

Public Sector Deficits and Macroeconomic Stability in Developing Economies

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For many developing and Eastern European countries the 1980s and early 1990s were years of macroeconomic upheaval. For instance, the debt crisis that erupted in 1982 generated significant dislocations throughout Latin America, where balance of payments deficits soared and inflation increased rapidly. In the former communist countries, on the other hand, the fall of the Berlin Wall was accompanied by serious macroeconomic disequilibria, large public sector deficits, and very high inflation rates. During the last few years most countries in these regions—as well as in other parts of the world, including Asia—have embarked on major structural reforms and have struggled to regain macroeconomic stability. Much of the policy discussion in these countries has centered on the most effective way of implementing stabilization programs, and has focused on a handful of key issues, including (1) alternative ways of reducing public sector deficits; (2) the appropriate use of credit and monetary policies in programs aimed at taming inflation and eliminating unsustainable external deficits; and (3) on the role of nominal exchange rate anchors as a device for reducing inflation and maintaining stability over the longer run.

In many countries the stabilization efforts of the last few years have begun to bear fruit, and inflation rates have declined significantly. In Latin America the average rate of inflation was reduced from over 1,200 percent in 1989 to 14 percent in 1994. Progress has also been impressive in many former communist nations: for

instance, in Poland yearly inflation has declined from over 460 percent in 1990 to less than 33 percent in 1993. At the center of these successful stabilization efforts have been impressive reductions in public sector deficits, and conservative credit policies. These adjustments, in turn, have been achieved through the implementation of a number of measures, including tax reforms, expenditure (both current and capital) reductions, and privatizations of public enterprises.¹ In spite of the enormous progress in fiscal adjustment during the last few years, in a number of countries fiscal issues have not been fully resolved and remain crucially important. This is particularly the case in those nations where unfunded retirement systems are contributing to very large public sector *contingent liabilities*.²

Now that inflation is subsiding, policymakers are increasingly turning their attention to the real side of the economy. In most developing and transitional countries there is a keen interest in devising policies that will accelerate growth and will increase the rate of employment creation. This has been especially the case in Latin America, where as a consequence of the debt crisis of the 1980s, growth came to a halt for almost a decade. By 1992, and after a remarkable process of market-oriented reforms, the nations of this region had recovered and were once again growing. The sense among analysts and policymakers, however, has been that the average real rate of growth for 1992-94—approximately 3 percent—was modest, and that in order to compensate for the stagnation of the so-called “lost decade,” the rates of economic expansion should accelerate substantially.³ In discussing these issues a number of authors have pointed out that low saving rates are one of the most serious constraints faced by the Latin American countries. According to the World Bank (1993a) the median ratio of gross domestic savings to GDP was only 20 percent in Latin America in 1991, more than 15 points below that of the East Asian countries. Moreover, the Mexican peso crisis of December 1994 has highlighted the fact that low (and declining) saving rates have contributed to generating unsustainable current account deficits in many countries undertaking major structural reforms. Whether or not these low rates of savings have been a direct consequence of the stabilization and liberalization reforms programs is still an open question, but one

that has generated a heated debate. Naturally, issues related to saving rates have not been confined to the Latin American nations, but have also acquired a central role in policy discussions in other developing nations and in the transitional economies.⁴

The purpose of this paper is to analyze some important aspects of fiscal adjustment in a group of developing economies during the last few years, and to discuss some of the most pressing unresolved issues and challenges. Although the discussion focuses primarily on the case of the Latin American nations, most of the analytical, conceptual, and policy dilemmas in the paper are relevant to a large group of developing countries, and to many of the transitional economies. The paper is organized as follows: the first section deals with Latin America's experience with fiscal adjustment during the 1980s and 1990s. In particular I discuss in some detail how some countries—most notably Argentina, Chile, and Mexico—were successfully able to reduce (or fully eliminate) their fiscal deficits. The analysis presented in this section deals with the nature and scope of tax reforms, the role of expenditure reduction, the relationship between privatization programs and deficit reduction, and the way in which some of these countries have dealt with the fiscal burden of their social security systems. The second section concentrates on the interaction between fiscal policy, savings, and growth. The section starts with a discussion of the role of capital flows and foreign indebtedness as a source of investment financing, and then tackles issues related to the determination of domestic savings in a large number of countries. The analysis makes a distinction between the process of determination of private and public savings. In the third section I discuss the way in which the policy issues discussed in the body of the paper apply to the current policy debate in many of the transition economies, and some concluding remarks are offered.

Fiscal adjustment in the 1980s and 1990s in Latin America

In the mid- and late 1980s, and after the traumatic experience of the debt crisis, most of the Latin American nations faced three fundamental and interrelated macroeconomic problems. First, there

was a need to reduce, on permanent bases and in an efficient way, the gap between aggregate expenditure and income. Second, inflation, which had jumped dramatically after the eruption of the debt crisis in 1982, had to be lowered to “reasonable” levels. And third, it was necessary to generate a stable macroeconomic environment conducive to the resumption of growth. The failure of the so-called *heterodox* stabilization programs in Argentina, Brazil, and Peru during the early part of the 1980s generated a growing agreement among policymakers that the solution of these macroeconomic problems required decisive fiscal adjustments, including major tax reforms.⁵

The macroeconomic stabilization programs implemented in Latin America during the late 1980s dealt with four basic and interrelated issues. First, programs aimed at reducing the burden of the foreign debt were designed in most countries. Second, fiscal adjustment programs aimed at reducing the public sector deficit were implemented. This was done through a number of initiatives, including tax reforms, expenditure cuts, and, in a number of countries, the sale of state-owned enterprises to both domestic and foreign parties. In many countries privatizations were linked to debt-equity swaps, where foreigners exchanged outstanding debt for stakes in state-owned enterprises. Third, the macroeconomic adjustment packages required the implementation of consistent domestic credit policies that, at the same time, relieved the pressures on aggregate demand and avoided crowding out the private sector. And, fourth, exchange rate policies consistent with the anti-inflationary effort had to be designed.⁶

Table 1 contains data on the evolution of inflation in Latin America between 1984 and 1995—naturally, the data for 1995 are mid-year predictions. As can be seen, in the vast majority of the countries in the region, inflation rates declined dramatically between 1988-89 and 1994-95. In particular, by the mid-1990s inflation had reached single digit (or very low double digit) levels in a large number of countries, reflecting, from a historical point of view, a marked improvement. This section contains an analysis of the fiscal policies implemented by (many of) these Latin American nations during this

Table 1 is located in file S95EDTBL.PDF

period, and of the way in which this fiscal effort permitted this process of inflation reduction.

Fiscal austerity in the late 1980s and early 1990s

Fiscal imbalances have traditionally been at the heart of Latin America's macroeconomic disequilibrium. Governments' inability, or unwillingness, to raise sufficient tax revenues to cover expenditures have forced them to rely on money creation, or seigniorage, to finance the public sector deficit.⁷ These policies created a vulnerable system that contributed to magnifying the effects of the debt crisis in the early 1980s.

During the latter part of the 1980s and early 1990s, and partially as a result of the disappointing behavior of their economies, most countries in the region made efforts to reduce their public sector imbalances, as a way to restore macroeconomic equilibrium and foster economic growth. Tables 2 through 5 provide a broad summary of the magnitude of the adjustment programs in a selected group of countries. Under the next subheading, on the other hand, three case studies—for Chile, Mexico, and Argentina—are discussed in some detail.

Table 2 contains data on the evolution of the consolidated public sector deficit as a percentage of GDP, for eleven countries for 1986-92. An advantage of these data is that they refer to the *public sector*—including government-owned enterprises, provinces, and municipalities—and not to the narrower concept of central government. For many years many Latin countries exhibited relatively balanced central government accounts and very high deficits in the public sector ledgers. In most cases there has been a marked improvement in public finances; with the exception of Venezuela and Costa Rica, every country in the table has drastically reduced its public sector deficit relative to the mid-1980s.⁸

Argentina and Nicaragua are two startling cases, where truly gigantic deficits were transformed into large surpluses. Nicaragua's adjustment after 1990 was part of the Chamorro Administration's successful

Table 2
Public Sector Balance as a Percentage of GDP
Selected Countries and Years

| | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|--------------------------------|------|-------|-------|-------|-------|-------|------|
| Argentina | -4.1 | -6.5 | -7.0 | -21.8 | -3.3 | -1.8 | na |
| Brazil ^a | -3.7 | -5.7 | -4.8 | -6.9 | 1.3 | -3.0 | -2.2 |
| Chile | na | -4.3 | -0.7 | 3.5 | 1.6 | 0.3 | .03 |
| Colombia ^b | -0.3 | -2.0 | -2.2 | -2.9 | -0.8 | -0.1 | na |
| Costa Rica ^b | na | -0.3 | -0.3 | -2.8 | -2.9 | -1.2 | 0.7 |
| Ecuador | -5.1 | -9.6 | -5.1 | -0.9 | 0.4 | na | na |
| Guyana | -5.6 | -34.0 | -32.5 | -47.9 | -58.2 | -32.8 | na |
| Jamaica | -5.6 | -5.4 | -12.8 | -6.3 | -2.9 | -0.4 | na |
| Mexico | na | na | na | -1.6 | 1.2 | 3.5 | na |
| Nicaragua | na | na | -36.7 | -18.4 | -17.8 | 4.0 | -2.0 |
| Peru | na | na | na | -10.7 | -6.5 | -3.2 | -1.4 |
| Trinidad & Tobago ^c | -9.5 | -7.7 | -6.5 | -4.4 | -1.4 | -0.9 | na |
| Uruguay | -5.2 | -4.2 | -5.0 | -7.6 | -3.6 | na | na |
| Venezuela ^d | na | -5.4 | -9.3 | -1.3 | na | -3.0 | -3.2 |

Note: A positive number is a surplus; a negative number is a deficit.

^aOperational nonfinancial deficit, including net interest payments.

^bData refer to nonfinancial public sector.

^cNonfinancial public sector overall balance.

^dData refer to the so-called "reduced public sector."

Sources: IMF, Government Financial Statistics; World Bank, World Tables; and individual country reports.

battle against hyperinflation. The control of public finances, coupled with other measures that included the fixing of the nominal exchange rate and the reprivatization of a number of enterprises, helped reduce the rate of inflation from 18,000 percent in 1990, to 3.7 percent in 1992. In Argentina, the turnaround in the fiscal deficit was the central component of a stabilization program aimed at recovering the country's historical macroeconomic stability, and achieving rates of inflation consistent with those in the rest of the world (see the discussion below for greater detail). This table also illustrates Mexico's success in equilibrating its public finances in the period leading to the approval of the North American Free Trade Agreement (NAFTA).

Chile is another interesting case of deficit management. In the mid-1980s, and as a result of the debt crisis and the failure of a number of financial institutions, Chile developed large public sector deficits.⁹ These, however, were eliminated in 1988-89 through reduced expenditures and a new tax reform. The generation of positive government savings became an important component of the government strategy to accelerate growth; by 1989 a comfortable public sector surplus had been achieved.¹⁰ The existence of this surplus allowed the new administration of President Aylwin to finance an increase in social expenditures aimed at reducing poverty and improving income distribution in the early 1990s—see the discussion under the next subheading for details.

The case of Brazil contrasts sharply with that of Argentina. Between 1986 and 1988 both countries experienced significant fiscal disequilibria that were closely related to the failure of the heterodox experiments. Public sector finances deteriorated rapidly in Argentina until, in early 1989, the country suffered a complete breakdown of macroeconomic management and succumbed to hyperinflation. In late 1989, the new administration of President Menem embarked on a serious stabilization program that, as discussed in greater detail below, centered its efforts on a drastic reduction of the government deficit. Brazil, on the other hand, followed a divergent path. After a brief interlude with fiscal austerity during the early years of the Collor de Mello Administration, the country slipped back into increasingly large public imbalances that have fed a voracious inflation which reached 1,195 percent in 1992. It is only in 1994 with the implementation of the *real* plan that a credible and consistent stabilization program was implemented in Brazil. Whether the gains achieved by this program will be maintained through time is still to be seen, and will clearly depend on the Cardoso Administration's ability to generate new significant fiscal adjustments.

In most countries the improvement in the public sector accounts has been accomplished through a combination of higher revenues and lower expenditures. On the revenues side, most programs included: (1) tax reforms aimed at improving the efficiency and effectiveness

of the tax system; (2) improvements in tax administration, including efforts to reduce evasion; (3) increases in public services prices in order to cover costs; and (4) sales of state-owned enterprises.

During the 1980s and early 1990s World Bank and International Monetary Fund (IMF) conditionality focused, among other things, on the need to implement significant tax reforms throughout Latin America. These reforms had a number of objectives, including the reduction of distortions, the simplification of the tax system, and generation of increased tax revenues. Table 3 presents data on tax rates—for personal, corporate, and foreign companies' income—in both pre- and post-reform periods for a number of countries. Table 4, on the other hand, contains data on the evolution of the value added tax (VAT). A number of interesting facts emerge from these tables. First, as reflected in Table 3, in the majority of the countries (eleven out of eighteen with relevant data) the top income tax rate was reduced, while the minimum rate tended to increase. At the same time, most countries raised the exemption level for the personal income tax. Shome (1994) reports that for the region as a whole the average exemption increased from approximately one times per capita GDP in 1985 to almost two times per capita GDP in 1991. The combination of these two measures was expected to increase the efficiency of the tax system, at the same time as reducing its (traditional) degree of regressiveness.

Second, the data in Table 3 also show that the maximum marginal rates on the corporate income tax have, in general, been reduced. Also the number of corporate tax rates has been cut down significantly. Additionally, Shome (1994) argues that an important aspect of tax reforms in the region is that they have eliminated the uncertainty that had traditionally surrounded taxation of capital gains; most countries have decided to treat capital gains as ordinary income. And third, Table 3 shows that the withholding rate on foreign remittances was reduced in most countries in an effort to encourage foreign investment.

The data in Table 4 deal with the VAT. Perhaps the most important effect of the reforms in this area is that at the end of 1993 most Latin

Table 3
Tax Rates in the Pre-Reform and Post-Reform Periods
(percent)

| Country | Personal Income Tax | | Corporate Income Tax | | Withholding Taxes on Foreign Remittances ¹ | |
|-----------------------|------------------------|--------|-------------------------|----------|--|------|
| | 1985-86 | 1991 | 1986 | 1992 | 1986 | 1993 |
| Argentina | 16.5-4.5 | 6-30 | 0-33 | 20 | 23 | 17 |
| Bolivia | ...-30 | 13 | 0-30 | 0 | 25 | 13 |
| Brazil | 0-60 | 10-25 | 29-50 | 25-40 | 25 | 22 |
| Chile | 0-57 | 5-50 | 10-37 | 15-35 | 40 | 38 |
| Colombia | ...-49 | 5-30 | 40 | 30 | 40 | 12 |
| Costa Rica | 5-50 | 10-25 | 0-50 | 30 | 15 | 18 |
| Dominican Republic | 2-73 | 3-70 | 0-49.3 | 0-49.3 | 20 | 30 |
| Ecuador | 19-40 | 10-25 | 0-59 | 0-44.4 | 40 | 36 |
| El Salvador | 3-60 | 10-50 | 0-30 | 0-25 | 22 | 20 |
| Guatemala | 11-48 | 4-34 | 0-42 | 12-34 | 16 | 17 |
| Honduras | 3-40 | 3-40 | 0-55 | 0-40.2 | 10 | 18 |
| Mexico | 3-55 | 3-55 | 5-42 | 0-35 | 37 | 22 |
| Nicaragua | 15-50 | 6-50 | 0-45 | 0-35.5 | 20 | 30 |
| Panama | 13-56 | 2.5-56 | 0-50 | 2.5-45 | 30 | 22 |
| Paraguay | 5-30 | 0 | 0-30 | 0-30 | 23 | 25 |
| Peru | 2-56 | 5-56 | 0-40 | 0-30 | 42 | 19 |
| Uruguay | 0 | 0 | 0-30 | 0-30 | 30 | — |
| Venezuela | 12-45 | 4.5-45 | 18-67.7 | 20-67.7 | 20 | 15 |
| Regional average | 5-36 | 7-47 | 3.4-46.3 | 8.6-36.5 | 27 | 22 |

¹Simple average.

Source: Shome (1994).

American countries had adopted a value added tax system. Additionally, an effort was made to increase the VAT's efficiency through a reduction of the number of rates and a broadening of its base. The IMF has estimated that most countries in the region that were able to increase their tax revenue to GDP ratio did so through an increase in the contribution of the VAT to total revenues.

Table 4
Value-Added Tax: Percentage Rates

| Country | Date VAT Introduced or Proposed | At Introduction | January 1994 |
|---------------------|---------------------------------|-----------------|-------------------------|
| Argentina | Jan. 1975 | 16 | 18, 26, 27 ¹ |
| Bolivia | Oct. 1973 | 5, 10, 15 | 14.92 ² |
| Brazil ³ | Jan. 1967 | 15 | 9, 11 |
| Brazil ⁴ | Jan. 1967 | 15 | 17 |
| Chile | Mar. 1975 | 8, 20 | 18 |
| Colombia | Jan. 1975 | 4, 6, 10 | 8, 14, 20, 35, 45 |
| Costa Rica | Jan. 1975 | 10 | 8 |
| Dominican Republic | Jan. 1983 | 6 | 6 |
| Ecuador | Jul. 1970 | 4, 10 | 10 |
| El Salvador | Sep. 1992 | 10 | 10 |
| Guatemala | Aug. 1983 | 7 | 7 |
| Haiti | Nov. 1982 | 7 | 10 |
| Honduras | Jan. 1976 | 3 | 7, 10 |
| Jamaica | Oct. 1991 | 10 | 12.5 |
| Mexico | Jan. 1980 | 10 | 10 |
| Nicaragua | Jan. 1975 | 6 | 5, 6, 10 |
| Panama | Mar. 1977 | 5 | 5, 10 |
| Paraguay | Jul. 1993 | 12 | 10 |
| Peru | Jul. 1976 | 3, 20, 40 | 18 |
| Venezuela | Oct. 1993 | 10 | 10 |

¹Supplementary VAT rates of 8 and 9 percent on non-capital goods imports: through "catch-up", these can revert to 18 percent retail.

²Effective rate (legislated tax-inclusive rate is 13 percent).

³On interstate transactions depending on region.

⁴On interstate transactions.

Source: Shome (1994).

Table 5 contains data on tax revenues as a percentage of GDP for a selected group of countries. As can be seen, in every case where there are available data, tax revenues were somewhat higher in 1991 than in 1987-88. This is particularly the case in those countries where a very high inflation rate was seriously eroding tax revenues. Interestingly enough, the data for 1994 indicate that Argentina experienced a significant decline in tax revenues. This drop in revenues contributed to the creation of the impression among international analysts, that toward late 1994, the Argentine macroeconomic program was running into difficulties. In the first half of 1995, and prompted by the Mexican crisis, new policies geared at increasing revenues and reducing expenditures have been implemented as a way to help engineer an adjustment to a significant reduction in the extent of capital inflows.

The data presented in the preceding tables suggest that, although the Latin American tax reforms have introduced major changes geared at increasing the fairness and efficiency of tax systems, they have had a rather limited effect on total revenues. This is the consequence of a combination of factors, including the fact that compliance continues to be low and that tax administration bureaucracies continue to lack the required degree of expertise. Only with time, and as these shortcomings are dealt with, do tax revenues begin to increase significantly.

Table 6 deals with the evolution of public sector expenditure between 1987 and 1995. Two interesting facts emerge from this table: first, in every country, with the exception of Colombia and Venezuela, total public sector expenditures were much *lower* in the 1990s than in 1987-88. In fact, a comparison of the evolution of tax revenues and expenditures shows clearly that the reduction in the latter have made the greatest contribution to the attainment of fiscal equilibrium in the region. A second feature of the expenditure adjustment programs that emerges from Table 6 is that, in almost every country, capital expenditures were reduced in a very drastic fashion. In four out of the eight countries with available data, capital expenditures were in 1991 more than 25 percent lower than the already depressed levels of 1987, and were still very low in 1993.

Table 5
Tax Revenue as Percentage of GDP
Selected Countries and Years

| | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 |
|------------------------|------|------|------|------|------|-------------------|-------------------|-------------------|-------------------|
| Argentina ^a | 17.8 | 16.2 | 19.1 | 20.0 | na | na | na | 11.6 | 12.5 ^c |
| Brazil | 18.1 | 17.8 | 18.1 | 23.8 | 20.7 | 18.5 | 19.6 ^b | na | na |
| Colombia | 14.9 | 14.4 | 14.9 | 14.9 | 16.1 | 16.8 ^b | 18.0 ^c | na | na |
| Costa Rica | 22.4 | 22.0 | 22.2 | 22.2 | na | na | na | na | na |
| Mexico | 8.6 | 9.6 | 12.2 | 11.7 | 12.0 | 12.4 | 12.7 | 12.8 ^b | 11.8 ^c |
| Nicaragua | na | 20.9 | 16.6 | 24.0 | na | na | na | na | na |

^aIncludes national administration and social security taxes.

^bPreliminary data.

^cProjection.

Sources: IMF Government Financial Statistics and individual country reports.

The nature of these cuts varied from country to country. In some cases large and inefficient government projects were cancelled or postponed; in others, however, public investment in basic infrastructure was cut, generating some serious shortcomings in transportation and power provision. In some countries, including Mexico, Chile, and Argentina, capital expenditures that were traditionally made by the government are increasingly being handled by the private sector. For example, in Mexico, allowing the private sector to charge tolls on newly constructed highways resulted in some increase in roads construction. However, very high tolls for using these highways have resulted in a low degree of utilization, and in significant financial distress for the companies involved in the projects.¹¹

Throughout the region, interest payments on public sector debt—both domestic and foreign—represent a large proportion of total public sector expenditures. In fact, when these payments are excluded and we concentrate on the *primary* deficit, we find that

Table 6 is located in file S95EDTBL.PDF

most countries have been able to achieve very substantial adjustments. Perhaps the most impressive case is that of Argentina, which in 1989 had a consolidated public sector deficit of almost 22 percent of GDP, and a primary deficit of only 0.4 percent of GDP. In that year, and as a result of a remarkable surge in inflation, interest payments on the domestic nonfinancial sector indexed debt surpassed 15 percent of GDP!

A large internal debt can seriously jeopardize macroeconomic stability when, as has traditionally been the case in most of Latin America, it is concentrated on short-term maturity instruments. Changes in short-term interest rates stemming from changing world conditions, from macro-policy measures, or, purely from “perverse” expectations, will have a huge impact on the public sector deficit. The Mexican peso crisis of December 1994 clearly showed the extent to which the existence of short-term public debt—and especially short-term, dollar-denominated debt—can increase a country’s degree of macroeconomic vulnerability and instability.

An interesting peculiarity of Latin America’s public finances is that in many countries the *financial public sector* has recently been the source of sizable deficits, through the so-called *quasi-fiscal* deficits. In most cases these deficits stem from central bank operations that subsidize a particular group, or particular activities. For example, two typical sources of quasi-fiscal deficits are dual exchange rates—where the central bank buys “expensive” foreign exchange at the ongoing rate, and sells it “cheaply” to a particular user—and bailout operations of the financial sector. In the latter case the central bank usually acquires low quality or nonperforming assets from a financial institution about to fail. Since this type of operation is usually financed by issuing interest bearing obligations, the net effect is an operational loss for the central bank. This has been the case of Chile, for example, where after the financial crisis of 1982-83 the central bank incurred very large losses. In Argentina, on the other hand, the main cause of the quasi-fiscal deficit has been the payment of (high) interest rates on commercial banks’ legal reserves.

Tax reform and fiscal adjustment in Chile, Mexico, and Argentina

In this section, the experiences of three countries—Chile, Mexico, and Argentina—with tax reforms and fiscal adjustment are addressed in some detail. Chile provides an exemplary case of the management of tax policy to generate macroeconomic stability and facilitate the adjustment after the debt crisis. Mexico is an important case of a major tax reform that included the revision of tax rates, the broadening of the tax base, and an improved tax administration. What is particularly interesting is that in spite of significant fiscal efforts, as a result of a combination of factors—including political shocks and faulty monetary policy—Mexico faced an unprecedented macroeconomic crisis in December 1994. Finally, Argentina provides an illustration of an effort to reduce the fiscal deficit through a program that fundamentally relied on expenditure reductions.

Chile: Between 1974 and the end of 1992, Chile went through three tax reforms. The first one, implemented in 1975, was the most profound one, and introduced sweeping changes in the country's public finances.¹² The main purposes of this reform were to generate a substantial increase in tax revenues and to reduce the efficiency distortions generated by the old system. The principal features of the first tax reform included the replacement of a cascade sales tax with a flat rate value added tax at a 20 percent rate; a full indexation of the tax system; an elimination of *all* tax exemptions and subsidies; the unification of the corporation and noncorporation income taxes into a flat business tax; and the integration of personal and business income taxes.

The combination of increased tax revenues and reduced government expenditure rapidly affected the fiscal deficit, which declined from over 10 percent of GDP in 1974 to 2.6 percent in 1975 and to less than 1 percent in 1978. In the years that followed, and for the first time in more than two decades, Chile experienced a fiscal surplus. This situation changed only in 1983 when in the midst of the debt crisis, the reduction of tax collection generated a deficit.

In 1985, and as a way to stimulate the economy, a fundamental change in the direction of Chile's public finance took place. First, fiscal policy focused on redirecting public expenditures away from current expenditures and toward public investment. As a result, public investment increased by more than 7 percentage points of GDP between 1985 and 1989. Additionally, during this period a fiscal reform aimed at encouraging private savings via lower income tax rates was enacted. One of the most important components of this reform was the reduction of the tax rate on corporate earnings from 46 percent to 10 percent. At this point, with aggregate expenditures under control, it was possible to implement this type of tax cut without threatening the overall macroeconomic stability of the country. As a consequence of these policies, between 1985 and 1988 investment grew at a rate of 11 percent per year. In 1989, when the fiscal finances were clearly under control—the nonfinancial public deficit had a small surplus—the rate of the value added tax was reduced from 20 percent to 16 percent as a way to encourage consumption.

The newly elected government of President Patricio Aylwin implemented a third fiscal reform in 1990, aimed at increasing revenue to finance social programs and public investment. Economists associated with Aylwin's *Concertación* coalition calculated in 1989 that in order to implement significant social programs aimed at alleviating poverty, annual funds of the order of 4 percent of GDP were required (Tironi, 1989). They argued that these resources could be obtained through a combination of expenditures reallocation, foreign aid, and increased tax revenues. In order to implement rapidly these programs, in April of 1990 the executive submitted to the newly elected Congress a legislative project aimed at reforming the tax system. The main features of this package were: (1) the corporate income tax was temporarily increased from 10 percent to 15 percent for 1991-93. Additionally, the base of the tax which in 1985 had been defined as distributed profits, was broadened to total profits. (2) The progressivity of the personal income tax was increased by reducing the income level at which the maximum rate was applicable. And (3) the rate of the value added tax was increased to 18 percent from 16 percent.¹³

In order to provide credibility to the fiscal adjustment a number of institutional reforms were implemented. The most important one was the creation, in December of 1989, of an independent central bank, whose board members are not directly subject to the vagaries of partisan politics. A second institutional reform that has increased the credibility of fiscal policy announcements was enacted in late 1989, when legislation that greatly restricted the activities of the public sector in production was passed. This legislation places severe limits on the government's ability to engage in new joint ventures with the private sector, and forbids publicly owned firms from obtaining loans from the central bank. Finally, it may be argued that, in a way, the drastic reduction of the public sector through the privatization of nearly 600 state-owned enterprises has added credibility to the government's intentions of maintaining a balanced public sector.¹⁴

Mexico: The Mexican tax reform was initiated in 1985, and replaced an inefficient system fraught with corruption by a modern one based on a value added tax and a modern income tax. Most domestic tax havens, subsidies, and exemptions were eliminated. In particular, the traditionally favorable treatment provided to, among others, truck owners, publishing houses, forestry, fishing, and livestock raising were abolished. Additionally, tax administration was greatly improved in an effort to reduce corruption and evasion.

Once fiscal balance was achieved in 1986, many tax rates were lowered as a way to provide additional incentives to the private sector. The corporate income tax was adjusted for inflation, and its rate was reduced from 42 percent in 1986 to 35 percent in 1991. Taxes on dividends were eliminated and the maximum rate for the individual's income tax was lowered from 55 percent to 35 percent in 1991. All tax incentives for corporations were eliminated and replaced by an investment credit for firms that invest in areas other than Mexico City, Monterrey, and Guadalajara. This credit is equal to the present value—computed using a 5 percent real discount rate—of depreciation expenditures.

As a way to reduce tax evasion by corporations, Mexico devised an ingenious tax on assets at a 2 percent annual rate. This tax can be

fully credited when the firm pays its corporate income tax. If in a particular year (or years) the firm incurs losses, it can carry forward the asset tax, fully indexed by inflation. This type of tax has steadily gained in popularity throughout Latin America, and by late 1993 had been adopted (in one form or another) by Argentina and Colombia.

To improve tax collection and reduce evasion, a number of additional important administrative reforms were implemented, some of which clashed with the general goal of decentralizing the Mexican economy. For example, the administration of the value added tax was transferred from the states to the federal government, and a national data base on VAT taxpayers was constructed, helping in the audit and control process. For the first time, it was required that medium-sized firms provide annual audits performed by a certified public accountant. The actual process of paying taxes was also simplified, since all commercial banks were allowed to receive tax payments from any firm or individual.

The Mexican fiscal reform achieved important goals. In less than five years, a very large fiscal deficit was eliminated, and a modern tax system was put in place. However, in spite of the tremendous fiscal effort, including the complete elimination of the public sector deficit, in the early 1990s Mexico's inflation continued to be somewhat high—in 1992 it was 11.7 percent. This persistence in inflation was the result of two interrelated factors. First, even though a preannounced rate of devaluation was used as a way to anchor prices, some degree of inertia remained in the economy, reinforcing inflationary forces. Second, starting in 1991, large capital inflows into Mexico have been monetized putting pressure on domestic prices. These inflows contributed to increasing the degree of real appreciation and loss in international competitiveness. When the magnitude of capital inflows greatly declined in 1994, the Mexican authorities resisted implementing an adjustment program, setting the stage for the gigantic crisis of December of that year.

Argentina: When President Carlos Menem took over the government in mid-1989, Argentina was facing the worst economic crisis in its history. Inflation reached 200 percent per month, output was

plummeting, the foreign debt had not been served for more than a year, and the nation's morale was at an all-time low. Fiscal irresponsibility was at the center of all of this. Tax collection reached its lowest historical point in mid-1989, public services prices were ridiculously low, and expenditures were completely out of hand. As was reported in Table 2, the consolidated public sector deficit surpassed 20 percent of GDP in 1989.

From early on, the Menem Administration understood that a solution of the country's problems required major action on the fiscal side.¹⁵ Deep reforms aimed at increasing public sector revenues and reducing expenditures had to be undertaken. A succession of failed programs and unkept promises in the previous decade made things particularly difficult. It was clear that reducing the deficit was not enough; in addition, credibility had to be generated through major institutional reforms.

Increasing tax revenues was clearly a priority in the new administration's program. During the second quarter of 1989 tax revenues were only 9.5 percent of GDP. Additionally, at that point the tax structure had become highly distorted. On the one hand, it relied heavily on export taxes and a number of inefficient tax surcharges; on the other, there were innumerable exemptions that greatly reduced the effectiveness of the system. To make things worse, tax administration had deteriorated steadily since the mid-1980s. The central tax office—*Dirección General Impositiva*—lacked resources and was plagued by corruption.

The Menem tax reform had several components. First, a very broad and uniform value added tax was implemented. It initially covered all goods, and was extended to all services in November of 1990. Second, a tax on fixed assets—similar to the Mexican tax discussed above—was put into place in 1990. Third, a tax on all bank checks was introduced in early 1991.¹⁶ And fourth, taxes on exports were gradually eliminated. In addition to these tax-related measures aimed at improving the efficiency of the system and increasing revenues, tax administration was strengthened. Computers were adopted, a list of all major taxpayers was compiled, the revenue

directorates fired corrupt inspectors, wages paid to remaining inspectors were drastically raised, random VAT inspections were greatly increased, and tax evaders were subject to stiff penalties, including the closing of their businesses.

In order to balance the public sector books, the Menem Administration took major action on the expenditures side. First, central government employment was reduced by approximately 100,000 people in 1991-92. This resulted in a simultaneous reduction of the wage bill by 10 percent, and an increase in the average wage of those still on the government's payroll.¹⁷ Second, the federal government transferred almost 200,000 primary and secondary school teachers to the provinces' budgets. This was done on the basis of the "*Law of Coparticipation*," which established a limit on the federal government's contribution to the provinces at 58 percent of revenues. Third, in early 1991 the government passed a decree that strictly linked public expenditures to revenues, imposing a de facto balanced budget provision. Fourth, public sector prices were increased drastically in order to cover costs. And fifth, starting in 1990 the government engaged in an aggressive privatization program that has not only generated direct revenue from sales, but has also eliminated the need to subsidize money-losing operations—see the next section of this paper for details.

In order to provide credibility to the stabilization program and to accelerate the convergence of the domestic rate of inflation to "world levels," the Argentine government introduced a set of important institutional reforms in March of 1991. These were contained in the "Convertibility Law" that fixed the exchange rate between the Argentine peso and the U.S. dollar, and completely abolished all exchange and capital controls.¹⁸ Additionally, this law established that the quantity of money could only be expanded if fully backed by international reserves.¹⁹ This provision of the law practically eliminated the possibility that the central bank would fund public enterprises, the federal government, or the provinces. Additionally, after the opening of international trade in 1989-90 it was expected that the fixed exchange rate would introduce discipline to prices. The fact that any alteration of the current parity would require the

passage of a new law by congress added credibility to the government's promises that the fixed exchange rate would be maintained, and that inflation would subside. Following a generalized trend across Latin America, the Argentine central bank was granted full independence in 1994.

Although the overall program succeeded in rapidly reducing inflation, it also created a significant relative price misalignment.²⁰ Prices of domestic (nontradable) goods became extremely high, putting a dent into the country's degree of competitiveness. However, the team led by Minister Domingo Cavallo has shown great resolve in defending the parity and sticking to the original policy. A speculative attack against the peso in early 1995, mostly as a result of the Mexican peso crisis, was fended off successfully through restrictive credit policy, increased interest rates, the strengthening of the banking sector, and the adoption of an IMF program. Whether these policies will eventually be fully successful will depend on a number of interrelated factors: first, whether fiscal adjustment can be furthered in the short run; second, whether significant gains in productivity can be attained in the domestic goods sector; third, if the government has the political will to maintain the course in the face of very large unemployment (recent data suggest that the rate of unemployment surpassed 18 percent in Buenos Aires); and, finally, whether the domestic banking sector can sustain a period of high interest rates and rapidly deteriorating portfolios.

Privatization and fiscal adjustment in Latin America

Privatization, more than any other policy, is changing the economic landscape in Latin America. Between 1985 and 1994 more than 2,400 publicly owned firms—including public utilities, banks, insurance companies, highways, ports, airlines, and retail shops—have been privatized throughout the region.²¹ As with other reforms, however, the pace of privatization has varied from country to country. While in some countries, such as Chile and Mexico, a very high percentage of state-owned enterprises had been divested by mid-1993, in others—Bolivia, Brazil, and Ecuador, for example—the process has been much slower. Yet in other countries, including

Uruguay, the privatization effort ran into some political difficulties in 1993 and basically has come to a halt. In this section some of the most salient features of the Latin American privatization experience are analyzed in some detail. The emphasis is on the relationship between privatization and fiscal deficits.

Throughout most of Latin America the importance of state-owned enterprises (SOEs) grew steadily between the 1950s and early 1980s. The creation of a substantial SOE sector was an important component of the structuralist development strategy and responded to a number of objectives: first, it was considered an efficient way of dealing with externalities, and in particular, with natural monopolies and oligopolies; second, state ownership was generally seen as a way to serve the public interest and advance social objectives, such as the provision of (some) services at low prices to the population at large; and third, it was thought that a large public sector would reduce the vulnerability of the economy to external shocks.²² In almost every country the growth of the SOE sector was accompanied by the development of massive regulatory legislation that restricted the freedom of the private sector.

By the mid-1980s, in most countries SOEs were incurring major losses that imposed a heavy burden on public finances, fueled the inflationary process, and resulted in very poor provision of services. The eruption of the debt crisis made evident that the over-regulatory path followed until then had been costly and ineffective; despite good intentions, the presence of a mammoth public sector and sweeping distortions did not shield the Latin American economies from major external shocks. When faced with the imperious need to tackle massive fiscal imbalances during the late 1980s, many policymakers saw the sale of publicly owned assets as a natural way of obtaining liquid resources in the short run. Additionally, many supporters of the reform process argued that a rapid privatization would provide some basic political foundations to the economic transformation toward market orientation.

The decision to embark on massive privatization presented some gigantic challenges to the region's governments, including which

SOEs to sell, and how to sell them. But perhaps the most difficult task—and one which has not always been fully tackled—is creating a new regulatory framework consistent with a private sector that is getting rapidly involved in areas that, traditionally, had been reserved for the government.

It is useful to distinguish at least four modes of privatization:²³ (1) the sale of a controlling percentage of shares to a private company or consortium; (2) initial public offering of shares on a stock exchange, either domestic or international; (3) employee buy-out; and (4) liquidation of the firm and sale of its assets. Each of these modalities can help attain particular goals. For example, the sale of controlling interest will usually be consistent with a speedy privatization that raises significant revenues in the short run. Public offerings of shares, on the other hand, can help spread ownership. Some countries, such as Chile and Mexico, have offered some shares at preferential prices to small investors. This has created a broad constituency of shareholders that support the privatization process and is concerned with the way in which the private sector is regulated. Public offers in foreign stock exchanges—such as Argentina’s offer of YPF stock in New York in June 1993—can increase the international appeal of certain firms and can be interpreted as a signal of the government’s seriousness regarding privatization. Employee buyouts will generally reduce the extent of opposition to privatization in certain sectors. Most Latin American countries have resorted to a combination of these four modes of privatization. In some cases, two or more of these modalities have been used during the sale of a particular firm—the telephone company, ENTEL, in Argentina, and the electric utility, ENDESA, in Chile. By combining these methods, the authorities hoped to make progress in several objectives, as well as minimize the extent of political opposition toward the privatization process.

As a way to avoid excessive concentration and potential monopolistic behavior, some countries have broken up public monopolies before offering them to the private sector. This has been the case, for example, in Argentina where the Buenos Aires telephone company and the natural gas distribution company were divided into

several independent firms before being sold.²⁴ This breakdown of public utilities has been complemented by the design of a new regulatory framework aimed at curbing potential abuses by the newly privatized utilities. Also, in Argentina, Chile, and Mexico efforts have been made to agree with the buyers of public utilities on future expansion programs and price-setting mechanisms. In Argentina, however, the regulatory framework was only put together after the telephone company had been sold. This delay increased the uncertainty faced by potential buyers, reducing the price offered for the company.

Massive divestiture programs, of the type being implemented in Latin America and in the transition economies of Central and Eastern Europe, have important consequences on public finances. First, the proceeds of the sales themselves constitute public sector revenue, improving the fiscal accounts in the short run. Most experts have argued that these revenues should *not* be considered permanent income and, thus, should not be used to finance current expenditures. Although, in theory, political leaders have agreed with this prescription, in reality, in a number of countries (Argentina, Brazil) governments have relied on privatization revenues to delay the implementation of other deficit-reducing measures. Privatization also affects public revenues through a second channel: a large number of SOEs in Latin America have for a long time faced financial problems requiring large and continuous injections of funds by the government. Naturally, once these firms are sold to the private sector the government ceases to be responsible for their finances. This effect can be very significant, saving large volumes of public funds, as was the case in Chile during its first round of privatization in 1975-1982. To the extent that privatized firms become profitable and pay taxes, divestiture will also impact public finances in the longer run. On the other hand, when a profitable firm is privatized, the public sector ceases to receive those funds, and a negative effect on public finances will result. On the aggregate, however, the available evidence suggests that in most Latin American countries privatization has had an overall positive fiscal impact.²⁵

The restructuring of firms in distress has become an increasingly important issue in the design of privatization plans. Should the government restructure SOEs—both financially and technologically—before they are sold, or should this task be left to the new owners? The way in which this problem is handled will have economic, financial, and political consequences. From a financial perspective, if the government undertakes the restructuring—including laying off redundant workers—it will be able to sell the firm at a higher price. Restructurings tend to be expensive, however, with costs associated both with the acquisition of new equipment, and the dismissal of workers. Moreover, governments do not have a comparative advantage for restructuring inefficient state-owned firms (Seabright, 1993). Labor legislation in most Latin American countries does not consider economic distress as a valid cause for “just” layoffs. This means that the reduction of redundancies will require substantial resources to finance severance payments. In some countries, such as Mexico and Chile, this problem has been partially solved by working out agreements with the unions in the firms to be privatized, where workers have consented to layoffs in exchange for a fraction of the firm’s stock.

From a public finance perspective, an important question refers to the price at which state-owned firms are sold to the private sector. This has been a particularly important issue in Chile, where there has been a long debate on whether firms were sold at a “fair” price, or whether buyers were subsidized. Although it may be argued that the early procedure sometimes lacked transparency, there is no evidence of wrongdoing through deliberate underpricing of assets. Many of the early firms were sold at relatively low prices because they were in extremely poor financial condition, had a large number of redundant personnel, and were incurring significant losses. Additionally, political instability and the lack of a credible regulatory framework reduced the market value of these assets. In an effort to sell a large number of companies fast, the government made no effort to restructure them before offering them to the public.

In retrospect, it is clear that in Chile the cost of restructuring the new firms turned out to be much higher than what the private

“grupos,” or large conglomerates, officials had anticipated at first. For years many companies—including those in the export sector, which was supposed to be favored by the new policies—incurred large losses. The “grupos” increasingly tapped the credit market in order to cover them, generating what Harberger (1985) has called a “false demand for credit.” This put severe pressure on Chilean real interest rates in the late 1970s and early 1980s, adversely affecting macroeconomic balance in the country. Moreover, when the debt crisis erupted in 1982 many of these conglomerates could not pay their debts, helping generate a banking crisis that resulted in a major government bailout of a large number of banks. This bailout, in turn, ended up being extremely costly to the public sector whose quasi-fiscal deficit increased, for this concept alone, more than 3 percent of GDP.²⁶ It may be argued, in fact, that if a more gradual privatization policy had been undertaken, the Chilean privatization process would have had a more positive fiscal impact.

Between 1983 and 1992 the Mexican government privatized approximately 1,000 state-owned firms. The process continued swiftly during 1993 and 1994, and at the end of the Salinas Administration in 1994, the number of SOEs in Mexico had been reduced from 1,155 in 1982 to fewer than 80.²⁷ At the present time, and as a consequence of the peso crisis, Mexico is moving aggressively toward a new round of privatizations, where a number of firms related to the oil sector and many infrastructure projects will be offered to the private sector.

The Mexican privatization program began slowly in 1983. During its first phase (1983-1987) sixty-four small and medium-sized firms were sold to private interests. Most of the early privatization corresponded to manufacturing companies operating in fairly competitive sectors that did not require significant changes in the regulatory framework. During this initial phase the impact of sales on fiscal revenues was rather modest—the gross proceeds were approximately \$2.6 million in U.S. dollars. Starting in 1988 the privatization process accelerated significantly, as very large public firms, including service sector monopolies, were put on the block. These sales included the telephone company TELMEX—which on its own

generated a revenue of \$1.8 billion—the two major airlines, eighteen banks that had been nationalized immediately after the debt crisis, a gigantic steel complex and other large corporations. From a fiscal revenue perspective, this second round of privatization had a very significant effect, raising more than \$12 billion.

Argentine state-owned enterprises have long been a financial drag for that country's treasury. During the 1980s, for example, SOEs' financing requirements surpassed 50 percent of the total nonfinancial public sector deficit, directly contributing to the eruption of hyperinflation in 1989. Toward the end of that decade it became increasingly clear to analysts and policymakers that a permanent solution to the country's macroeconomic instability would require a massive restructuring and divestiture of public enterprises. The Reform Act of 1989 established that publicly owned enterprises were eligible for privatization. Originally the plan ran into political opposition, especially from the militant Peronist unions. Slowly, however, and as the quality of services provided by the newly privatized firms improved, and the structural adjustment program began to bear fruit in other spheres, the program began to enjoy increasing support among the population at large.

Between 1989 and 1992, fifty-one firms were privatized for a total of approximately \$18 billion in cash and debt-reduction schemes. Drawing from the experiences in other countries, the Argentine government has made an effort to strengthen the regulatory framework for public utilities and other sectors where the government formerly had an important presence.

The Argentine privatization program responded to a number of objectives. First, in order to reduce inflation and to stabilize the macroeconomy, the Menem Administration urgently needed to reduce the fiscal burden imposed by state enterprises. The most effective and rapid way to accomplish this was through the divestiture of most public enterprises. Second, the reduction of the size of the state and a major decentralization process were integral components of the Menem Administration's vision of a modern Argentina. And third, the modernization process required a major improvement

in the quality of public services, including telecommunications, electricity, transportation, and ports. A long history of failed attempts to increase the efficiency of SOEs convinced the new administration that this could only be achieved through a major participation of the private sector in these areas.²⁸

Since 1989, the privatization process has been coordinated by a special unit created in the Ministry of Economics, and headed by the Undersecretary of Privatization. Actual sales of SOEs have been undertaken by ad hoc commissions that included representatives from the central unit, sectoral policy areas, auditing bodies, and, in some cases, provincial governments (Alexander and Corti, 1993). Most privatizations have been carried out with legislative approval and oversight, providing political legitimacy to the process. The initial round of privatization was approved by the Emergency Law of 1989; during the second round, a bi-cameral commission had the right to approve specific sales of state-owned assets.²⁹ As a way to reduce the monopoly power of the privatized firms, state-owned utilities were broken down into two or more companies before the privatization. This was the case of telecommunications, electricity, and natural gas.

The Argentine government used several privatization procedures. The most popular method was creating new corporations that owned or operated public assets; as a way to increase the attractiveness of the firms to be privatized the old state enterprises retained most liabilities. Shares of the newly formed companies were then offered to the public, and sold through a “two-envelope” competitive bidding process. The first envelope included the technical characteristics of the offer, while the second dealt with its financial features. In some cases, instead of selling the actual asset, the government has offered operating concessions for up to 99 years. This has been the case of some highways, ports, and railways. In the latter case, concessions were granted to those bidders that required the lowest amount of subsidy for a period of ten years. In the case of the urban-rural railway system, the winning bidder requested a subsidy of approximately \$100 million per year, significantly lower than the almost \$500 million that the government had been shelling

into the system every year. An additional interesting aspect of railways privatization has been that the total labor force has been reduced from more than 95,000 to a mere 5,000, increasing productivity by several orders of magnitude!

The Argentinean privatization program has had an important impact on the country's public finances. The World Bank has calculated that the deficit of public enterprises declined from 3.4 percent of GDP in 1989 to -0.06 percent of GDP in 1994. The reason behind this drastic change is that in the case of Argentina, inefficiencies and politically controlled prices have led to systematic losses in SOEs. For the system as a whole the reduction in government outlays (primarily in the form of subsidies and transfers) will more than offset the reduction in income stemming from the limited number of profitable operations (see World Bank, 1992).

The privatization process allowed the Argentine government to reduce greatly its public (foreign and domestic) debt. As a result of the process, as of the first quarter of 1993, the face value of public debt had been reduced by approximately \$14 billion. Additionally, the government had received approximately \$6 billion in cash. Naturally, this provided welcome breathing fiscal room at a time when the need to consolidate the public finances has been at the heart of the adjustment program.

As a result of privatization there has been a drastic reduction in the public enterprises sector payroll—from 250,000 in 1989 to approximately 60,000 employees by the end of 1993. This major reduction in public sector employment has been accomplished through three major channels: transfers to the newly privatized firms, early retirement and “voluntary” quits with severance payments. It has been estimated that the average cost in severance payments has been around \$7,200 per employee, or \$690 million in total. This cost has been partially covered with World Bank adjustment loans that required clear audit conditions for disbursement. The reduction in redundant personnel prior to the privatization has allowed the government to obtain higher prices, and has permitted the buyers to start operating with fairly lean crews. Additionally, the

existence of generous severance payments rendered existing collective bargaining agreements void, allowing buyers to negotiate from scratch with the remaining labor force (Alexander and Corti 1993).³⁰

Fiscal deficits and social security reform in Latin America

An increasing number of Latin American countries have recently moved in the direction of privatizing their social security systems. This development, pioneered by Chile in the early 1980s, is particularly advanced in Peru and Mexico. These reforms have two main objectives: First, to replace financially troubled pay-as-you-go pension schemes by fully-funded capitalization systems based on individual retirement accounts. This “fiscal justification” has also been at the center of the recently approved social security reform in Italy. And second, to develop a large presence for institutional investors in the (emerging) capital markets. Also, the creation of privately administered pension funds has opened the opportunity for developing new channels for privatization. For instance, in the second round of Chilean divestitures in the mid-1980s, pension funds were given the opportunity to buy shares at subsidized prices, helping, in this way, to further the goal of spreading ownership.³¹

Social security has for many years been a fundamental element in the provision of health and pension services throughout most of Latin America (Mesa-Lago, 1991). A large number of families, especially from the middle classes, obtain basic income support and health services through the social security system. Moreover, social security represents one of the few social services areas where expenditures increased systematically during the 1980s. Most social security institutions in the region, however, are inefficient and underfunded, and syphon significant public funds from general revenues contributing to fiscal instability and inflation. A number of analysts have argued that unless some major reforms are implemented, there will be a series of major financial and macroeconomic crises (see, for example, Cox-Edwards, 1992). In fact, the insolvency of the social security system is still a serious, unresolved fiscal problem in many countries in the region, including Argentina, Brazil, Costa Rica, Guatemala, and Venezuela, among others.

In most “mature” social security systems, including Argentina, Brazil, and Mexico, the ratio of pensioners to contributors is very high, imposing a heavy burden on the working population. In Argentina, for example, there is one retiree for every three contributors. This figure is almost two in the case of Chile. Table 7 provides a summary of social security contributions and benefits in ten Latin American countries. Cox-Edwards (1992) has argued that in all countries, with the exception of Chile and Peru, there is only a very weak actuarial connection between contributions and benefits. There is also significant room for increasing the degree of managerial efficiency of social security institutes. In the early 1990s administrative costs exceeded 15 percent of expenditures, as opposed to 3 percent in the industrial nations (World Bank, 1993). Also, in many countries, there has traditionally been a clear duplication of effort by two or more institutes serving the same region or population.

In terms of economic efficiency and equity, social security systems have serious problems in most countries in the region. First, in most cases, existing pension funds encourage early retirement, generating a serious burden to the country at a time when the retiree is in the prime of his/her productive years. Second, pensions are often unrelated to the individual contributions to the system. This is particularly true for higher income individuals, who often are able to obtain lavish pensions after having made small and limited contributions to the general pension funds. Third, as health providers, social security systems tend to encourage expensive and highly technological curative care. And fourth, the poorer groups of society are often excluded from social security. For example, in Brazil, only 18 percent of the poorest income groups—which account for more than 40 percent of the population—are covered by social security, receiving only 3 percent of total benefits (McGreevey, 1990). One of the most serious aspects of the Latin American social security systems is that their (potential) fiscal cost is not publicly acknowledged.

In the early 1980s Chile embarked on a major reform of its social security system, replacing a traditional (and financially troubled) pay-as-you-go pension system with one based on individual

retirement accounts. In the new Chilean system, health provision is also based on choice. Workers have to contribute 7 percent of their taxable income to an insurance program. They can choose between a public system, managed by the national health fund (FONASA), or private health providers (ISAPRES). Currently, approximately 80 percent of the population is affiliated with the public system, and 20 percent have chosen the ISAPRES regime. The Chilean social security reform has had important results. First, the traditional drag on public finances has been eliminated.³² Second, there has been substantial improvement in the degree of efficiency of the system.³³ And third, the capitalization system has provided a definite encouragement to the Chilean capital market by creating a number of large institutional investors, giving decisive impetus to increases in savings.

The reform of the Chilean social security system, initiated in May of 1981, represented a key step in the development of that country's financial markets. As pointed out, this reform replaced a basically insolvent pay-as-you-go regime with a capitalization system based on individual retirement accounts managed by private companies known as "Administradoras de Fondos de Pensiones" (AFPs).³⁴ A key feature of the new system is that workers have the freedom to choose their AFP, and can shift their funds freely among them. A detailed and modern regulatory framework—enforced by an institution especially created for this purpose, the Superintendency of AFPs—ensures free determination of fees and commissions and free entry into the industry. These two elements have created the conditions for markets to function competitively and efficiently. In contrast with the case of banks, the Superintendency of AFPs established from the first day very precise norms to secure the diversification and transparency of the AFPs' investments (Iglesias and others, 1991).

Currently, pension funds are the largest institutional investors in the Chilean capital market, with assets representing more than 35 percent of GDP in 1994 (compared to a 0.9 percent in 1981). The average real return to investment of Chilean Pension Funds between 1981 and 1990 was 13 percent. The real return of individual accounts

Table 7 is located in file S95EDTBL.PDF

Table 7 is located in file S95EDTBL.PDF

(after subtracting fees) has varied between 10.4 percent and 9.2 percent. These impressive results are in part a reflection of the fast expansion of a previously underdeveloped financial market.³⁵ The dynamism exhibited by the Chilean capital market during the past ten years has forced constant revisions to the norms governing the eligible securities for AFP investments. Initially, these institutions were not allowed to hold common stock or foreign securities. These regulations, however, were relaxed by the Aylwin Administration, which broadened the scope of instruments that can be maintained in the AFP portfolios. This has provided additional impetus to the local stock market, allowing firms to finance expansion plans in an increasingly efficient fashion. Perhaps the most important effect of Chile's financial sector liberalization is that it has greatly encouraged (private) savings. The increase in the savings rate, however, was steady but slow. By 1994, the ratio of gross domestic savings to GDP bordered 30 percent, significantly higher than the historical ratio of 20 percent.

Fiscal policy and savings behavior: policy issues and evidence

The first half of the 1990s has been an era of adjustment in most developing and transitional economies. However, as argued in the introduction to this paper, an increasingly urgent discussion topic in policy and political circles is how to move from adjustment to growth. There is little doubt that a sustained acceleration in growth will require significant increases in both the volume and quality of investment. Even if, as existing evidence suggests, the market-oriented reforms generate important improvements in productivity growth, there will be a clear need to increase the rate of capital accumulation beyond its current levels. A key question, however, is how will this higher investment be financed? Recent experience suggests that in the years to come, the availability of foreign funds is likely to be tight both for developing and transitional countries. This means that most nations will have to rely heavily on higher domestic savings to fund the increase in investment. The increase in the volume of savings and the quality of investment have, in fact, been some of the overriding goals of the structural reform policies.

Capital inflows, savings, and growth

Traditional analyses on savings and growth have concentrated on two important issues: (a) the effect of higher savings on long-run growth; and (b) the impact of an increase in domestic savings on investment. Neoclassical models inspired by the work of Solow (1956) suggest that an increase in saving ratios generates higher growth only in the short run, during the transition between steady states. According to this view, the long-run equilibrium rate of growth will depend exclusively on structural demographic variables. Recent models based on theories of endogenous growth developed by Romer (1986) and Lucas (1988), however, predict that higher savings—and the related increase in capital accumulation—can result in a permanent increase in growth rates.³⁶ This is because in the presence of externalities, the marginal return to capital will be bounded from below and, under certain conditions, will exceed the rate of time preference. In this case the private sector will face a permanent incentive to add to the stock of capital, and growth will be sustained in the long run.

In an open economy, however, it is not necessarily the case that increases in domestic savings will be translated into higher domestic investment, or that domestic investment will have to be financed with domestically generated resources. In principle, if capital is internationally mobile, changes in domestic savings and investment can be completely independent. Savings generated in country A can (fully or partially) be invested in country B; likewise, investment in country Z can, in principle, be financed with resources generated in country Y. If domestic savings and investment are uncorrelated, increases in the former will not be translated into a higher capital stock, and thus will not result in accelerated growth. If, on the other hand, the degree of international capital mobility is limited, higher domestic savings will generate higher domestic investment and growth. The extent to which domestic savings and investment are correlated is ultimately an empirical matter, as argued by Feldstein and Horioka (1980). There is by now abundant empirical evidence suggesting that domestic savings are highly correlated to aggregate investment. This indicates that, on average and over long periods of

time, changes in capital accumulation respond mostly to changes in domestic savings. See Frankel (1985), Feldstein and Bacchetta (1991), and Montiel (1994).

Empirical work by Barro (1991), De Long and Summers (1991), Edwards (1992), and others, has recently provided support to the notion that capital accumulation—and thus savings—are central for understanding growth differentials across countries. Moreover, in an important recent paper Young (1994) has argued that capital accumulation, and not technological progress, explains the splendid growth performance of the East Asian “tigers”—Korea, Hong Kong, Singapore, and Taiwan. The empirical evidence, however, is less clear when it comes to explaining savings behavior across countries or along time. Existing work has been affected by the lack of detailed reliable data, and has either been controversial, as in the case of the interest responsiveness of private savings, or has offered limited help to policymakers that ask how saving rates can increase—see Schmidt-Hebbel and others (1994) for a comprehensive survey.

Economic policy, public sector deficits, and private saving rates

The early financial liberalization literature argued that one of the most important objectives of these reforms was to generate, among other things, a significant increase in domestic savings. In the original models of financial repression of McKinnon (1973) and Shaw (1973), allowing (real) interest rates to rise to market levels altered the intertemporal rate of substitution, encouraging aggregate savings.³⁷ However, empirical studies for a large number of countries—both advanced and developed—have found only a weak interest rate elasticity of aggregate domestic savings. Boskin (1978) found a very low elasticity for the United States. A number of studies for the case of the developing countries, including Giovannini (1981) have failed to find any effect of interest rate changes on private savings. McKinnon (1991) has recently acknowledged that “aggregate savings, as measured in the GNP accounts, does not respond strongly to higher real interest rates” (p. 22).

A number of hypotheses have been offered as possible explanations for this phenomenon. First, in financial models higher (real) interest rates will result in portfolio readjustments, including a higher degree of financial intermediation, but not necessarily on higher aggregate savings as defined in national accounts. Moreover, in general equilibrium macroeconomic models an increase in interest rates will tend to have two offsetting effects on savings: on the one hand, there will be an intertemporal substitution effect away from current consumption that will tend to increase domestic savings. On the other hand, higher interest rates will generate a negative wealth effect that will tend to reduce savings.³⁸ Depending on which of these two forces dominates, higher interest rates will be associated with either an increase or a decline in aggregate savings.

In spite of the relative unresponsiveness of savings to higher interest rates, financial reforms still have important effects on growth through improvement in the quality of aggregate investment, and especially private investment. For example, in a series of studies Gelb (1989), Fry (1988), and McKinnon (1991) have found robust evidence supporting the proposition that a reduction in the degree of repression of the capital market will tend to increase the productivity of investment. Interestingly enough, this work also suggests that reducing financial instability, and especially inflation, will also have an important positive effect on the return to investment. Recent work by King and Levine (1993) provides additional support to the idea that more developed financial sectors have been associated with faster total factor productivity growth.

According to life cycle models, individuals will have negative savings when they are young and have very low income, positive savings during their productive years, and once again negative savings when they are old and retired. Also, if individuals have positive bequest motives, they will tend to leave some wealth to their heirs. According to this view, then, aggregate private savings will be affected by the age distribution of the population. If there are a large number of inactive people relative to those in their productive years, aggregate savings will be relatively low. In his classical study,

Modigliani (1970) used cross-country data (mostly on advanced nations) to test this hypothesis. He found, as have numerous authors after him, that differences in demographics indeed play a key role in explaining differences in savings.

Modigliani also argued that in a life-cycle setting, income growth will have an important positive effect on private savings. This is largely the result of aggregation across households. To the extent that the economy is growing, workers' savings will increase relative to retirees' dissavings and, thus, measured aggregate savings will increase. As Bosworth (1993) has pointed out, however, there will also be an effect in the opposite direction. In a growing economy workers will anticipate future income increases and, as a result, will tend to increase present consumption and reduce savings. Whether the positive or negative effect will dominate is ultimately an empirical matter. A problem with analyzing this issue empirically, however, is that there is a two-way causation. On one hand, growth will tend to affect savings through the mechanisms just described, and on the other, savings will tend to impact growth through their effect on capital accumulation. Some authors, however, have tried to deal with this endogeneity problem through a series of mechanisms, including the use of instrumental variables techniques and the computation of causality tests. In a recent paper, for example, Carroll and Weil (1993) have used detailed household-level data to deal with this issue and have concluded that there is evidence suggesting that growth indeed affects private savings *positively*.³⁹

The positive influence of growth on savings has played a central role in recent analyses of successful development experiences in East Asia. According to the World Bank (1993b), for example, in these countries there has been a "virtuous circle" going from higher growth, to higher savings, to even higher growth.

The extent to which individuals can actually dissave when young will depend on their ability to borrow. If there is a binding borrowing constraint, the marginal utility of present consumption will exceed the (discounted) expected utility of future consumption; households would like to increase present consumption but will be unable to do

so (Zeldes 1989). In most models, once the borrowing constraint is made less stringent, present consumption will increase and, thus, national savings will tend to decline.⁴⁰ In an important recent paper Jappelli and Pagano (1994) have used cross-country data on required down payments for mortgages as a proxy for borrowing constraints. Their econometric results on data for advanced countries support the idea that relaxing these constraints will reduce savings and economic growth. In their analysis of household savings behavior for a group of developing countries, Schmidt-Hebbel and others (1992) used beginning-of-period money balances as an indicator for the stringency of the borrowing constraint, and found that its coefficient was negative.

One of the most important savings-related policy controversies refers to the effect of fiscal policy on private savings. According to most optimizing models, changes in government consumption and/or taxation will have an effect on consumption and saving decisions. What is interesting about this formulation is that both present and future taxes will tend to reduce savings. This means that, to the extent that the government is subject to an intertemporal budget constraint, it will not matter whether increases in government consumption are financed by higher taxes or by issuing government bonds. This is, of course, the Ricardo-Barro proposition that government bonds are not net wealth. See Barro (1974). From an empirical and policy perspective it is important to determine whether increases in government savings will be offset fully by declines in private savings, or if the offset coefficient will be lower than one. Another important policy issue is whether changes in alternative taxes—value added tax, assets tax, income tax—will have the same effect on private savings. See Kotlikoff (1984).

Corbo and Schmidt-Hebbel (1991) used a thirteen-country data set to analyze the macroeconomic consequences of higher public savings. They found that, although government savings crowd out private savings, the magnitude of this effect is far below the one-to-one relationship suggested by the simple Ricardian equivalence doctrine; overall their empirical analysis strongly indicates that an increase in public savings will be translated into higher aggregate savings.⁴¹ Corbo and Schmidt-Hebbel also found that, on average,

increasing public savings via reduced expenditures is more effective than increasing taxation.

Another important implication of the life cycle framework is that private savings will be affected by the extent and coverage of government-run social security programs. If individuals expect to receive high social security benefits when they retire, they will tend to reduce the amount saved during their active days (Feldstein, 1980). From a policy perspective this suggests that a social security reform that replaces a government-funded system by a privately administered one will tend to increase private savings.⁴²

Models with heterogeneous agents generally predict that households with higher income will tend to save a higher proportion of their income. At the aggregate-comparative level this has been interpreted as suggesting that countries with more unequal income distribution will tend to have a higher savings rate. It has been suggested that both macroeconomic as well as political instability will tend to have a negative effect on aggregate savings. Open economy models add two perspectives to the analysis: first, domestic interest rates will be linked to international interest rates; second, in open economies agents can use foreign borrowing to smooth consumption through time. This means that foreign savings will, generally, act as substitutes to domestic savings (see Obstfeld, 1995). In the empirical analysis reported below, I include many of these variables as possible determinants of cross-country differences in aggregate private savings.

Fiscal policy and private savings: comparative empirical analysis

Broad comparative analyses of savings behavior have traditionally been plagued by data problems.⁴³ Savings are usually estimated as residuals. Until very recently there were no comparable data on private savings for a large number of countries, and data on net savings are still very scarce.

Table 8 contains comparative data on private and government savings for four groups of countries for 1970-92—Latin America,

Table 8
Private and Government Saving Rates 1970-92:
A Regional Comparison

| | 1970-1982 | | | | 1983-1992 | | | |
|-----------------------|-----------|--------|------|---------|-----------|--------|------|---------|
| | Q1 | Median | Q3 | Average | Q1 | Median | Q3 | Average |
| a. Private Savings | | | | | | | | |
| Latin America | 13.1 | 13.2 | 21.7 | 16.1 | 10.9 | 14.7 | 17.9 | 13.8 |
| Asia | na | na | na | na | 17.4 | 19.1 | 22.9 | 20.2 |
| Africa | 11.4 | 14.4 | 18.9 | 15.2 | 10.7 | 16.7 | 19.5 | 15.6 |
| Industrialized | 18.0 | 21.6 | 23.4 | 21.3 | 18.3 | 21.3 | 23.4 | 21.3 |
| b. Government Savings | | | | | | | | |
| Latin America | -0.7 | 1.7 | 6.6 | 3.3 | -1.3 | 2.4 | 5.5 | 2.2 |
| Asia | 0.0 | 2.7 | 8.8 | 4.4 | 0.0 | 1.6 | 9.0 | 3.9 |
| Africa | -1.6 | 0.9 | 2.1 | 0.6 | -1.3 | 1.0 | 4.5 | 0.9 |
| Industrialized | -0.5 | 2.0 | 3.8 | 1.8 | -3.6 | -0.1 | 1.3 | -0.8 |
| c. National Savings | | | | | | | | |
| Latin America | 14.5 | 19.4 | 27.7 | 19.8 | 14.0 | 17.8 | 19.1 | 15.3 |
| Asia | 4.9 | 24.8 | 26.7 | 18.8 | 18.8 | 23.8 | 28.5 | 24.5 |
| Africa | 10.8 | 15.5 | 18.7 | 16.4 | 10.6 | 17.5 | 22.1 | 16.8 |
| Industrialized | 19.6 | 22.8 | 25.8 | 23.1 | 17.5 | 19.1 | 23.4 | 20.4 |

Note: Q1 is the first quartile, Q3 is the third quartile.

Source: IMF

Asia (including the high performance East Asian countries), Africa, and the industrialized countries. A number of interesting facts emerge from this table. First, during the most recent period (1983-92), Latin America's *private* savings ratios have been the lowest in the world. Second, during the 1983-92 period the Latin American countries in this sample have exhibited an increase in government savings. And finally, when private and government savings are consolidated in panel C of Table 8, Latin America is once again at the bottom of the scale. From a comparative perspective, another important fact is that there are very significant differences in saving behavior across Latin American and East Asian nations. The East Asian countries have not only had very high aggregate saving rates—of the order of 30 percent to 40 percent—but they have also been very stable. A second fundamental difference between the Latin and East Asian countries

is that the contribution of government savings to total national savings is significantly higher in East Asia than in Latin America. While historically in Latin America government savings have barely contributed to national savings, in the East Asian countries they represent between 25 percent and 40 percent of aggregate savings. The next section of this paper contains a systematic attempt at explaining cross-country differentials in government savings rates, using some insights from recent models on the political economy of macroeconomic policymaking.

Why are private saving rates so different across countries? More specifically, to what extent do differences in fiscal policy across countries affect private savings behavior? In order to investigate these issues, a series of equations of the following type were estimated on panel data for 36 countries (see the appendix for a list):

$$s_{tk} = a_0L_{tk} + a_1G_{tk} + a_3F_{tk} + a_4M_{tk} + a_5D_{tk} + a_6E_{tk} + a_7P_{tk} + a_8S_{tk} + u_{tk}, \quad (1)$$

where the subindex tk denotes country k in period t . s_{tk} is the private national savings rate for country k in period t ; L is a vector of life-cycle variables, including the age dependency ratio, the rate of growth of per capita GDP, the ratio of old and young population. G is a vector of variables related to fiscal policy, and in principle it includes the government savings rate, government consumption, and the ratio of social security expenditures to total government expenditures (which are used as a proxy for expected social security benefits). F is a vector of variables that capture the characteristics of the financial sector, including its degree of development. Of particular interest here are the degree of financial depth of the economy and the extent to which borrowing constraints are binding. Ideally, F would also include measures of the real interest rate and the borrowing-lending interest rate spread; however, these variables are only available for a small number of developing countries. M refers to macroeconomic stability variables, including the rate of inflation; E includes variables related to the external sector, such as the current account balance (or foreign savings); P is a vector of variables that capture the characteristics of the political system; D

captures demographic determinants of savings; and S captures all other variables not included above.

The estimation of private savings equations of the type of equation 1 presents several challenges. First, there are no data on all the relevant independent variables; second, a number of them are measured with error; and third, there are a series of instances of endogeneity, which sometimes raise questions of causality.⁴⁴ In order to deal with these issues I have defined proxies for some of the variables of interest, and I have estimated the private savings equation using instrumental variables (IV).⁴⁵

Table 9 contains the results obtained from the estimation of private saving equations using instrumental variables on panel data for the thirty-six countries listed in the appendix.⁴⁶ The dependent variable is the ratio of private national savings to GDP, and was obtained from the International Monetary Fund. The independent variables fall in the different categories described above, and their exact definition can be found in Edwards (1995b).

Equations 1 through 5 in Table 9 refer to the complete sample, while equations 6 through 8 are restricted to developing countries. These results are quite revealing.⁴⁷ The R^2 s are quite high, boarding 0.5 in most cases. As suggested by life cycle models, the coefficient of the age dependency ratio is significantly negative, indicating that demographics play an important role in explaining differences in private savings across time and countries. This coincides with the results obtained by a number of authors, including Modigliani (1970) in his pioneer work. When alternative demographic variables were used instead of age dependency, the results were basically unaltered. The coefficient of the ratio of urban population is negative and significant in most regressions, supporting the “buffer stock” approach to private savings—see Deaton (1990).

Of particular interest for the subject discussed in this paper is that fiscal policy appears to play a very important role in the process of private savings determination: The coefficient of government savings was significantly negative in every regression. More important from

Table 9 is located in file S95EDTBL.PDF

Table 9 is located in file S95EDTBL.PDF

a policy perspective, however, is that it was always significantly different from -1.0. For example, in equation 1, the 95 percent confidence interval is (-0.673,-0.416). This indicates that, although higher government savings crowd out private savings, they will not do it one-to-one, and that Ricardian equivalence does not hold strictly.

Equally, if not more important, is the fact that the coefficient of social security expenditure by the public sector is negative and significant at conventional levels in all the regressions where it was included. This is consistent with previous findings by Feldstein (1980), and gives support to the notion that reforms that replace government-run (and partially funded) social security systems, by privately run capitalization systems will tend to result in higher private saving rates. Notice, however, that a reform of the social security system will tend to reduce government savings *in the short run*. The reason is that during the transition from the old regime to the new one, the government will continue to have obligations to (older) retirees, but will receive no contributions from active workers.

Also, the regressions reported in Table 9 show that the rate of growth of per capita GDP is significantly positive. This result has been previously obtained by a number of authors—most recently by Collins (1991), Bosworth (1993), and Carroll and Weil (1993)—and provides some support to the hypothesis that there is a “virtuous circle” that goes from faster growth to increased savings to even higher growth.⁴⁸ When GDP per capita was added to the regressions its coefficient was always positive and significant, indicating that with other things given, more advanced countries tend to save a higher percentage of GDP. Collins (1991) reports a similar result in her analysis of ten developing countries.

The next three independent variables in Table 9—money/GDP, private credit, and real interest rate—are proxies that try to capture the extent of development of the financial market, the severity of the borrowing constraint, and the degree of “financial repression.” The coefficient of the money/GDP ratio is always significantly positive, suggesting that countries with a “deeper” financial system will tend to have higher private saving rates. In order to investigate the

robustness of this result, several alternative definitions of this index were used, including yearly M1 and M2 ratios, as well as beginning of period ratios. When this was done, however, the estimates did not change in any significant way. The coefficient of private credit was also significantly positive in all regressions where it was included. Overall, these results do not provide support for the view that borrowing constraints have resulted in lower savings. This contradicts evidence presented by Schmidt-Hebbel and others (1992) and by Jappelli and Pagano (1994) who found, on different samples, that relaxing borrowing constraints have negatively affected private savings. There are several possible explanations for these results, including that the share of private credit is a (very) poor proxy for borrowing constraints, and that these operate on household savings only, and not on corporate or total private savings. Unfortunately, more adequate measures of borrowing (or liquidity) constraints, such as the down payment required to buy a house, are only available for a small number of advanced countries. The role of this type of constraints—including restrictions on consumer credit—possibly constitute one of the most important unresolved issues in research on savings behavior.

The coefficients of the real interest rate in Table 9 were insignificant in every equation where it was included. This is consistent with results obtained by a number of previous researchers (see McKinnon 1993, for example); moreover, when an interactive real interest rate-real GDP per capita term was included, the result did not support Ogaki's and others (1994) finding suggesting that the degree of intertemporal substitutability in consumption increases with the degree of development. When alternative measures of the efficiency of the financial system, such as the spread between lending and deposit interest rates, were included in the regressions their coefficients were not significant.⁴⁹

The current account balance was significantly positive in every regression, but the estimated coefficient was smaller than one, indicating that increases in foreign savings crowd out private savings in a less than one-to-one fashion. Also, the inflation and political instability coefficients were not significant in any of the

regressions where they were included. Income distribution data are available for a very small number of countries—mostly advanced. In one of the regressions its coefficient was significantly positive; additional data would be required, however, to get a clearer perspective on the role of this variable.

Why are government saving rates so different across countries?

As pointed out above, one of the most important differences between high and low aggregate saving rates countries refers to government savings. This important (and surprisingly little known) fact suggests two important questions: Why do government savings differ so markedly across countries? and, what are the most effective mechanisms to increase government savings? In recent years a number of authors have relied on insights from public choice and game theory to study government behavior—see Persson and Tabellini (1990) for a comprehensive discussion. Many of these models have assumed that political parties alternate in power, and that the group in office acts strategically, in an intertemporal sense, when making decisions that have economic consequences that span more than one period (Cukierman, Edwards, and Tabellini, 1992). In this setting the group in office will be reluctant to implement policies when the fruits will be reaped in the future by its opponents. This type of approach is used by Edwards (1995a) to address cross-country differentials in government savings rates. He argues that the authorities' incentive to increase government savings—and thus the ability to produce public goods—will depend on two fundamental political-economy variables: first, it will depend on the probability that the party in power will still be in office in the subsequent period. If this probability is low, the opposition party is likely to be in office once the projects mature and will get the credit from the increased production of the public goods. Naturally, under these circumstances the incentives to increase savings will be low.

The recent political-economy literature on inflation and stabilization has associated the probability of the incumbent to remain in office with the degree of *political instability* in the country in question. This analysis predicts, then, that the higher the degree of

political instability, the lower government savings. The second determinant of government's incentives to save is the extent to which the political parties have different preferences. In the extreme case where their preferences are exactly the same, there will be a high incentive to government to save, even if the probability of remaining in office is low. The difference in parties' preferences has been referred to in the political economy literature as the degree of political polarization. This analysis predicts that, with other things given, a greater degree of polarization will result in lower government savings. In regression analyses, however, it has been difficult to find empirical counterparts for political polarization. Some authors, such as Cukierman, Edwards, and Tabellini (1992), for example, have argued that the frequency of politically motivated attacks and assassinations are appropriated proxies.

Table 10 contains results obtained from instrumental variable estimations of government savings equations using both panel data as well as cross-country variables for 1983-92.⁵⁰ In addition to political instability, and political polarization—proxied by politically motivated attacks and assassinations—some of the independent variables included in the private savings regressions were incorporated into the analysis.⁵¹ The dependent variable was obtained from the IMF, and the independent variables were defined as in the case of the private savings regressions reported in the previous section.

The results obtained differ from those for private savings reported in Table 9, and provide some support for the political economy perspective to government savings. In every equation the coefficient of political instability was significantly negative. This suggests that in countries with more unstable political environments, public savings will tend to be lower than in countries with a more stable political environment. Interestingly enough, when alternative measures of political instability were used—such as the estimated probability of government changes—the results were maintained. However, the proxies for polarization—politically motivated attacks and assassinations—were significantly different from zero in only some of the regressions. It is important to note, however, that in spite of these positive results, the regressions reported here do not allow

Table 10
Determinants of Government Savings
(t-statistics in parentheses)

| Equation | 9 | 10 | 11 |
|--------------------------|----------------------|----------------------|-----------------------|
| Sample | Panel ^a | Panel | Cross-section |
| Estimation method | IV | IV - Fixed effects | IV |
| Age dependency | 1.657 (0.298) | 0.402 (0.321) | 0.042 (0.533) |
| Urban | 0.078 (3.334) | -0.153 (-0.941) | – |
| Social security | – | – | -0.008 (-0.103) |
| Growth per capita | 0.632 (4.140) | 0.794 (7.270) | 1.801 (3.285) |
| GDP per capita | -4.0E-04 (-2.627) | -6.2E-04 (-2.412) | -1.83E-04 (-1.032) |
| Money/GDP | -0.012 (-1.240) | -0.001 (-0.183) | -0.074 (-0.747) |
| Current account | 0.378 (5.044) | 0.532 (4.570) | 0.822 (2.449) |
| Political instability | -0.820 (-2.900) | -0.363 (-5.183) | -0.511 (-2.569) |
| Political assassinations | -0.181 (-0.259) | – | – |
| Attacks | -0.0901 (-2.701) | -0.018 (-4.149) | -0.002 (-0.358) |
| R ² | 0.439 | 0.484 | 0.365 |
| N | 334 | 334 | 38 |

^aThe following instruments were used: assassinations, lagged growth per capita, lagged investment, ratio of social security expenditures to total expenditure, frequency of transfer of political power, attacks, lagged current account balance, urbanization, openness, inflation, ratio of broad money to GDP, government consumption.

discrimination between the political-economy strategic behavior approach proposed in this paper, and alternative models based on the political weakness of governments. See Edwards and Tabellini (1994) for a discussion on these two families of models.

As in the case of private savings, the coefficient of growth is significantly positive. Moreover, the computation of standardized beta coefficients indicates that this is the most important variable in explaining cross-country differences in government savings. (Political instability is the second most important beta coefficient.)

Interestingly enough, and contrary to the private savings case reported in Table 9, neither the demographics, social security, or money/GDP variables have significant coefficients. As in the case of private savings, the coefficient of the current account is significantly positive, indicating that a higher level of foreign savings—that is, a reduction in the current account balance—has been associated with a lower government savings rate. Its coefficient, however, is significantly below unity in both panel regressions reported here. For example, in equation 10 the 95 percent confidence interval is (0.29,0.75), indicating that the degree of offset is not one-to-one.

It is important to note that increasing government savings does not imply that these countries should, *pari passu*, increase public investment. In fact, both decisions should be kept separate. Whether or not specific public investments should be undertaken has to be decided on a project-by-project basis. This requires implementing highly professional procedures for appraising public investment projects. In those countries where an expansion in public investment is not justified, the government should still increase its savings and channel those resources to the capital market.

Some lessons for developing countries

During the last few years, the majority of Latin American countries undertook major fiscal reforms aimed at reducing inflation and achieving external sector sustainability. In most cases these goals have been successfully achieved. Average inflation in the region has

declined from over 1,000 percent in 1989 to less than 15 percent in 1994; also, in most countries external accounts are now safely under control. This adjustment was accomplished through the implementation of a number of policies, including tax reforms, expenditure reduction, and the sale of public enterprises. Latin America's experience with fiscal adjustment during the last few years offers a number of important lessons for other nations, including most transitional economies in Eastern Europe and Central Asia.

A first important lesson from Latin America's experience is that tax reforms aimed at improving the efficiency of the tax system—through the reduction of tax rate dispersion and the introduction of the value added tax, for example—usually do not result in large (or any) increases in tax revenues in the short run. In fact, the region's experience suggests that only in those countries that experienced a very substantial reduction in inflation did tax revenues increase rapidly and substantially. From a policy point of view this means that the goal of improving the efficiency of the tax system should usually be separated, at least in the short run, from the fiscal revenue goal. Tax revenues will only grow to the extent that tax administration and tax compliance improve. This, however, requires significant effort, including the training of personnel, and usually takes time. An important consequence of this lesson is that in most cases of successful adjustment, the reduction of public expenditure has made the fundamental contribution.

A second lesson from Latin America is that, from a political point of view, it is easier to reduce public investment than to cut current expenditures. While in some cases this has meant canceling large and wasteful projects, in others it has resulted in a decline in investment in basic infrastructure. Some countries have faced this problem by transferring the provision of basic infrastructure to the private sector. The Latin American experience strongly suggests, however, that the degree of success of this type of operation will depend on the existence of clear and modern regulatory frameworks. In fact, as I argue below, the development of institutions able to regulate new activities—including newly privatized public utilities—constitutes a key challenge of most fiscal reforms.

Third, Latin America shows that the financial public sector can be a substantial source of fiscal imbalances. In fact, in a number of countries the quasi-fiscal deficit continued to be quite large even after the rest of the public sector had attained equilibrium. There are two fundamental channels through which a financial public sector deficit can take place: first, publicly owned development banks—either belonging to the central or provincial governments—can contribute significantly to the deficit.⁵² Second, the central bank can experience substantial losses that contribute to the overall deficit. This will be the case, for example, if dual exchange rates are in place, or if the central bank has to participate in a major rescue operation to bail out some financial institutions. This latter case has been common among a large number of countries in the region and underlines, once again, the need for very efficient regulatory and supervisory frameworks.

Fourth, Latin America suggests that in order to add credibility to the fiscal policy it is important to undertake institutional reforms. Along these lines, a particularly important development is that, in recent years, a large number of Latin American countries have granted independence to their central banks. Although it is too early to know whether this measure will make a difference in every (or even most) countries, the initial evidence suggests that these independent central banks have indeed added credibility to fiscal policy.

The experience of Chile after 1989 provides a fifth important lesson: to the extent that there is political will and agreement it is possible to increase taxation to finance social programs. However, Chile suggests that for this political consensus to emerge, it is crucially important that these programs are indeed focused on the poorest segments of society and are channeled to areas such as education and health.

Latin America also offers a number of key lessons regarding the relationship between privatization and fiscal policy. Most countries in Latin America have, in one way or another, relied on the sale of publicly owned enterprises to reduce their fiscal deficits. While in some cases the proceeds from privatizations have contributed significantly

to public revenues, in others the fact that the government has stopped financing large losses has been important in itself. Perhaps the most important lesson of privatization in Latin American countries is that the formulation of adequate regulatory frameworks is a key determinant of success in the process. Proper regulation affects, among other things, the price that the private sector is willing to pay for SOEs. Also, it determines the success of these firms once in the private sector. Mexico, for instance, found out that the lack of proper regulation regarding toll charges greatly affected the degree of use of privately constructed highways. The most important aspect of regulation, however, refers to the banking sector. Again and again the Latin American countries have found out that, due to the absence of proper supervision and regulation, private banks—and in some cases recently privatized ones—run into serious difficulties and have to be bailed out by the authorities. As the cases of Chile, Argentina, Colombia, and Mexico have shown, in these cases the process of rescuing the banks has added considerably to the fiscal accounts.

An important question in designing a wholesale divestiture program is the sequence in which firms in different sectors should be privatized. In particular, should banks and other financial institutions be sold early on, or should they be maintained under public property for a longer time? McKinnon (1991) has argued that because of moral hazard considerations, the privatization of banks should “come near the end of the reform process.” McKinnon’s position is partially based on the Chilean experience of the 1970s, where banks were sold early to emerging—and not fully solvent—conglomerates (the *grupos*), which used them to finance the acquisition of firms subsequently privatized. During this process the newly privatized banks engaged in extremely risky and financially questionable operations, and accumulated large volumes of bad loans—many to interrelated companies owned by the same conglomerate. Due to the existence of an (implicit) government guarantee on deposits, the public did not distinguish between solid banks and those that were financially troubled. This process—which, in the first place, was able to develop because of the lack of an appropriate supervisory framework—ended in a major financial

crisis in 1982-83, when some of the largest Chilean banks became insolvent and had to be taken over by the government.

This episode starkly illustrates the importance of implementing a modern supervisory framework *before* privatizing banks. However, it is unclear whether, as argued by McKinnon (1991), this is a reason for delaying the divestiture of financial institutions beyond what is required to put the new regulations in place. In fact, it is possible to argue that there are some compelling reasons for privatizing banks during the early stages of the reform process—but only *after* the new regulatory framework is firmly in place. First, in order to successfully move from a protectionist environment to a competitive one, manufacturing and other firms will have to engage in major restructuring activities that will allow them to increase productivity. This will require financing which, under most circumstances, will be difficult to obtain from a largely inefficient and old-fashioned state-owned banking system. Second, recent experiences have shown that in many cases a banking system dominated by large government-owned banks will usually stand in the way of macroeconomic stabilization efforts. In these cases the public-bank culture usually continues to prevail, and credit is granted at a pace that is inconsistent with overall macro equilibrium. This has been, for example, the recent case in Nicaragua, where the inability to control the state-owned Banco Nacional de Desarrollo has jeopardized the macroeconomic stabilization program.⁵³ Also, delaying the privatization of the banking system may delay the creation of a dynamic and modern capital market, negatively affecting resource allocation and intermediation.

After years of (largely successful) adjustment programs, policy discussions in Latin America have increasingly turned toward the resumption of growth. As the Mexican crisis has vividly reminded policymakers and politicians, the reliance on very high foreign saving rates often ends up in crises and forced adjustments. This means that in the years to come the acceleration of growth will require rapid increases in domestic saving rates. This will not only be important for the Latin American countries, but also for the transitional economies. According to the most recent World Bank's

World Development Report, the transitional economies have a saving rate of only 17 percent, even lower than that of the Latin American countries.

This paper provides evidence clearly suggesting that the processes of determination of private and government savings are significantly different. Private savings respond to demographic variables, social security expenditures, and the depth of the financial sector. Government savings, on the other hand, are affected by an important type of variable that does not impact on private savings: the degree of political instability of the country in question. However, both private and government savings are affected by real growth and by the current account balance or foreign savings.

From a policy perspective, the results reported in this paper suggest that there are a number of possible avenues—many of them discussed in the policy literature—for raising private savings. An increase in the depth of the financial sector will tend to have important positive effect. It is interesting to note that for the case of Latin America the ratio of M1 to GDP was almost one-half of what it was in the rest of the sample. It is less clear, however, what is the mechanism through which this could happen. Also, the results presented here have not resolved the question of the impact of borrowing constraints. While the panel data analysis did not unearth such an effect, cross-section results do provide some evidence in support of the notion that relaxing the borrowing constraint may reduce savings. Further research on this issue will be needed before a clearer picture emerges. At this point, however, it seems that the most fruitful type of research along these lines would be microeconomic in nature. In particular, investigating how increased access to consumption credit affects household saving decisions would be of crucial importance.

The results reported in this paper also suggest that the reduction of government-provided social security benefits increases private savings. Again, however, additional progress in this area would require detailed microeconomic analyses of specific country experiences. In that sense, the study of the Chilean case appears to be

particularly important. Specifically, it is important to investigate at least three issues regarding this case: first, whether this experience has resulted in excessively high administration costs; second, what were the actual effects of this reform on total aggregate savings during the transition; and third, what has been the actual microeconomic evidence regarding the effects of the reforms on private savings.

Perhaps one of the most important results refers to the role of public savings as determinants of private savings. While the results strongly suggest that higher government savings depress private savings, they do it in less than a one-to-one fashion. In fact, the results suggest that an increase in government savings of 1 percent generates a decline in private savings of approximately 0.55 percent, with the consequent increase in national aggregate savings of 0.45 percent. To the extent that this net increase in national savings results in higher capital accumulation and growth, it is possible to get started on the “virtuous circle” discussed above.

It should be noted, however, that due to the nature of the data—short-time series and a rather large number of cross-sections—the results reported in this paper do not provide enough information regarding the transition from low to higher saving rates. However, evidence from a score of countries—including the “East Asian miracle” nations—suggests that the increase in private domestic savings ratios is a rather slow process (World Bank 1993a). This evidence also indicates that a drastic increase of private savings has usually been affected by an important factor not captured in the regression analysis: the creation of an institutional environment that instills confidence in small savers—the case of postal savings in East Asia is a good example of this type of institution.

Another important finding is that government savings, in turn, are positively affected by the creation of social and political institutions that reduce the degree of political instability. Countries that have a “national project” and where political forces coexist in relative harmony seem to find it easier to increase government savings. This suggests, then, that a strengthening of democracy has important, and fairly direct, positive effects over growth and economic progress.

Appendix:
Countries Included in the Empirical Analysis

| IMF code | Country | IMF code | Country |
|-------------|-------------|-------------|--------------|
| 122 | Austria | 288 | Paraguay |
| 124 | Belgium | 299 | Venezuela |
| 128 | Denmark | 429 | Iran |
| 134 | Germany | 524 | Sri Lanka |
| 136 | Italy | 548 | Malaysia |
| 142 | Norway | 564 | Pakistan |
| 156 | Canada | 566 | Philippines |
| 172 | Finland | 576 | Singapore |
| 178 | Ireland | 578 | Thailand |
| 182 | Portugal | 622 | Cameroon |
| 186 | Turkey | 652 | Ghana |
| 196 | New Zealand | 664 | Kenya |
| 218 | Bolivia | 684 | Mauritius |
| 223 | Brazil | 686 | Morocco |
| 228 | Chile | 694 | Nigeria |
| 233 | Colombia | 724 | Sierra Leone |
| 253 | El Salvador | 742 | Togo |
| 273 | Mexico | 744 | Tunisia |

Endnotes

¹Some observers have argued, however, that as a result of these fiscal programs growth prospects have been hurt, and social conditions have deteriorated.

²See, for example, the detailed discussion in World Bank (1994).

³See, for example, World Bank (1993a) and CEPAL (1994).

⁴See, for example, the discussion in the IMF's *World Economic Outlook*, 1995.

⁵On the heterodox programs—the so-called *austral*, *cruzado*, and *APRA* programs—see Kiguel (1991), Dornbusch and Edwards (1991), and Edwards (1995b).

⁶During the early phases of the crisis, the question of the sequencing between macroeconomic stabilization and structural reform became an important policy issue. Policymakers asked whether fiscal reform should precede structural reform, or whether both types of policies should be implemented simultaneously. By the late 1980s, most analysts began to agree that, in countries with serious macroeconomic imbalances, the most appropriate sequencing required early and decisive action on the macroeconomic front, including solving the “debt-overhang” problem.

⁷In some countries governments covered part of their deficit by floating domestic debt. However, given the underdeveloped nature of the region's capital markets, this was a limited option. Clearly, a vicious circle developed, where the lack of sophisticated capital markets precluded using domestic debt as a source of financing and, in turn, inflation discouraged the growth of the financial sector.

⁸It should be noticed that in some countries these figures are affected by revenues obtained from the sale of public enterprises.

⁹See Edwards (1995b) for a discussion of the Chilean financial crisis of the early 1980s.

¹⁰See Fontaine (1989) for a discussion of the government's macroeconomic strategy during this period.

¹¹The Mexican authorities have pointed out that they will deal with these issues in the second wave of privatizations.

¹²When the Allende government came to an end in 1973, Chile faced a tremendous macroeconomic disequilibrium. Inflation surpassed 700 percent and the fiscal deficit had reached 22 percent of GDP. See Edwards and Edwards (1991).

¹³In the first half of 1993 the Chilean congress decided to maintain the 15 percent tax rate on corporate earnings.

¹⁴See Edwards and Edwards (1991) and Bosworth, Dornbusch, and Labán (1994) for a detailed discussion of the Chilean privatization program.

¹⁵In spite of acknowledging the decisive role of fiscal imbalances, the two early Menem stabilization attempts—Roig/Rapanelli and Gonzalez—only made limited progress in this area.

¹⁶See Newfarmer (1992) for a detailed analysis of the Argentine public sector adjustment under the Cavallo plan.

¹⁷See World Bank (1992).

¹⁸The original rate was 10,000 Australes per dollar. After the currency reform of 1991, however, the rate became one Argentine peso per U.S. dollar.

¹⁹The interpretation of “liquid” international reserves is somewhat lax, since it includes government financial assets denominated in foreign currency. See Canavese (1991).

²⁰Dornbusch (1992).

²¹The monthly journal, *Latin Finance*, provides useful and detailed information on the privatization process in the region. The focus on massive privatization was developed rather late in the efforts to tackle the debt crisis. For example, the minor role assigned to privatization during the early debates on the debt crisis is reflected by the fact that in the pioneer volume edited by Jeffrey Sachs in 1989—which collected the papers presented at a conference held in late 1987—the word “privatization” is not mentioned even once in the subject index. Only three years later the situation had changed dramatically, as is evidenced by the discussion in the volume edited by John Williamson in 1990—from a conference held in late 1989. In this book, privatization-related issues cover almost a full page in the subject index.

²²On the use of public ownership as a way to deal with externalities, see, for example, Willig (1993).

²³See Seabright (1993) for a similar classification.

²⁴However, an important technical issue when dealing with the privatization of large monopolies is whether it is more efficient to break them down vertically or horizontally.

²⁵See Galal and others (1992); World Bank (1992).

²⁶See Edwards (1995b), Brock (1992).

²⁷However, the Mexican government will still own some important firms, including the oil giant, Pemex. The Mexican government showed its clear commitment to privatization and restructuring when, in 1987, it allowed Aeromexico, a state-owned airline, to actually go bankrupt.

²⁸Menem’s main economic strategist, Domingo Cavallo, articulated his vision of a “new” Argentina in his 1985 book, *Volver a Crecer*.

²⁹Interestingly enough, if the commission failed to reach a consensus on specific privatization, the executive could act on its own (Alexander and Corti 1993).

³⁰The bargaining process was still subject to the fairly distorted Argentine labor legislation.

³¹See Luders (1991).

³²However, during the transitional period the fiscal effort required to fund the pensions of those in the old system will increase.

³³A number of experts have argued that there is still room for additional efficiency improvements. Also, the minimal pension assured by the new system may be too low to cover "requirements." On details of the Chilean system, see, for example, Cheyre (1991).

³⁴In the reformed system, the state plays a fundamental role regulating and monitoring the operation of the management companies, and guaranteeing "solidarity in the base" through a minimum pension. An important feature of the new social security system is that it is obligatory, requiring that every dependent worker (non-self-employed) makes contributions equal to 10 percent of her disposable income.

³⁵For further details see Edwards and Edwards (1993). In January of 1993 the Chilean government announced that it was relaxing the restrictions for AFPs to invest in the stock market. Diamond and Valdés (1994) have argued that the current operating mode of Chile's AFPs generates sizable waste.

³⁶See, for example, the family of Ak models pioneered by Rebelo (1991). There is now an abundant literature on endogenous growth. See, for example, Grossman and Helpman (1991) and Sala-i-Martin (1992). See Gersovitz (1988), Deaton (1990, 1995) and Schmidt-Hebbel and others (1994), for detailed surveys on the links between savings, growth, and development.

³⁷See Fry (1988) for surveys of these type of models.

³⁸If the objective of savers is to receive a certain fixed income, higher interest rates lower the amount required to attain the income flow desired.

³⁹Surprisingly, however, a number of empirical studies on savings continue to ignore the endogeneity of the rate of growth. See, for example, Schmidt-Hebbel and others (1992) and Doshi (1994).

⁴⁰Gersovitz (1988) makes the important, but often forgotten, point that even though savings will be higher with borrowing constraints, household's welfare will tend to be lower.

⁴¹On Ricardian-Barro equivalence, see Barro (1974).

⁴²Strictly speaking, what matters is the relation between contributions and expected social security benefits in the future. Whether aggregate savings increase will depend, however, on what happens to government savings once the social security reform is implemented.

⁴³See Gersovitz (1988) for a discussion on data problems in aggregate savings studies.

⁴⁴In particular, the rate of growth of GDP per capita, the (real) interest rate and the current account are likely to be endogenous.

⁴⁵As is usually the case with panel data regressions, it is rather difficult to find appropriate instruments. In this paper I have faced this problem by using lagged values of the endogenous variables, as well as variables that are exogenous to savings but correlated to some of the endogenous variables, such as exports and population growth. In the cross-section estimates, I dealt with 1983-92 averages. In this case endogenous variables for 1970-82 were used as some of the instruments. Although this procedure does not fully deal with causality, it provides a convenient way to handle the simultaneity issue.

⁴⁶A more detailed discussion of savings behavior from a comparative perspective can be found in Edwards (1995a), from where the results discussed here have been drawn.

⁴⁷The countries used in the regressions were chosen according to data availability and are listed in the appendix. The rate of growth of GDP per capita, real interest rates, and the current account balance were considered to be endogenous variables. The following instruments were used: constant, age dependency, lagged moving average of growth, money/GDP, private credit, lagged real interest, government savings, social security, lagged current account, income distribution, political instability, GNP per capita, government consumption ratio, lagged investment, inflation, openness, and population growth.

⁴⁸The fact that the regressions reported in Table 9 have been obtained using instrumental variables supports the idea that this positive coefficient is not simply the consequence of a simultaneity bias. Carroll and Weil (1993) present Granger causality tests that suggest that growth Granger-causes aggregate savings.

⁴⁹From theoretical and empirical points of view, the (possible) effects of interest rates—and other incentives—on private savings constitute a major controversy.

⁵⁰The following instruments were used: a constant, lagged growth, political instability, assassinations, attacks, social security, lagged current account balance in 1970-82, age dependency, share of government consumption, GNP per capita, money/GDP ratio, inflation lagged investment, openness, and social security.

⁵¹See Edwards and Tabellini (1994) for a discussion on the sources for these variables.

⁵²Interestingly enough, in a number of countries there has been a reluctance to privatize fully the banking sector. Even in the most advanced reformer—Chile—the state has retained ownership of the largest bank (Banco del Estado). Government-owned banks have made macro-economic management difficult in a number of countries, including Argentina, Brazil, and Mexico.

⁵³In Nicaragua the staff of Banco Nacional de Desarrollo has continued to operate within the populist mode that characterized the Sandinista administration. This has resulted in the crowding out of private investment, and has affected the country's ability to meet the International Monetary Fund's targets.

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