalizing the Public Sector: The Mexican Experience in 1982–1990

Guillermo Ortiz and Carlos Noriega
Abstract

This paper analyzes the public sector reforms undertaken as a response to the substantial fall in international oil prices in 1981. Oil-related revenues represented 50 percent of Mexico's total revenues. Drastic reform was required to compensate for this revenue shortfall. Action was taken on both the revenue and expenditure fronts. In 1983, fiscal reforms that largely affected expenditure items were introduced. Overall expenditures declined approximately eight percent. The brunt of the adjustment fell on investment, which declined by approximately 12 percent of GDP. Additionally, there was a decline in transfers and subsidies to parastatal enterprises of about one percent of GDP.

The revenue front of the performance was lackluster in the short-term. The tax reforms of 1983 increased VAT taxes but did little for tax revenues. Tax revenue did not increase its share of GDP between 1983 and 1987. Moreover, tax evasion and the increase of indirect tax revenue made the system more regressive. In 1987 a new tax policy was adopted to widen the tax base and allow inflationary adjustments. Alongside these fiscal efforts were the divestiture and deregulation programs. The selling of public entities to private or other state/municipal government agencies reduced federal government expenditures. The success of these reforms was the reduction in inflationary pressures on the economy.
RATIONALIZING THE PUBLIC SECTOR:
THE MEXICAN EXPERIENCE IN 1982-1990

Guillermo Ortiz and Carlos Noriega

Introduction

In December of 1987 Mexico launched a stabilization program that up
to the present has been successful in reducing inflation without prompting a
recession. As a result, the program has opened new avenues for economic
development. While the literature on short run policies aimed at
combating inflation abounds, there are relatively few studies on the role of
structural change in economic development. Yet it is clear that without
this strategy short run policies are doomed to fail. Structural adjustment in
many cases represents one of the main instruments to increase efficiency and
to avoid the reemergence of macroeconomic imbalances.

This paper tries to show that the economic policies followed in the
past decades ultimately led to unsustainable macroeconomic performance
and several micro distortions that reduced efficiency and generated resource
misallocation. Structural change was required in Mexico to create better
economic conditions and sustainable growth, efficiency and financial
stability. At the core of the Mexican program was a restructuring of public
finances entailing a major policy shift that included a divestiture process,
deregulation policy, and trade liberalization.

The Public Sector Build-up: 1960-1982

The development strategy pursued during the late fifties and sixties
was successful in terms of attaining rapid economic growth, and price and
exchange rate stability. Between 1961 and 1973, GDP increased on average
6.6 percent annually in real terms, the mean Consumer Price Index (CPI)
annual increase was 4.9 percent, and the exchange rate vis-a-vis the U.S.
dollar remained fixed throughout the period.

From a macroeconomic point of view the basis of this strategy was
fiscal and monetary discipline. Though a fiscal deficit was recorded every
year, it did not pose financing problems. Availability of domestic and
foreign savings was sufficient to cover the deficit without exerting undue
pressure on the financial markets. Public debt, as a proportion of GDP,
remained stable in those years, and foreign indebtedness was relatively

1 The views expressed in this paper are the authors' and do not reflect the opinions of the Ministry of Finance.
modest. As for monetary policy, the fixed parity became a check on net domestic credit expansion and price stability contributed to the moderate level of nominal and real interest rates.

As for sectoral policy, economic growth was based on rapid industrialization through the development of the domestic market. Thus, trade protection became a major element of the economic strategy. Another important element was a system of relative prices and subsidies that favored industry over the primary sector. Lastly, the government undertook an active involvement in economic activity by investing in infrastructure as well as by participating directly in strategic sectors through parastatal enterprises. While railroads and oil have traditionally been under public control, during this period a number of industries and even sectors became public or publicly controlled. Electricity, telephones, petrochemistry and steel are important examples of this trend.

By 1970 the direct participation of the public sector in the economy was already substantial. Total public sector expenditures had risen from 18.5 percent of GDP in 1965 to 28.9 percent ten years later. The number of parastatal enterprises had grown from 259 to 845 between 1960 and 1976 and their total expenditures reached 51.8 percent of overall public expenditures. It is also important to note that investment absorbed a substantial proportion of outlays. Public investment represented 7.0 percent of GDP during the 1960's, growing throughout the period at an annual average rate of 9.2 percent.2

Given the positive results on the economic front until 1970 the issue of shifting development strategies, and in particular the role or structure of the public sector, was never seriously raised. Although there is a strong presumption that the structure of public finances and the role played by the state contributed positively to economic development, a final assessment is difficult to make. A counterfactual analysis of policies during this period has not yet been attempted. At any rate, in a climate of internal and external stability, and with sufficient domestic and external savings to finance high investment ratios, the economy prospered. Per capita income increased, and the distribution of income also improved. The sustainability of these results for so many years also speaks favorably of these policies.

After 1970 the development strategy pursued since the late 1950s started showing some signs of strain: growth began to slacken and private investment lost its former dynamism. The incoming administration responded with more expansive fiscal and monetary policies, and stepped up public sector direct involvement in economic activity. In an explicit effort to improve income distribution subsidies were expanded. Despite this reaction it cannot be said that, in its essence, the conception of the role of the public sector in economic development had changed. What did change

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2. The financial system was also subjected to a strict and complex regulatory framework that tended to limit the autonomy of intermediaries to compete through interest rates or to allocate freely its resources among competing borrowers. The Central Bank would fix interest rates and establish compulsory financing to priority sectors. Competition was further diminished because of the coexistence of private and public banks. These latter granted subsidized credits with the government assuming their operative losses.
after 1970 were the circumstances in which fiscal policy operated. On the one hand the external sector weakened; stagflation in industrialized countries became a problem. Internally, the expansionary policy began to generate serious macroeconomic disequilibria.

Public savings declined rapidly and were not matched by a natural increase in private or foreign savings. As a consequence it became necessary to incur official foreign debt as well as inflationary finance. The rise in prices, in turn, amplified the distortions implicit in the regulatory framework, and in the scheme of subsidies. This situation initiated a vicious cycle in which the expansion in public expenditures affected prices, and inflation in turn accentuated the distortions embodied in the system of subsidies.

In the period 1970-1976 the government continued to invest heavily in infrastructure and in the expansion of parastatal enterprises. This latter emphasis gave rise to the founding of numerous parastatal enterprises, funds and trusts. By the end of 1976 the number of parastatal entities had increased to 845. Since most of them were created with the purported objective of favoring specific social groups or activities, expenditure control became more difficult and consequently total current expenditures rose rapidly. Macroeconomic imbalances led to a financial crisis in 1976. Foreign financing was curtailed and international reserves declined to such an extent that it prompted a devaluation. A new administration took over in December of that year and immediately launched a program of fiscal restraint with a certain degree of success. In 1977 and 1978 the fiscal deficit was reduced, inflation fell and the external accounts improved substantially. However, the major factor which explains the positive results was a significant improvement in the terms of trade. The international price of oil, which was becoming the major export product of Mexico, rose in real terms during those years.

The abrupt and substantial increase in revenues from oil exports was to have a major impact on public finances in the following years. The relaxation of the foreign financing constraint in 1976 postponed the need to review the role of public finances in Mexico's development strategy. Therefore the essential traits of government involvement in economic activity continued during the López Portillo administration (1976-1982) in an environment of rising public revenues and significant foreign financing.

Apart from massive investments in the oil sector and petrochemicals, the government also devoted significant resources to other sectors such as steel, and sea-ports infrastructure. Current expenditures also escalated; in addition to increasing wages and salaries of government employees, subsidies continued to grow. The number of parastatal enterprises expanded as well.

On the revenue side, there were some adjustments to the fiscal system aimed at improving efficiency. A value added tax (VAT) was introduced in 1980 substituting a sales tax, and the tax system was simplified. Despite the increase in revenues, public savings fell in the period 1976-1982. However, the problem was not perceived as such until 1981 because the government had access to substantial amounts of foreign financing. But in 1981 the fall in the international oil price coincided with a reduction in the
availability of foreign credits, making the fiscal imbalance a source of another economic crisis. Among the actions taken as part of the response to that crisis, the government nationalized the banking system, and through the banks the government also became the owner of a large number of firms. The nationalization may be seen as the culmination of a policy of increasing direct government participation in economic activity.

The Context of the Fiscal and Structural Reform

The sudden and substantial fall of the international price of oil in 1981 made it evident that the development strategy pursued since the late 1950s had ceased to be viable. Over the years trade protection, subsidized prices and an overvalued exchange rate inhibited the external sector from performing the role of stimulating growth. Internal demand, on the other hand, was supported by an expansive fiscal stance. Thus, when the fiscal disequilibrium reached crisis proportions, GDP growth faltered.

Public finances in 1982 were in the midst of a structural crisis preventing them from reacting flexibly to the oil shock. In only a few years public revenues had become overdependent on oil exports. Whereas in 1974 oil related revenues amounted to 17.8 percent of overall public revenues, by 1981, the share had reached 30.6 percent. Other sources of income weakened simultaneously. Non-oil tax revenues fell as a proportion of GDP despite the introduction of the VAT and rate increases in several specific taxes. Inflation was the most important factor behind this fact. On the one hand the Tanzi effect determined a de facto decrease in the real tax rate. On the other hand, there were several loop-holes that were aggravated by inflation. The most important one being the exemption of interest payments from taxable income. As inflation rose, debt financing by firms increased rapidly thus reducing their own tax base.

The pricing policy of parastatal enterprises also contributed to the relative decline of traditional public revenues. Price increases had been limited with the double purpose of mitigating their inflationary impact and as a means of subsidizing low income groups and priority sectors.

The new oil revenues had not been perceived as transitory. This led to the initiation of large investment projects (which at least could be curtailed rapidly in the event of a fall in oil revenues). But current expenditures were also rapidly expanded, thereby conferring a degree of inflexibility to public finances. Subsidies and high real wages of public officials created important constituencies that limited the ability of the authorities to respond flexibly to the crisis. The growth of the industrial sector had been supported by explicit and implicit subsidies, as well as an overvalued exchange rate, and a closed economy. Thus a program that entailed the rapid elimination of these elements posed a risk of generalized bankruptcies and high unemployment.

Finally, the nationalization of banks, the imposition of exchange controls, and a multiple exchange rate regime had alienated financial savings. In the short run this implied that the government could not depend on voluntary internal savings to cover its current deficit except at a very high cost.
Structural change in the financial position of the public sector was necessary for three important reasons: from a macroeconomic point of view, private and foreign savings could not indefinitely sustain a fiscal deficit the size of the one registered in the previous years. From a microeconomic perspective, the distortions produced by public interference in economic activity were causing serious inefficiencies. Lastly, the trend toward international economic integration meant that Mexican exports would have to be able to compete on a global scale.

Regarding the macroeconomic environment, it is necessary to note that by 1982 external credit had been interrupted, and capital flight had resulted in a virtual exhaustion of international reserves at the central bank. Furthermore, the uncertainties afflicting the financial market made it practically impossible for the public sector to attract private savings in order to cover its deficit. Therefore, if involuntary private savings through the inflation tax were to be avoided, a major fiscal correction could not be postponed. In addition the failure of private savings to finance the fiscal deficit meant less resources for investment. Thus the macroeconomic imbalance was impairing the growth potential of the economy.

The second reason for structural reform—the price distortions—had also reached a critical point. Price controls and subsidies had produced a serious relative price misalignment which, on the one hand, had ceased to be effective for promoting living standards among the poor (Kehoe and Serra-Puche 1981) and on the other, were creating a misallocation of resources. After many years of subsidizing the industrial sector, agriculture lost its dynamism and instead of being a source of net wealth, it began to restrain economic growth. Real exchange rate overvaluation, on the other hand, eroded the competitiveness of the export sector. Public monopolies also crowded out private investment in emerging sectors such as petrochemicals.

As for global trends, the integration of economic activity across borders required very flexible responses from the productive sector to changes in the environment in order to profit from new opportunities. Since public intervention tends to instill a degree of rigidity in the system, structural change may also have a substantial impact on overall economic efficiency. In particular, since Mexico's development strategy had been inward oriented, the opening of the economy entailed a significant change requiring an adjustment effort on the part of the government and the private sector. Finally, since the opening of the economy had to be implemented in the midst of a period characterized by net transfers abroad, the burden on the export sector was likely to be heavier in the short run.

The Main Tenants of Structural Change

In the span of nearly eight years, public finances have undergone a radical transformation. Not only have the underlying imbalances been corrected, but the sources of revenue have also been improved. The overall public sector has been trimmed, and the regulatory framework has been reformed and made more flexible. However, there are other areas where progress has been less satisfactory: Expenditure cutting has disproportionally affected capital outlays and real wages. A number of public enterprises have been sold to the private sector or been closed down.
in an attempt to retain only strategic enterprises, but for those still remaining, the control and supervision schemes have yet to promote more autonomous management. There is an ongoing pilot program which attempts to monitor public enterprises through the behavior of only a few performance criteria dictated by the central government. Despite the shortcomings of this process, it is instilling efficiency into the productive system in an attempt to promote longer term sustainable growth.

It is important to note that the emphasis of the structural adjustment program varied over time. Not only did the change in emphasis reflect a process of learning-by-doing, it also responded to the evolution of the economic environment. During the initial years (1983-1985) policies were geared toward a contraction of the fiscal imbalance in a somewhat conventional fashion. However, the second terms of trade shock in late 1985, led to the realization that a deeper and more ambitious structural adjustment program was necessary. Finally, the resiliency of inflation convinced the authorities in 1987 that a rapid disinflation program was required. In retrospect, one can still argue, that the three stages followed a logical sequence and that it might have been costlier to proceed otherwise.

Public Spending Structural Change

In 1983 fiscal reform was introduced affecting most expenditure items. The program was intended to increase the primary surplus and public savings in order to reduce the overall public sector borrowing requirements. The difficulty in raising public revenues substantially in a short period meant that most of the adjustment effort would lie on the expenditure side, or more properly, on those expenditures that were under the control of the authorities. It is important to note that among those items beyond the control of the authorities were interest payments. Due to high inflation domestic interest payments were very large and this led to an over adjustment in programmed expenditures. Inflation and a real depreciation in the exchange rate were responsible for increasing interest payments from 4.7 percent of GDP in 1981 to 19.8 percent in 1987. The nominal interest rate in 1987 was 80 points above the level prevailing in 1983. It was felt that once inflation was brought under control interest payments would fall. For this reason expenditure cuts had both a transitory and a permanent (structural) component.

The persistence of these factors over several years, however, eventually led to significant changes in the composition of public expenditures (see table 1). Comparing the expenditures of 1982 with those of 1989 and preliminary estimates for 1990, several developments may be identified. First, overall expenditures, as a proportion of GDP, fell from 41.8 percent to 32.7 percent in 1989 and are projected to fall to 31.2 percent in 1990. If interest payments are deducted, primary expenditure fell even more rapidly, from 30.0 to 19.8 percent of GDP (21.7 percent in 1990). Finally, the programmed component of primary expenditures—where the authorities were able to focus their effort—show a contraction of 9.1 percentage points of GDP between 1982 and 1989.
Table 1. Public Sector Accounts, 1980-1990 (As a percentage of GDP)

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* Projected
The decrease by 30.2 percent in real terms from 1982 to 1988 of wage payments is one example of permanent and transitory expenditure cuts. On the one hand, the efforts to reduce the number of public servants through the closing of government departments and voluntary retirement programs were successful in avoiding an increase in the number of public employees during that period. This implied a permanent adjustment to expenditures. On the other hand, nominal wage increases lagged behind the consumer price index, thus reducing real wages. This last phenomenon constitutes a transitory cut in real expenditures.

In the short run, the brunt of the adjustment fell on investment. Although probably damaging to the growth potential of the economy (Tanzi 1987), in the immediate term this item was the easiest to adjust. The size of the cut, however, overestimates the real impact on the economy. As mentioned in the previous section, public investment had been expanding at a rate above that implied by efficiency considerations i.e., the internal rate of return of net investment projects might have been negative. The reduction of public investment, therefore, contains also a transitory and a permanent element. The short-term cut in overall expenditures is indeed a transitory cut; however the divestiture program entails a permanent reduction in investment outlays. Since 1982, public capital spending fell from a level of 6.7 percent of GDP to only 3.0 percent in 1989. The figures indicate that the adjustment was strongest in the oil sector. PEMEX investment spending declined by 1.9 of GDP during the period under study.

The real contraction of outlays on transfers and subsidies reflects one of the areas where structural change has been the deepest. However, it also reflects the dilemmas posed by a rapid implementation of the program. On the one hand, the increase in the relative prices of goods and services supplied by the public sector resulted in larger revenue for most parastatal enterprises, thus reducing their dependency on federal resources. On the other hand, just as in the case of the Federal Government, the debt service in this inflationary period entailed even larger interest payments that, in certain cases, increased the dependence on federal transfers. Finally, the institutional and financial restructuring which took place in most of these enterprises entailed a short run increase in their financial requirements. The Federal Government absorbed most of these expenses through higher transfers and subsidies, but overall there was a decline in federal transfers and subsidies by 1.3 percent of GDP between 1983-89.

From a quantitative perspective, the structural adjustment of public expenditures was significant. Qualitatively too these were important advances in several areas, especially since 1985. The reduction in the number of parastatal enterprises has permanently reduced current expenditures, it has also reduced the potential need for capital expansion. Within the Federal Government, ministries have been stream-lined, further limiting the possibility of future expenditure pressures. Finally, the public sector has launched innovative schemes for attracting private investment in infrastructure programs, an area that has traditionally been reserved for the public sector. This new system has the merit of providing the public sector with an instrument to orient investment toward areas deemed priority for economic development while at the same time liberating the government from the need to provide the necessary resources.
The qualitative structural changes will require further strengthening. The pace at which expenditures were cut was bound to generate certain distortions. The curtailment in capital investment has already been noted. Employment cuts have also been unequal, in some parastatal enterprises understaffing has become a problem while in others overstaffing still prevails. Similar problems exist in some areas of the Federal Government. Finally, as long as the stock of debt remains large, the risk of an increase in interest rates remains.

Public Revenues and Tax Structure Reforms

Though in general the reforms on the revenue side were aimed at raising total revenues, several other issues were of concern also. During the previous decade, the tax structure had been modified on numerous occasions to address short-term needs. But in the end it proved ineffective in generating revenues and also introduced serious distortions into the productive system while relying excessively on oil export earnings. This last point became critical in 1981 and 1982 when international oil prices plummeted. Thus, the incoming administration faced a difficult dilemma in deciding where to focus its tax policy: on raising revenues, correcting tax distortions, or enforcing the stabilization program.

On the tax revenue front, the initial reform measures adopted in 1983 were aimed at compensating part of the drop in income from oil exports by permanently increasing the value added tax from 10.0 percent to 15.0 percent (excluding canned food and pharmaceutical products that were taxed at a rate of 6.0 percent). In 1983 the authorities also imposed a temporary increase in the personal income tax. The special sales taxes on oil products (IEPS) were further adjusted upwards during this period.

However the tax reforms did not have the expected impact on public revenues. First, taxes as a proportion of GDP did not increase between 1983 and 1987. Second, the share of indirect tax revenues in total tax revenues increased, thus rendering the system more regressive. Finally, tax evasion continued to plague the system, further aggravating the regressive nature of taxes.

Fiscal coordination among federal, state, and local governments provides for revenue sharing from certain taxes. On this account, the efforts by the federal government to raise tax revenues were rendered less effective because of the increase in transfers to state and local authorities. It should be noted, however, that this tax effort also implied a strengthening of the fiscal position of state and local finances.

One of the major factors that explain the poor performance of the tax reforms is inflation. In late 1982, the incoming administration decided to emphasize the stabilization effort rather than adjust the tax structure to cope with inflation. Yet as relatively high levels of inflation persisted, it became necessary to implement several measures aimed at preserving tax revenues in real terms in an inflationary environment. Besides an automatic adjustment to personal income tax, two other main measures were: the introduction of inflationary accounting standards, and a shortening of the period between tax accrual and tax payment. The first of these two
measures gradually eliminated the deducibility of the inflationary component of interest payments, thus eliminating a long-standing distortion between debt and capital financing of enterprises. The second one impinged on the Tanzi effect. In 1987 a new tax policy was adopted whose major goal was the reduction of the effective tax rate and a widening of the tax base. On that year the marginal rate of personal income tax to the highest bracket was reduced from 55 percent to 50 percent, while the number of brackets fell from 16 to 12. Further reductions took place in subsequent years, reducing the maximum rate to a level close to international standards. A program to reduce the corporate income tax from 42 percent to 35 percent by 1991 was also started. This policy intends to enhance the international competitiveness of domestic firms.

Another important reform introduced that year was the application of inflationary accounting practices. This reform, which was to be implemented gradually, would mainly affect the treatment of interest payments. Whereas in the past, nominal interest payments had been tax deductible, the reform would allow only the real component of these payments to be deductible while the inflationary component would be included in the tax base. This reform, in addition to furthering the efficiency of the tax system, also helped to eliminate a distortion that had favored corporate debt over equity financing.

In 1989 a two percent tax on corporate assets became effective. This new tax, however, may be deducted from corporate income tax. The measure is intended to avoid fiscal evasion and improve the control over corporate taxpayers. It had already had a significant impact on tax collection. Overall income tax revenue increased by nearly 1.5 percent points of GDP between 1987 and 1989.

For the 1990 fiscal year, a set of reforms were introduced to broaden the tax base and thereby achieve a more equitable and efficient tax system. Fiscalization efforts were also promoted through both administrative processes and legal schemes. The individual income tax rate was brought down to 35.0 percent, and the number of tax brackets was halved to six; the corporate income tax rate was reduced to 36.0 percent. This measure virtually established domestic rates on a par with foreign countries thus eliminating discriminatory regulation against external investment in Mexico.

Two major loopholes were practically eliminated: the “special tax regime” (bases especiales de tributación—BET) and “minor tax payers” (causantes menores). The decision was based on the fact that firms that belonged to these categories generate 18.0 percent of GDP, but only paid about 1.0 percent of total income tax revenues.

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3 In this context it is important to note that the modalities in which public prices were adjusted upwards could have had an impact on inflation, mainly through inflationary expectations. However, this pricing policy significantly strengthened the financial position of the parastatal sector and that, in turn, was one of the main factors in the fight against inflation.
The BET had become a major source of corporate income tax evasion. The new reform establishes that productive units with an income of less than 20 times the minimum wage will not pay taxes. As for those remaining under the BET, the applicable income and assets tax rates will be only half that of the general regime. Income tax is only charged when owners take out their benefits from the productive unit, or if firms that reinvest their profits do not pay taxes. Finally, "ejidatarios, comuneros y colonos" (peasants under communal land property regimes) will be exempted from the tax obligations.

Many firms used to register under the "causantes menores" regime without fulfilling the required conditions, namely having a low volume of income. Under the old regime, these entities paid a small fixed quota. It is estimated that 80.0 percent of total productive units were in the "causantes menores" category.

Other reforms refer to the adjustment of fines according to the inflationary process. In the former scheme, fines were not fully adjusted by the increases in the consumer price index and the level of market interest rates. Many firms purposely incurred fines and used the scheme as a source of relatively cheap financing.

During the initial stages of the program the burden of raising revenues fell upon the pricing policy of parastatal enterprises. This policy performed a more flexible role in generating a larger volume of public revenues. Although the increases in these prices tended to have short term impact on inflation, the authorities moved more aggressively in this area recognizing that in the longer term a healthier fiscal position would limit inflationary pressures.

By the end of 1982, important subsidies were eliminated through significant increases in the prices charged by parastatals. Between December 1982 to 1987, average public prices rose by 52.0 percent in relation to the consumer price index. However, several public goods and services, like gasoline, petrochemical products, electricity for housing, freeways, bean, and sugar still lagged behind the consumer price index. On the other hand, products like gas, diesel railroads, telephones, and fertilizers registered important increases in real terms.

Revenues of public parastatals, excluding the oil company, increased by 1.2 percent of GDP between 1982 and 1987. Furthermore, significant progress was made toward achieving a more efficient relative price system in the economy.

The price increases, in addition to their direct effect on total revenues, also helped to restrict private demand for publicly-provided goods and services. This second element contributed further to dampen the need for new investment by the parastatal sector. This effect was particularly important in the case of electricity and gasoline, where investment projects were postponed without creating bottlenecks in the productive system. The elimination of subsidies implied by the price adjustments also contributed to a more efficient allocation of resources by the private sector.
The stabilization program launched in 1987 relied for its success on a further correction of the fiscal imbalances. However, in order to abate the inflationary element due to inertia, the pricing policy of public enterprises had to be adjusted so as to avoid the negative short-term impact on expectations of economic agents. In essence, important public prices were frozen after an initial upward adjustment; as a result, part of the relative increase in public sector prices was gradually eroded. Public prices fell on average by 28.2 percent between 1987 and 1989.

The divestiture program

In 1970, the number of public enterprises had been 491, but by the end of 1982 this figure was 1205. Different political and economic arguments were put forward to justify the increasing presence of public enterprises. Among them one can mention that public sector intervention is based on the need to protect strategic sectors; also that high levels of investment were required to finance the development of some industries, and that resources could not be easily obtained by private agents. Another argument alludes to the existence of market failures that generate inefficiencies in resource allocation. Finally, it was argued that public enterprises allow the implementation of industrial policies linked with macroeconomic objectives.

Although in principle it is not important if the private or public sector owns a firm as long as it is autonomous and has a clear profit maximization objective, there do tend to exist efficiency differences between private and public firms. The lack of adequate methods of evaluation and control, and the non-existence of bankruptcy risk seem to support this assertion. However, of late, the major element that has adversely affected public enterprise efficiency is the lack of investment resources (due to budget constraints faced by the government.) The recognition of this last argument is perhaps what finally prompted the government to revert to the previous inclination of more public intervention in the economy.

In 1983 the Mexican government initiated a long-term divestiture program in an attempt to rationalize the direct participation of the public sector in the economy. This policy was aimed at reducing the size of the public sector, and improving its efficiency and productivity in order to support economic structural change.

The divestiture process has taken different forms: liquidation, transfer to states and municipalities, sale of non-priority firms, and merger between firms within the same sector. By the end of 1989, the government had privatized 240 firms, merged 82, liquidated 276, and transferred 30 to the states. A total of 770 entities have been divested, with another 142 in the process of extinction.

Since 1988, the figures indicate that the public sector has abandoned, totally or partially, 22 areas of economic activity, among them tourism, agroindustry, electric and electronic accessories, soft drinks, machinery, transport equipment, and lumber. In addition different enterprises belonging to 4 areas of the productive sector are in the process of being sold: these are sugar refineries, basic metallurgy, construction, and the chemical industry.
During the 1983-1988 period, the Federal Government authorized the sale of 237 firms. Sales by sector indicate that 6.0 percent of the divested firms belong to the mining sector, 16.0 percent to the service sector, and 73.0 percent to the industrial sector.

According to the Public Enterprises Modernization Program (1990-1994), the government will continue with the divestiture of public enterprises considered non-strategic or non-priority. The public sector will continue to participate in strategic and high priority economic sectors, but not without improvements in the control and operation of such enterprises.

In 1990, the divestiture process was stepped-up. Major actions include the announcement of the privatization of the steel sector and the telephone company. The sale of this enterprise was accomplished at the end of the year and is the largest operation of its type ever conducted in Latin America. In May 1990, a constitutional amendment was passed allowing privatization of the banking system. The state withdrawal from non-priority and non-strategic sectors will strengthen the financial position of the public sector, and at the same time it will disengage a considerable sum of resources that can be redirected to the provision of public services.

The deregulation process

A critical element of the structural reform policy has been the process of deregulation initiated since 1988. The structural reforms, both at the macroeconomic and microeconomic levels are intended to reestablish sustained growth, promote efficiency, and strengthen the ability of the economy to respond flexibly to market developments. At the macroeconomic level, the most important measures have been the opening of the economy to international competition and financial liberalization. At the microeconomic level the major actions have affected the following sectors: cargo transportation, petrochemicals, packing norms and standards, transfer of technology, sugar production, cacao production, coffee production, customs, aquaculture, oil refining, and telecommunications.

Regulated markets in general tend to deviate from equilibrium causing higher prices for consumers, excessive rents for producers and an inefficient resource allocation. Moreover, administrative costs of regulation are substantial, and affect both the government and public enterprises. This fact, however, does not imply that all regulations will be eliminated. Under certain circumstances of market failure, such as in the case of a monopolistic market, regulation should be implemented in order to obtain a competitive equilibrium outcome.

In 1985, the Mexican government adopted a trade policy aimed at a more open system. Until the mid 1980s the trade strategy had protected the economy against international competition in order to develop the domestic industrial sector. But, in the mid 1970s this strategy began to show signs of exhaustion. The new trade policy was based on the reduction of a number of permits and a cut in the ad-valorem tax. The removal of barriers to entry to the domestic market should increase productive efficiency and stimulate domestic producers to improve their competitiveness in the domestic and foreign market. Trade liberalization will also promote non-oil exports.
In the financial sector significant progress has been achieved. In the past, the loanable funds market was characterized by a continuous disequilibrium as a result of the exogenous setting of interest rates, usually below the equilibrium level. The financial repression resulted in high active interest rates and an environment that restricted financial deepening, as well as financial innovation. The measures adopted in late 1988 led to a virtual liberalization of interest rates and credit policies, relying more on indirect market-oriented mechanisms and less on administrative guidance. More recent legislation has also contributed to the strengthening of non-bank financial intermediaries and, in general, to a more efficient operation of the financial system.

A detailed description of the sectorial deregulation measures which have been adopted recently is presented in the appendix.

Medium Term Perspectives

The program of structural adjustment in the public sector has already been sustained for several years. This fact in itself is a significant achievement when compared with similar programs in other countries. In addition the program has had a very wide scope, and has been supported by complementary policies in other areas. However, by definition, structural adjustment programs are slow in producing results and costly in the short term. For these reasons it might still be premature to attempt an assessment of the successes, weaknesses, and perspectives of the program. Furthermore, as mentioned in earlier sections of this paper, the emphasis of the program evolved from a traditional adjustment program to a full fledged structural adjustment program. Moreover, during the different phases of implementation other policies were adopted such as a more comprehensive liberalization policy, a heterodox financial stabilization program. The economy was also subjected to severe external shocks in those years. Thus, it is difficult to isolate the effects stemming purely from the fiscal structural measures. Perhaps it is not even appropriate to do so, since those measures might not have been taken had it not been for actions on other fronts. Nevertheless it is useful to compare the most important objectives of this program with the progress achieved up to the present. This exercise should provide a measure of the success, and serve to indicate what steps need to be taken in the future.

The first and foremost objective of the structural adjustment program was to alleviate the fiscal deficit. Since no single definition may characterize the problem, one should look at several of them. The widest concept, the public sector borrowing requirement (PSBR), stood at 16.9 percent of GDP in 1982; and by 1989 this figure had fallen to 5.6 percent; in 1990 this figure is expected to reach 4.3 percent. Since the PSBR includes interest payments that are very responsive to the level of inflation, (and inflation was lower in 1989 than in 1980), other definitions may give a clearer picture of the adjustment. The primary balance, a concept excluding all interest payments, recorded a deficit of nearly 3.5 percent points of GDP in 1982. In 1983 the balance was already in surplus, registering a surplus of 8.3 percent of GDP in 1989. A slight decline to 7.5 percent is projected for 1990. The operational balance is another concept that excludes from the PSBR the inflationary component of domestic interest payments. This concept is very sensitive to the level of real interest rates. Still, in 1982,
when the average real interest rate was -8.2 percent, the operational deficit was 5.5 percent of GDP. In 1989 despite an increase in the average real interest rate to a level of 20.8 percent, the operational deficit was only of 1.6 percent. In the interim years the operational balance recorded surpluses of up to 1.8 percent, and in 1990 the surplus may be 2.3 percent.

A different type of indicator of the fiscal position is the amount of debt outstanding. At the end of 1982 the stock of external debt was US $92.4 billion. By March 1990, after the conclusion of the restructuring agreement with foreign creditors, the stock had fallen to $91.5 billions. Seen differently, while in 1982 foreign debt represented 54 percent of GDP, currently it stands at approximately 40.8 percent. Domestic debt, on the other hand, after experiencing an upward trend during the 1980s has tended to stabilize in the last few years. Overall debt does however register a substantial decline since 1986. All these indicators point toward a significant correction of the fiscal imbalance, and in particular, the foreign debt reduction implies a smaller commitment on future fiscal revenues.

A different criterion to evaluate the improvement of public finances is the degree of diversification of revenue sources. On this front it is worth pointing to the decline in the share of oil related revenues, and more importantly, the decreased dependence on this source. The share of oil related revenues in total public revenues fell from 31.1 percent in 1982 to 28.2 percent in 1989. Tax revenues rose from 9.9 to 10.5 percent in the same period (despite a reduction in the maximum income tax rate), and the ratio of federal government revenues to current expenditures rose from 70.2 to 86.0 percent. This last point shows more clearly the gains in terms of room for maneuver of public finances. This means that a future decline in oil prices could be faced with more flexibility since current expenditures are less vulnerable to current revenues. Though the advances in this area have been substantial, oil revenues continue to be an important source of revenue and for this reason further progress in insulating public finances from volatility in the international oil market is warranted.

Moving away from the quantitative improvements in the fiscal accounts, which perhaps could have been produced without structural adjustment, it is important to analyze the effectiveness of the public sector in mobilizing resources and its impact on social welfare. On the one hand, the widening of the tax base and the standardization of tax rates enhances equity in the system. However some serious distortions continue to persist—such as the differential treatment for higher income sectors who are taxed on their net income, and lower income sectors (applicable to firms only) whose tax base is measured on a cash flow basis; the different tax rates for wages versus capital income; and the differential rates of VAT according to an arbitrary definition of goods and services into luxury and basic needs items. Although the welfare loss caused by these remaining distortions is hard to measure, it is difficult to argue against the general perception that measures have advanced significantly on this front.

Regarding the impact of public expenditures, the contraction in real terms of investment in infrastructure, and current spending in health, education and housing has had a negative impact on welfare. Yet, these costs should be weighed against the gains from a more dynamic private sector that in addition to beginning to generate growing rates of new
employment tends to allocate scarce resources more efficiently. For example, the recently privatized airlines have a larger number of employees than before, and are rapidly expanding their investments, as well as paying taxes into the government coffers. Besides in this area short term costs should be weighed against longer term gains. Estimates of this type are beyond the scope of this paper, although it is true that the initial costs have been very high.

One more element to gauge the effect of structural adjustment on public finances is the impact on economic activity. In this context the premise is that the adjustment should stimulate productive and allocation efficiency in the economy. Although in this area it is particularly difficult to isolate the effects of fiscal measures from the external trade liberalization measures, one can distinctly detect a transformation in productive patterns. Several developments support this view. Non-oil exports have grown in the last seven years at an average rate of 18.7 percent, but exports expanded at an annual rate of 31.2 percent between 1982 to 1989. The improved economic environment is also attracting investment, both domestic and external. Finally, economic revival is taking place despite the reduction in profit margins that are now approaching international levels.

One last criterion to measure the progress achieved by structural adjustment is the support it has gained by those most affected by it. This is important because their support is the best guarantee for the continuity of the program. In this respect it is useful to recall that in 1980, when the government announced its intention to join GATT (the General Agreement on Trade and Tariffs), trade unions and entrepreneurs joined forces to oppose and stop the initiative. In other countries, the enactment of programs similar to the one applied in Mexico has aroused social strife. In Mexico the launching of the current adjustment program did not provoke a negative reaction to the point of derailing it from its original course. On the contrary, as the first positive results have started to become evident, support for the program has come from numerous sectors of society. The stabilization program had as one of its main traits a system of consultation between the government, labor unions, peasants, and private entrepreneurs, and this system continues to provide support for the economic reforms.

From this brief survey of the criteria used to evaluate the structural adjustment program, several conclusions may be drawn. First, since 1982 and more so since 1985, there has been substantial progress both in quantitative and qualitative terms. Second, in most areas there remain outstanding issues. And third, as the initial benefits of the program have become noticeable, a growing number of interest groups have begun to support the program. These three factors auger well for continuing the program in the medium term.

The major risks in the near future for the adjustment program stem mainly from the possibility that unanticipated shocks will rekindle inflationary pressures. Although the stabilization program has succeeded in reducing inflation to levels of close to 20 percent annually, this level may be regarded as highly unstable. A rise in inflation could weaken public support for the program and even lead to a reversal of some measures. Continued foreign support will also be critical. A reduction of the net transfers abroad, obtained by the renegotiation of external debt, will not be
sufficient to guarantee the success of the program; large influxes of foreign investment will also be required.

At this stage, after having incurred the major costs of structural adjustment in the public finances, it is necessary to carry on the program as the best insurance that these risks will not be realized.
APPENDIX

DEREGULATION MEASURES ADOPTED SINCE 1988

Packaging Reforms

This is a new regulation that allows the use of recycled materials for packaging purposes, with no limit in the number of presentations per product. These reforms will diminish the cost of packaging and transportation, mainly as a result of a switch from glass and tin to plastic.

Cargo Transport

In this area, deregulation will have an important impact in cost and efficiency, by eliminating several "bottle necks" in the productive sector. The main reforms in this sector will be: free entrance to the activity and permission to transport any product without permit, except for explosive and toxic materials; elimination of restrictions to embark products in any place; removal of a 15.0 percent extra tariff on imported inputs.

It is expected that the benefits of these strategies may amount to close to one billion dollars as a result of cost reductions, as well as eliminating the existing monopolistic gains.

Petrochemical Industry

The Mexican Constitution restricts production of primary and secondary petrochemical products to the public sector. In order to solve this problem, the government is redefining primary petrochemicals from 800 to 66 items, granting private production in the sector. In the short term, investment opportunities for the private sector of nearly $1,730 million will result from these reforms. Also there will be a decline in the investment requirements for PEMEX, allowing it to direct its scarce resources to the refining sector. Furthermore, the increase in production and efficiency will reduce imports and stimulate exports.

Technology Transfer

The deregulation process will relax technology transfer restrictions, thus stimulating foreign firms already established in Mexico to use their own technology and to create new ones instead of importing intermediate goods.

Aquaculture

The Mexican authorities have allowed free entrance to this activity, in particular it is not necessary to be organized as a cooperative to participate in the production of any products formerly reserved for the
cooperatives. Foreign investment can also participate providing up to 49.0 percent of the capital of an aquaculture firm. This policy will allow aquaculture to develop to its full potential.
References


