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## Saving Behavior in Latin America: Overview and Policy Issues

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**Inter-American Development Bank  
Office of the Chief Economist  
Working Paper 346**

# **Saving Behavior in Latin America: Overview and Policy Issues**

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**May 1997  
Washington, D.C.**

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## 1. Summary and Conclusions

This paper presents an alternative perspective on the relationship between saving and growth; saving and inflation stabilization; saving and structural reform; and saving and capital inflows; drawing on the experience of East Asia and Latin America in the last twenty five years.<sup>1</sup>

The paper's perspectives on saving are based on the following evidence:

i) higher growth precedes higher saving, rather than the reverse. It is only after a sustained period of high growth that saving rates increase and may do so with a delay that can be quite significant.

ii) the most powerful determinant of saving over the long run is economic growth. According to this view, Latin America's chronically low rate of saving is primarily the consequence, more than the cause, of the region's history of low and volatile economic growth, while the high saving observed in the Asian "miracle" economies is due to their high and less volatile rate of economic growth.

iii) stabilization and reform policies aimed at raising efficiency and promoting growth may, although temporarily, reduce saving rates for many years and therefore, increase the reliance of the economy on potentially volatile capital flows.

iv) when properly measured, capital inflows are associated with declines in saving which are similar in East Asia and Latin America.

Based on this evidence the policy conclusions of this paper differ with the prevailing views since they de-emphasize saving as an intermediate policy target. They are the following:

i) the emphasis of policy should be shifted away from saving and concentrate on removing the impediments to growth. This shift of emphasis is non-trivial, since many efficiency raising, growth-promoting policies may result in a temporary, but prolonged decline, in saving rates.

ii) The emphasis of policy should shift away from avoiding the inevitable outcome of inflation stabilization and many reform policies, i.e., a transitory decline in saving, current account deficit and reliance on foreign saving; and aim at reducing the vulnerability of the economy to external shocks during this transition.

iii) whatever the merits of policies designed to stimulate a larger participation of FDI, they are unlikely to result in a significant change in the way saving in Latin America responds to capital flows.

This paper reviews the policy debate surrounding saving in Latin America. However, we want to make clear from the outset that we do not attempt a balanced presentation of this issue but rather to contribute to a balanced debate on the issue by offering an alternative perspective on saving which is at least as consistent with the evidence as the dominant view. The discussion is organized as follows. In **Section 2** we briefly outline the recent behavior of saving in Latin America and the East Asian "miracle" economies since the current views about the role of saving have to a large degree been shaped by comparison of Latin America with these more rapidly-growing, high-saving economies. In **Section 3** we review the dominant views about the relationship between saving, growth, and macroeconomic stability and the policy implications that have been drawn from this views which, to a significant degree, have already been implemented in many countries of the region. In **Section**

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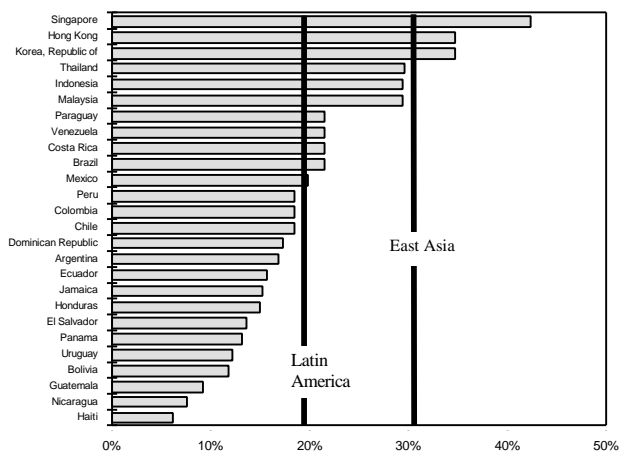
<sup>1</sup> In this paper the term East Asia will refer to the six rapidly growing economies Hong Kong, Indonesia, Korea, Malaysia, Singapore and Thailand.

4 we re-examine the connection between saving and growth. **Section 5** explores the relationship between saving, stabilization and structural reform. Finally, **Section 6** re-examines the relationship between saving and capital flows.

## 2. Saving in Asia and Latin America

Latin America's saving rates are low, especially in comparison with the East Asian "miracle" economies. As Figure 1 illustrates, national saving in Latin America has during the past decade averaged less than 20 percent of GDP, in comparison with over 30 percent in six rapidly-growing East Asian economies.<sup>2</sup> Every single economy of Latin America had a saving rate substantially below that recorded in the Asian "miracle" economies, and in several economies of Latin America saving rates were only about one-third the Asian "miracle" average.

**Figure 1**  
**National Saving in East Asia and Latin America**  
Percent of GDP, 1984-1993

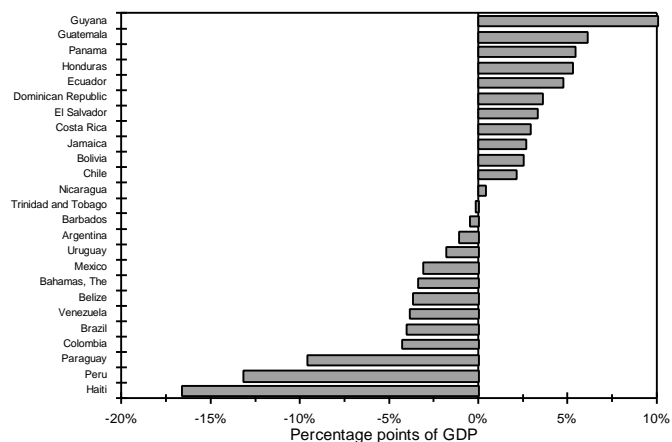


Recently, concerns with saving in Latin America have intensified because in many countries of Latin America

<sup>2</sup>In recent years Chile's saving rate has increased dramatically, and at around 25 percent, now approaches East Asian levels.

already low rates of saving have in the past several years declined, in some cases quite significantly.

**Figure 2**  
**National Saving in Latin America**  
1988-89 vs. 1993-94



As Figure 2 illustrates, during the 1990s the rate of national saving fell in 13 countries of the region, in some cases quite dramatically. The decline in private saving has been even more generalized, falling in all countries but three. Thus, if low rates of saving are a cause for concern the recent past strengthened this concern considerably.

## 3. Why Are Low Saving Rates a Problem?

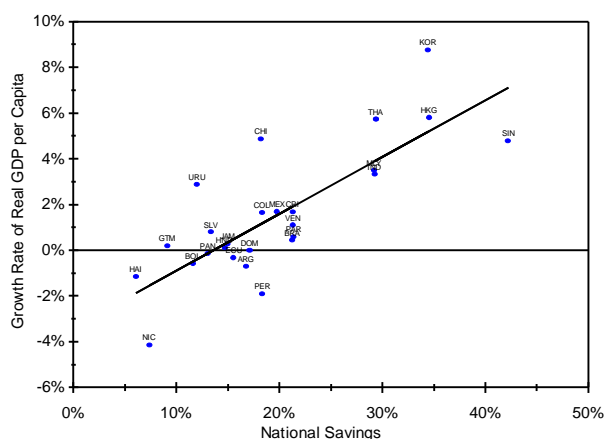
The dominant view about saving highlights at least two reasons why saving is an important macroeconomic policy issue and can be summarized as follows: Latin America's low rate of saving condemns the region to an uncomfortable choice between low investment and growth, or excessive reliance upon volatile foreign capital which makes the region vulnerable to crises. We now proceed to develop this argument further.

*From a long-run perspective, national saving matters for growth.*

As figure 3 illustrates, high rates of saving are highly correlated with high rates of growth. The link between

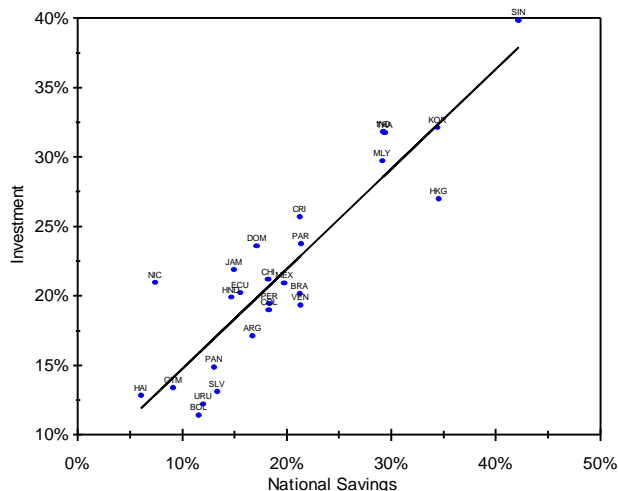
saving and growth is not however a direct one, but operates through the effects of investment on growth.

**Figure 3**  
**Saving and Growth, Latin America and E.Asia**  
Percent of GDP, 1984-1993



To illustrate this point, Figure 4 shows that there is also a strong link between saving and investment, which suggests that countries that manage to increase their saving rate, and therefore investment, will increase their rate of growth.

**Figure 4**  
**Saving and Investment, Latin America and E. Asia**  
Percent of GDP, 1984-1993



There is in principle no reason to expect a very close link between saving and domestic investment because

domestic investment can be financed by foreign saving, through inflows of international capital. One interpretation of this long-run relationship between national saving and domestic investment is that over the long run international capital flows are limited, and thus that a sustained rise in the rate of domestic investment requires a sustained rise in the rate of national saving. The correlation between saving and investment is of course not perfect, therefore there is some scope for boosting domestic investment above domestic saving by encouraging international capital flows, even over a relatively long time horizon. But the correlation between domestic saving and investment is high, suggesting that this scope is limited.

*From a short-run perspective, low rates of saving increase vulnerability.*

According to the dominant view, low rates of saving are also associated with increased vulnerability to macroeconomic crisis (see for example, Bruno, 1996, Razin, 1996 and Summers, 1996a, 1996b). A country with a low or declining rate of saving, may occasionally be forced to run large current account deficits to maintain reasonable levels of investment. Excessive reliance on foreign saving unduly exposes the economy to volatile international capital flows. A sudden decline in the inflows of capital might force on the recipient economy a very abrupt and, therefore, disruptive macroeconomic adjustment.

For the tenets of the dominant view, the crisis in Mexico has become associated with that country's low and declining rate of saving and the very large current account deficits during the years leading up to the crisis. In this context, the almost complete insulation of high-saving economies such as Chile and the East Asian "miracle" economies from the financial turbulence that gripped many "emerging-market" economies in the immediate aftermath of the Mexican devaluation, is contrasted with the financial turbulence that affected

countries with a less impressive saving performance such as Argentina.<sup>3</sup> International comparisons, and particularly comparisons of Latin America with East Asia, thus provide some support for the idea that saving is an important force for economic stability, as well as growth.

Corresponding to the dominant view on the relationship between saving, growth and stability there is a policy agenda to address the problem of low saving rates in Latin America. This policy agenda focuses on mechanisms to tackle the problem of low saving directly as follows:

- i) Increase national saving by raising public saving.
- ii) Promote private saving by creating a stable and predictable economic environment that rewards savers for thrift and reduces fears that inflation or a collapsing financial system will lead to expropriation of their saving. This implies stabilizing inflation, strengthening domestic financial institutions, and increasing the role of market signals in the allocation of saving and investment, i.e.; the elimination of “financial repression”.
- iii) Promote contractual saving, in particular through the establishment of fully-funded social security systems.

Much of this agenda is perfectly sensible. In fact, each of these reforms have already been implemented by many countries in the region or, where they have not, they are at the top of the policy agenda. However, although these policies are highly desirable for their potential impact on economic efficiency and growth, they are unlikely to have large, immediate effects on saving in the short to medium term. Furthermore, as we shall see in Section 5, there is good reason to believe that some of these reforms will

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<sup>3</sup> It should be noted that many countries with an also poor saving performance, such as Colombia, were also largely immune to the “tequila effect”.

have a temporary negative impact on saving in the short term.

#### 4. Saving and Economic Growth

Econometric studies of the determinants of saving rates (see for example, Edwards, 1994 and CEPAL, 1995) suggest that the long-run behavior of saving is closely related to an economy’s rate of growth and income per capita levels. However, close association does not establish causation and this is a crucial element in the design of policy. As Deaton (1995) points out “the causation is important, not just for understanding the process, but for the design of policy. If saving is merely the passive adjunct to growth or to investment, then policies for growth should presumably be directed at investment (in people, plant or equipment) or at the efficiency of such investment, with saving allowed to look after itself. But if saving is the prime mover, the focus should be on saving incentives, such as tax breaks (...), compulsory saving in (fully-funded) employee provident funds, as in Malaysia, Singapore and Chile, to the design of social security systems, or to the role of financial intermediation in general, improvements in which are variously argued both to increase and decrease saving”.

Although the issue is far from settled, the view that growth appears to precede saving rather than the reverse has recently found support in several recent papers, including an influential contribution by Carroll and Weil (1994). That paper examined the relationship between saving and economic growth in a sample covering a large number of countries over several decades, and found that past growth predicts future saving rates, while past saving rates do not predict future growth.<sup>4</sup>

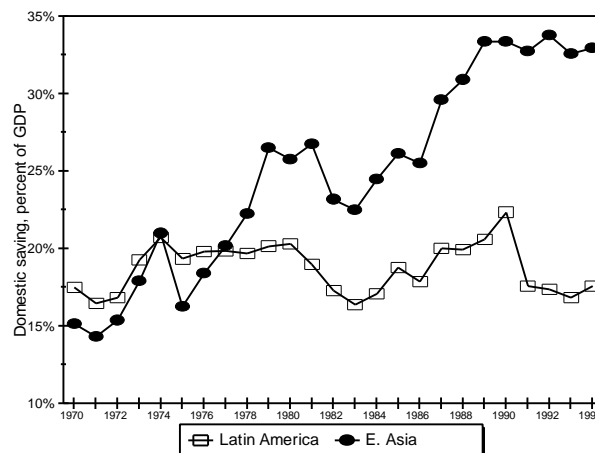
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<sup>4</sup>Technically, the paper asked whether saving “Granger causes” growth and vice versa. One variable “Granger causes” another if observations of the first variable help predict subsequent movements in the second, after taking into account the predictive value of the second variable's own

The fact that increased growth tends to precede increased saving rates suggests that saving may be, to an important extent, caused by, in addition to causing, economic growth.<sup>5</sup>

The pattern of strong increases in saving rates *after* an acceleration of growth is illustrated by the experience of the Asian “miracle” economies. Figure 5 shows the (population-weighted) average saving rates for Latin America and the Asian “miracle” economies. Saving rates increased substantially in the Asian “miracle” economies while they remained stagnant in Latin America since the early 1970's. The Asian economies have during recent years had a much higher rate of saving than Latin America. But this is a relatively recent phenomenon, resulting from a long and gradual increase in Asian saving from rates that were, in the 1970s, generally below those recorded in Latin America. Only in the late 1970s and early 1980s, *after* the acceleration of growth in Asia, did Asian saving rates rise consistently and substantially above Latin American rates.<sup>6</sup>

**Figure 5**  
**Saving rates in Asia and Latin America, 1970-1994**



In Latin America, Chile is another example where strong increases in saving followed the acceleration of growth.<sup>7</sup> Figure 6 shows that Chile's economic recovery began in 1984, when domestic saving was still quite depressed, and the economy was as a result heavily reliant upon capital inflows to finance domestic investment.<sup>8</sup> It was only in the late 1980s, after several years of sustained economic growth, that Chilean saving rates approached the high levels now observed.

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history. The paper found that growth "Granger causes" saving, while saving appears not to "Granger cause" growth.

<sup>5</sup>A plausible mechanism through which growth may "cause" saving operates through the need to provide self-finance for at least a portion of the many profitable investments available in a high-growth economy, in an environment of imperfect capital markets. Birdsall, Pinckney and Sabot (1995) argue for the importance of this mechanism in the context of low-income economies, and Liu and Woo (1994) provide evidence on its empirical importance for Taiwan.

<sup>6</sup> Granger causality test performed for the Asian “miracle” economies are consistent with the results obtained by Carroll and Weil (1994). In all cases growth was high early and saving high later.

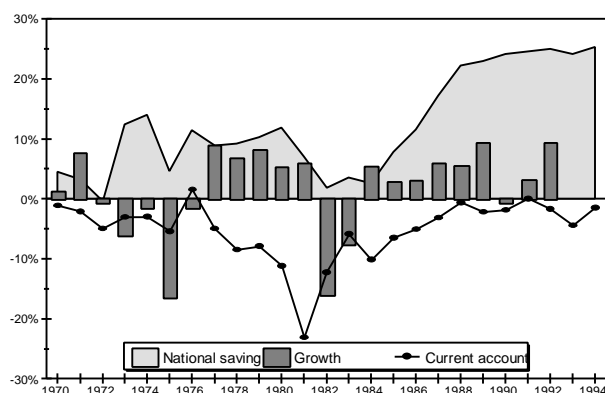
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<sup>7</sup> For a comprehensive and formal treatment of saving behavior in Chile, see Agosin, Crespi and Letelier (1996) and Morandé (1996).

<sup>8</sup>This reliance can be seen in the large current-account deficits in the early stages of the economic recovery.

**Figure 6**

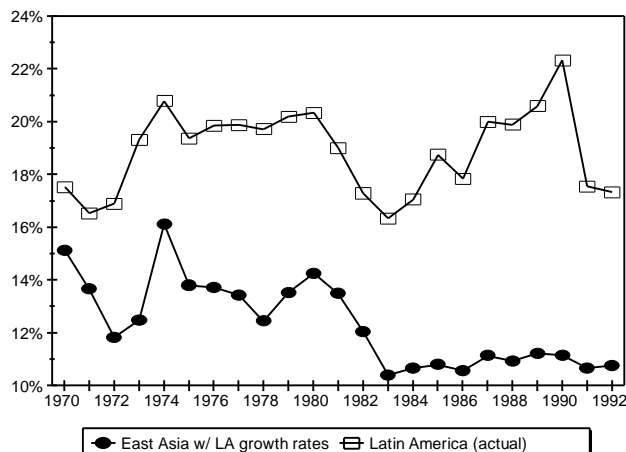
**Growth, saving and the current account in Chile**  
(Growth rate in percent, other variables percent of GDP)



The estimated impact of growth on saving is not only statistically significant, but also very large in economic terms. In fact, the differences between East Asian and Latin American growth rates is sufficient to explain the differences in the regions' long-run saving behavior depicted in Figure 5. Using an econometric model of the determinants of saving rates, which is described in the appendix of this paper, Figure 7 illustrates the impact of growth on saving by providing an estimate of what Asian saving rates would have been if those countries had Latin America's rate of economic growth during the past twenty five years.

**Figure 7**

**Can Growth Explain Asia's Higher Saving Rate?**  
**A counterfactual comparison**



The figure shows that if, during 1970-1994, the East Asian "miracles" had experienced the economic growth recorded by Latin America, the Asian saving rate would, other things equal, have been even *lower* than that recorded in Latin America. This implies that essentially all of the difference between saving rates in Latin America and the Asian "miracle" economies is explained by differences in their growth performance.

This does not mean that other determinants of saving are unimportant but that they are unlikely to account for much of the long-run difference in Latin American and East Asian rates of saving, or for the recent, sustained increase in Chilean saving rates. For example, the econometric model of this paper and other work by other authors find that although improvements in the terms of trade typically increase saving, the effect appears to be purely transitory, as economic theory would predict, and therefore unlikely to explain the differences in long-run behavior.<sup>9</sup> Other determinants of saving, such as the distribution of income, the age distribution of the population and demography may also be statistically relevant.<sup>10</sup> But none of these factors can account quantitatively, for the dramatic shift from relatively low to very high saving rates that occurred in the Asian "miracle" economies since the early 1970's, and in Chile since the mid-1980s.

*Policy Issues*

The main policy implication of the view that growth is the prime mover and not saving, is that policy efforts should

<sup>9</sup>Held and Uthoff (1995) actually find a negative effect of the terms of trade on saving.

<sup>10</sup>For example, Edwards (1994) finds some evidence that the age dependency ratio (the fraction of the population either younger than 15 or older than 65 years of age) is negatively related to domestic saving rates. In some specifications of his model a more equal distribution of income is associated with a higher saving rate, but this result was not robust.



concentrate in removing the impediments to growth rather than trying to establish programs aimed directly at promoting saving that are likely to be of dubious effectiveness and may involve economic inefficiencies.

Of course, policy impediments to saving should be removed, but policy should be mainly concerned with establishing an environment conducive to high and sustained rates of growth, trusting saving to follow in response to the incentives that such an environment provides.

Although policies aimed at increasing saving may exhibit a substantial overlap with those aimed at removing impediments to growth, the shift of emphasis in the policy objective from saving to growth is non-trivial. As we will argue in the following section, many efficiency-raising, growth promoting policies are likely to have an adverse effect on saving, that although temporary, may last for many years.

### 5. Saving, Stabilization and Structural Reform

In line with the policy agenda suggested by the prevailing views on saving, Latin America’s economic reforms of the past decade have included: fiscal consolidation; inflation stabilization; financial liberalization and reform, and in some countries, the creation of mechanisms for contractual saving via the replacement of pay-as-you-go with fully-funded social security systems.<sup>11</sup> Trade liberalization has also been pervasive, and although not usually mentioned in the context of policy towards saving it may nonetheless have a substantial impact on the saving rate.

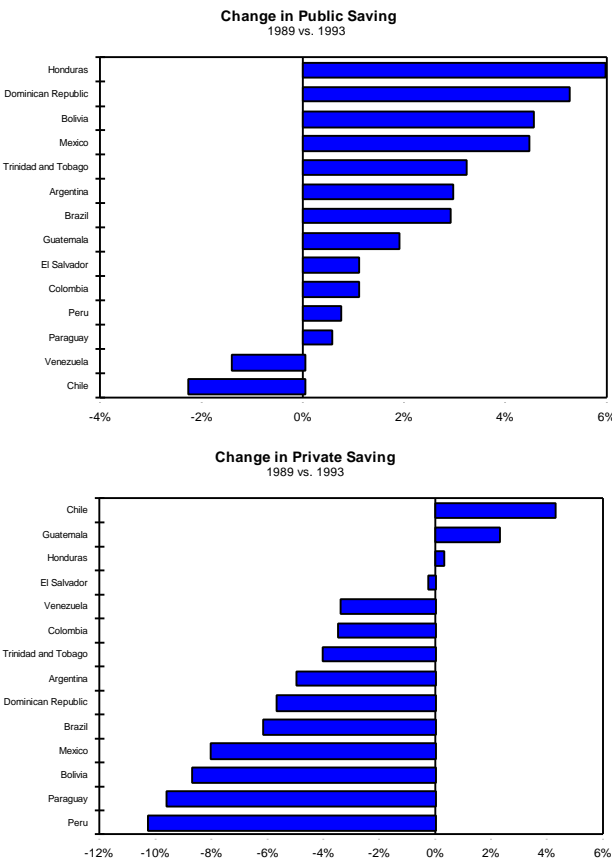
<sup>11</sup>Social security reform has been undertaken in Argentina, Chile, Colombia, Peru and Uruguay and are underway in Brazil and Mexico.

We now proceed to review each of these policies and to assess their impact on saving behavior.

#### Fiscal Consolidation

A cornerstone of the region's economic reform efforts has been fiscal consolidation, which has brought budget deficits from nearly 10 percent of GDP in the early 1980s to about 3 percent in recent years. But while public saving increased significantly in most of Latin America, private saving declined in several countries, leading to a reduction in total saving, as is illustrated in Figure 8.

**Figure 8**  
**Public and private saving in Latin America**  
(Percent of GDP)



Both theory and evidence suggest that increased public saving is likely to generate a reduction in private

saving.<sup>12</sup> This means that, in order to raise domestic saving by one dollar, governments may need to increase public saving by 2 or more dollars. Doing so is not costless: raising taxes imposes important costs on the economy and may reduce economic growth, and reducing spending may make it impossible to carry out worthwhile public programs.

This does not mean that governments in the region should not strengthen their fiscal position. It does mean that, if done efficiently, it is unlikely to yield large increases in aggregate saving. Moreover, it is easier and more efficient to improve public saving in a growing economy with stable and moderate tax rates.

As we will discuss below, further deepening of the region's recent fiscal consolidation, grounded in meaningful reforms of the region's budgetary institutions, remains one of the Latin America's priorities. But this is likely to be an expensive means of raising total saving.

#### *Inflation Stabilization*

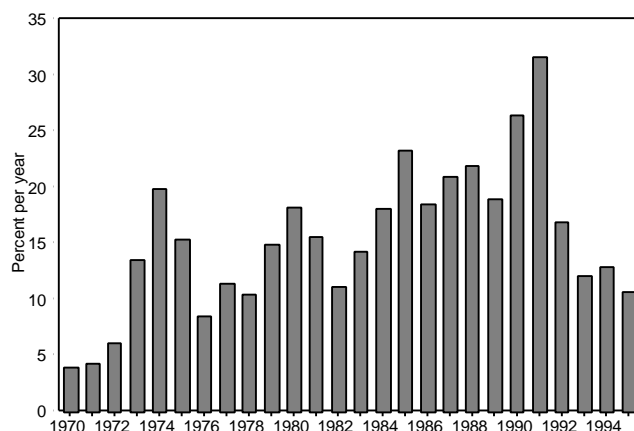
The second element of the policy prescription emphasizes the importance not only of raising domestic saving, but also ensuring that it will remain in the domestic economy to finance domestic investment. After all, high saving will provide little support for economic development if the saving leaves the economy in the form of capital flight. An important reason for such capital flight is fear

<sup>12</sup>See Edwards (1994) for evidence that private saving in Latin America tends to decline by about 50 cents for every dollar by which public saving increases. Economic theory provides an explanation for this, though not everyone considers the theory entirely plausible: a budget surplus in the current period implies lower debt service, and therefore lower taxes, in future periods. Looking forward, consumers realize that, because of the lower future taxes, they can afford to consume more, thus saving less, in the current period. The increase in public saving is therefore offset by a decrease in private saving. Some theories suggest that the offset should be complete, but most empirical estimates of the offset suggest that it is about 50 percent.

that wealth will be confiscated in a bout of unexpectedly high inflation. Thus a second item on the policy agenda for saving is inflation stabilization.

In this front too substantial progress has been made in Latin America (see Figure 9). With the recent Brazilian stabilization, extreme inflation has essentially vanished from the continent. While in 1990 10 of the region's 26 countries experienced inflation rates greater than 40 percent, only 4 countries did so in 1994 and 1995.

**Figure 9**  
**Median inflation in Latin America**

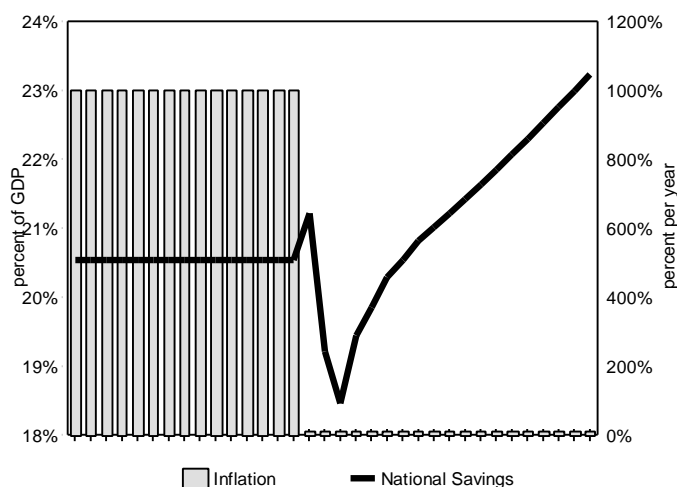


Inflation stabilization is a particularly relevant example to illustrate how efficiency raising, growth promoting policies may reduce saving in the short to medium run, since it is a well established empirical regularity that exchange rate-based stabilizations are expansionary and generate in the initial stages a consumption boom and a corresponding decline in saving (see for example, Kiguel and Liviatan, 1992 and Végh, 1992). It is only later that consumption contracts and the economy falls into recession. An important reason for the decline in Latin American rates of saving during the 1990s is the major inflation stabilization programs that have been pursued in many countries (see IDB, 1996b).

To illustrate the potential economic significance of the relationship between inflation stabilization and saving we

used the model described in the appendix to simulate the impact of a major inflation stabilization, that reduces the rate of inflation from 1000 percent per year to zero, and increases in the long-run rate of economic growth by 2% per year. The results are illustrated in Figure 10.

**Figure 10**  
**Simulated impact on saving of a major inflation stabilization and increase in economic growth**



The econometric model predicts a 2 percentage point decline in the rate of saving in the immediate aftermath of the stabilization. The effect is transitory, and eventually the higher economic growth leads to a higher rate of saving. But while transitory, the model predicts that it will take five years for saving to recover its pre-stabilization levels.

Even in the long-run, the impact of inflation stabilization on saving is ambiguous. The statistical work prepared for this paper (as described in the appendix) as well as other studies, including Held and Uthoff (1995) and Morandé (1996) indicate that lower inflation, when controlling for other determinants of saving rates, is associated with lower rates of saving.<sup>13</sup> The available evidence thus

suggests that inflation stabilization, whatever its other good effects, has almost certainly the short-run effect of reducing, rather than increasing saving, and an ambiguous impact in the long-run.

### *Financial-System Reform*

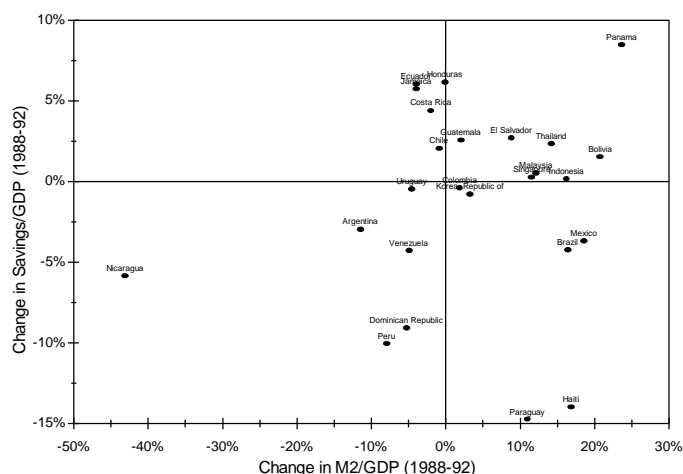
The policy agenda emphasizes the need not only to provide a stable currency, but also to build a financial system in which domestic savers can be rewarded for thrift and have confidence in its soundness.

Here, too, many countries in the region have made substantial progress; domestic financial institutions have been privatized, and markets have been largely freed from quantitative credit restrictions and interest-rate ceilings. While there remains much to be done, one key objective, at least, was largely fulfilled: confidence in the domestic financial system has increased and this increase in confidence was reflected in a large increase in the size of domestic financial systems in many countries, as domestic and foreign savers both became more willing to place their savings there. As had been the objective, this provided domestic banks with funds to invest domestically.

However, while a deeper financial system may have positive effects on saving in the long run, the resultant increase in the size of the domestic financial system has had little effect on saving in Latin America in the short run. As Figure 11 illustrates, short-run changes in financial depth, as measured by the size of the domestic banking system bears little relationship to changes in national saving in the region. Mexico, Brazil and Bolivia, for example, recently experienced large increases in financial depth but saving rates were largely unaffected in Bolivia and declined in Mexico and Brazil.

<sup>13</sup> Edwards (1994) finds no significant impact of inflation on national saving. The results in Held and Uthoff (1995) break down if the sample of countries is restricted.

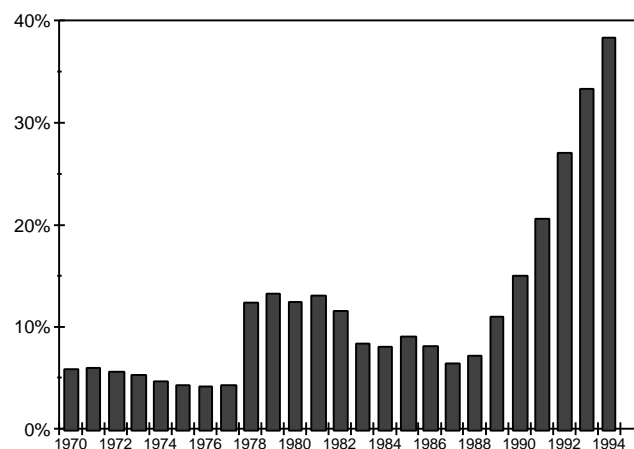
**Figure 11**  
**Financial depth and national saving Latin America**  
 Change from 1988 to 1992



Mexico presents an extreme, but nonetheless revealing example of the short-run consequences of rapid growth in domestic financial intermediation.<sup>14</sup> That country saw a large increase in the demand for domestic bank deposits during 1990-1994, driven in large part by the country's success in stabilizing inflation. At the same time the government was using privatization revenue to repay its loans from the banking system. The result was a large increase in resources available for commercial banks to lend.

<sup>14</sup>See Gavin and Hausmann (1995) for discussion of other countries in the region.

**Figure 12**  
**Mexican bank lending to the private sector**  
 (Percent of GDP)



As Figure 12 illustrates, Mexican bank lending to the private sector rose from less than 10 percent of GDP in 1989 to nearly 40 percent in 1994. This lending financed some investment, which recovered substantially during 1990-1994, but much of the lending also went to consumers. The greater availability of credit relaxed constraints on consumption spending, and was almost certainly a major factor underlying the substantial decline in Mexican saving during the years leading up to the 1995 crisis. Thus, a policy of financial liberalization that was justified, in part, by a desire to raise saving appears to have had, at least in the short run, exactly the opposite result.

### *Contractual Saving*

Another element of the policy response to the problem of low saving in Latin America is the implementation of contractual saving schemes, particularly fully-funded social security systems.

Fully funded social security systems have several advantages. First, they ameliorate the governance problem inherent in pay-as-you-go systems due to the fact that future taxpayers are not represented in political decision making about levels of social-security benefits

that they will be required to provide. Second, there is also evidence from the Chilean experience that fully-funded social security systems can provide an important impetus to development of domestic capital markets.

However, the effects on saving are not likely to be large unless the reform is accompanied by fiscal tightening. The largest and most direct impact of social security reform on saving is that generated by cleaning up the fiscal disarray typically created by pay-as-you-go social security systems. The reform requires that today's workers save for their own retirement. The question is who pays for today's pensioners? Saving increases to the extent that current taxpayers do. But if the government accommodates this obligation through an increase in the deficit, there is no direct effect on national saving.

In Chile the reform implied a major fiscal adjustment to pay for the current pensioners and the direct effect on public saving was therefore significant, roughly 3 percent of GDP, though small in comparison with the increase in total saving registered over the past decade, roughly 15 percent of GDP.<sup>15</sup> But reforms in other Latin American countries have not involved a similar fiscal adjustment, and the impact of reform on saving is therefore likely to be much smaller (Ayala, 1995).

One of the most important effects of pension reform is its contribution to financial-market development. This appears to have also been the case in Chile. Such development is likely to promote a more efficient allocation of both domestic and foreign saving flows to the economy, since there is evidence that deep financial markets act as "shock absorbers".

#### *Trade Liberalization*

Trade liberalization is not usually associated with the issue of saving. However, trade liberalization can lead to

a transitory decline in saving and an increase in investment. Such liberalization generally reduces the cost of imported consumer durable goods and capital goods, leading to a temporary burst of spending on such goods, as consumers and firms adjust upward their stock. During this transitory period of stock adjustment, conventional measures of saving decline.<sup>16</sup>

As Calvo (1988) has suggested, trade liberalization can also lead to a reduction in saving if it is perceived as transitory. If liberalization is perceived to be temporary, consumers may have an even stronger incentive to purchase imported consumption goods during the time when they are temporarily inexpensive, thus leading to a transitory consumption boom and decline in the rate of saving.

Figure 13 illustrates the behavior of saving and investment before and after trade liberalization for fifteen Latin American countries and lends support to the idea that, on impact, trade liberalization reduces saving and deteriorates the current account balance.

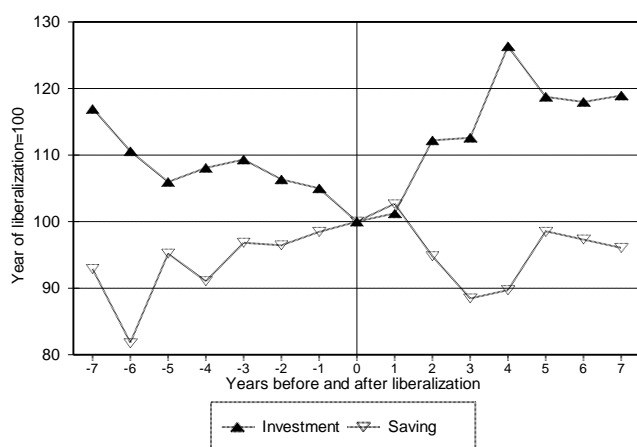
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<sup>16</sup>Although most countries' accounts consider it so, it is debatable whether an increase in spending in consumer durables really represents a decline in saving at all, because the purchases of consumer durables are really a form of investment in an asset that will yield benefits, potentially for a considerable period of time.

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<sup>15</sup> See, for example, Agosin, Crespi and Letelier (1996).

**Figure 13**  
**Saving and Investment**  
(regional median)



### Policy Issues

Stabilization and reform policies which are intended to raise efficiency and promote growth trigger a complex dynamics. In many cases, these reforms will generate a transitory decline in saving, particularly if there is a substantial lag between the implementation of the reforms and the arrival of the higher output. Higher output (and income) should eventually, according to our model, lead to higher saving.

The fact that highly desirable economic reforms may have a transitory adverse impact on saving has important implications. First, it highlights the importance of properly diagnosing a decline in saving, which may result not from inadequate policies but instead the reverse. Second, it is important to ensure that growth-friendly policies will not be foregone or delayed because of the possibility of a transitory, adverse impact on saving.

Since there may be a reasonably long delay between the recovery of growth and the saving response, the economy is likely to be reliant upon capital inflows, until it reaches a high-growth, high-savings equilibrium. In this transition, the economy may be vulnerable to external shocks or a sudden loss of confidence.

Since shocks to the economy in this phase may derail the reform process and thwart growth complementary policies that make the economy more resilient need to be implemented, so that the inevitable shocks can be absorbed without aborting the positive effects of reforms on growth and saving. Policies aimed directly at raising saving are unlikely to be the most effective means of reducing vulnerability. Instead the stress points in the economy, where shocks can trigger collapse, must be strengthened.

We focus here on two particularly important areas that have been weak links in many Latin American economies, and where appropriate policies can substantially improve a country's "shock resistance" and ability to bridge the transition to high savings: domestic financial systems and fiscal policy.<sup>17</sup>

*The domestic financial system:* The domestic financial system is crucial because it will be called upon to intermediate some, though not all, of the potentially volatile capital flows during the transition. For example, foreign direct investment and equity portfolio investment are not intermediated by banks, but foreign deposits in the domestic banking system clearly are. This intermediation is, of course, an essential function of banks, but it carries with it the potential for instability and crisis because the intermediation involves a transformation of term structure and a transfer of risk, and because implicit or explicit public insurance of the banking system generates strong problems of moral hazard.

The transformation of term structure carried out by banks means that savers obtain liquid bank deposits, which banks use to fund longer-term lending commitments. This is not inherently bad, but it can exaggerate swings in capital flows and their macroeconomic consequences,<sup>18</sup>

<sup>17</sup>Such policies were the focus of the special chapter of the 1995 Report on Economic and Social Progress.

<sup>18</sup>Goldfajn and Valdes (1995).

and creates the potential for financial crisis if depositors attempt to withdraw their deposits from the system more rapidly than banks' lending commitments can be wound down. Unless the financial system possesses sufficient liquid reserves to manage such liquidity shocks, even a brief and unwarranted panic by depositors can bring the financial system to its knees, potentially crippling the real economy and creating the very macroeconomic crisis that depositors feared. Because banks generally benefit from implicit or explicit insurance, they have inadequate incentives to remain sufficiently liquid, and there might be a role for policy to ensure that they do.

Financial intermediation also means that the risk of lending is shifted from savers, the value of whose deposits is largely unaffected by the return on the bank's loan portfolio, to shareholders of the bank and, because of implicit public insurance schemes, to taxpayers. This poses a strong moral hazard problem, and in particular creates the danger that a surge of capital inflows will generate a lending boom, in which excessively risky and potentially wasteful projects are funded because the costs of particularly bad outcomes largely fall upon taxpayers not the bank managers responsible for making the loans. This creates the need to institute a conservative bank supervisory system that enforces appropriate capital-adequacy standards and, as necessary, to adjust domestic monetary policy to forestall such credit booms.<sup>19</sup> This may reduce somewhat the efficiency of bank intermediation, but failing to do so leaves the economy open to periodic macroeconomic and financial crises of the sort that have too often interrupted Latin American growth and development.

*Fiscal policy:* The transition to a high-growth high-saving equilibrium will generally involve periods of

transitory spending booms. These will have favorable fiscal implications because taxes are mainly levied on domestic spending. The danger is that the transitory fiscal benefits will generate permanent public spending commitments or permanent reductions in tax rates. These changes weaken fiscal sustainability but do not necessarily show up in a deterioration of the observed fiscal deficit. However, the structural fiscal situation will be vulnerable and fiscal deficits will appear when the boom subsides.<sup>20</sup>

The problem of an inadequate reaction of fiscal policy is a deep one, and may arise because of problems in securing the collective action required to generate an appropriate response. Anticipating this, financial markets may lose confidence in the sustainability of fiscal policy, even if the country currently exhibits relatively low deficits, as did Mexico in 1994.

Solving this problem probably requires deep reforms in the budgetary institutions that shape fiscal policy determination in the region.<sup>21</sup> Here we point out that, while future fiscal policy reforms are essential to secure the economic stability required for sustained growth, our perspective departs from the conventional wisdom in two key respects. First, the focus on ensuring macroeconomic stability makes it clear that the issue is not merely raising rates of public saving with the aim of increasing total national saving. The real need is to create institutional structures that provide real assurance that fiscal policy will be well managed in good times. If the institutional

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<sup>20</sup>See Talvi (1996) for a theoretical statement of this problem, and Talvi (1995) for an empirical discussion in the Uruguayan context.

<sup>21</sup>This problem is being explored in an ongoing research project in the Office of the Chief Economist. See Alesina, Hausmann, Hommes and Stein (1995), Hausmann and Stein (1996), and Eichengreen and Hausmann (1996), and Gavin, Hausmann, Perotti and Talvi (1996).

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<sup>19</sup>See the proceedings of the IDB/Group of 30 conference on Banking Crises in Latin America, and in particular Gavin and Hausmann (1996) and Rojas-Suarez and Weisbrod (1995b).

reforms are effective, they will permit larger deficits in bad times, thus promoting a more counter-cyclical fiscal policy, but not necessarily one with higher public saving on average. Second, our perspective highlights the need to tackle problems in the formulation of fiscal policy by addressing the underlying institutional and political causes of suboptimal fiscal policymaking, rather than simply exhorting governments to behave themselves.

## 6. Saving and Capital Inflows<sup>22</sup>

Another context in which saving has recently arisen as a policy issue is in the macroeconomic response to large capital inflows. The dominant view is that East Asia has invested these inflows, while Latin America has mainly consumed them. The associated decline in Latin American saving is blamed for the region's greater vulnerability to interruptions in the flow of international capital.

Lawrence Summers, Undersecretary of the U.S. Treasury and Michael Bruno, Chief Economist at the World Bank have spoused this view:

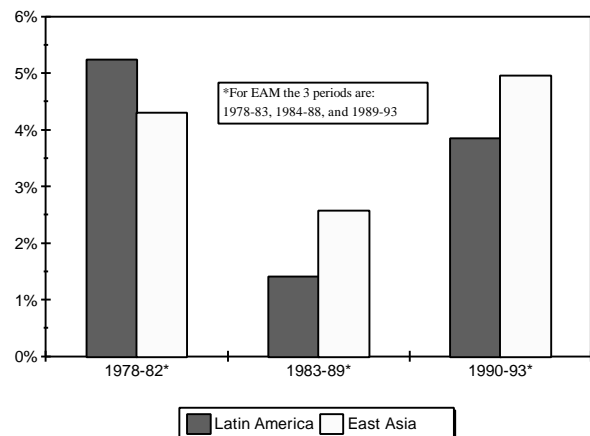
“Policy makers must look at how capital flows are being used. For nations as well as for people, borrowing to finance investment is seen as healthy, but borrowing to finance consumption is much more problematic. When the lion’s share of inflows is being used for investment, there is the presumption that the economy is generating the capital to repay these obligations....Similarly, the national saving rate can offer some evidence as to whether capital inflows are being used to finance unsustainable consumption or investment...” (Summers, 1996a)

<sup>22</sup> For a formal treatment of the issues presented in this section see Reinhart and Talvi (1996).

“In both Latin America and East Asia, private capital inflows in recent years have amounted to some 3 to 4 percent of GDP. But as Larry Summers noted, whether this is a good thing or not depends on whether those inflows went to finance investment or consumption. On this score, the two regions differ: capital flows to East Asia (except the Philippines) primarily financed private investment, whereas in Latin America as a whole (but not in Chile), they financed an increase in consumption...” (Bruno 1996).

Figure 14 illustrates the behavior of capital flows to East Asia and Latin America. There is a very similar pattern in both regions: during the 1978-1982 period capital flows were very large, they declined substantially during 1983-1989, and increased once again during the 1990-1994 period.<sup>23</sup>

**Figure 14**  
**Capital flows to Latin America and East Asia**  
Percent of GDP



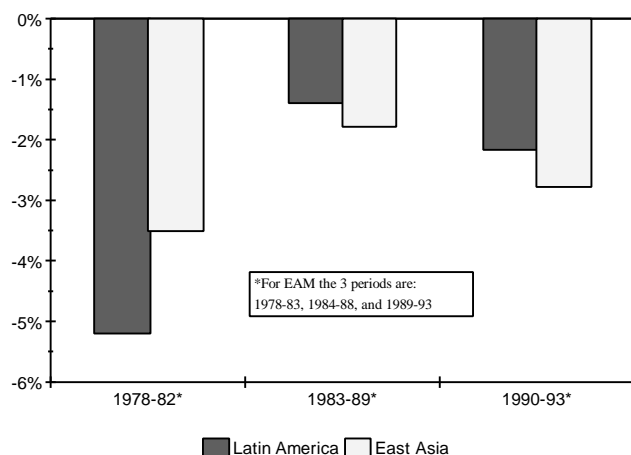
As Figure 15 shows, in both Latin America and Asia, the inflows were eventually reflected in larger current-

<sup>23</sup> This is not surprising due to the significant role of external factors in determining the size and direction of capital flows to developing countries (see Calvo, Leiderman and Reinhart, 1993).



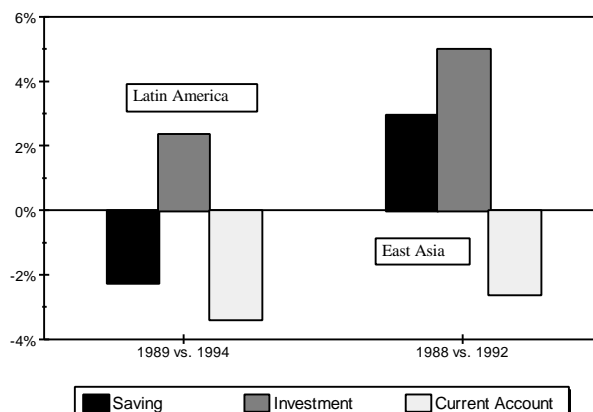
account deficits, with the Asian current account moving somewhat further into deficit than that of Latin America. In some individual countries of Asia, notably Thailand, current account deficits in the early 1990s exceeded the 8 percent of GDP recorded by Mexico before the crisis, and have remained in the neighborhood of 6 percent of GDP in recent years.

**Figure 15**  
**The current account in Latin America and Asia**  
(Percent of GDP)



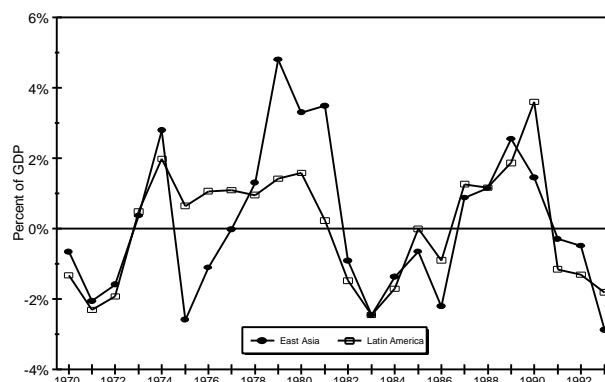
However, as was pointed out by Summers and Bruno, and illustrated in Figure 16, the two regions differ in the way current account deficits were allocated between higher investment and lower saving. While current account deficits mainly financed investment in East Asia they financed consumption, i.e., declines in saving, in Latin America.

**Figure 16**  
**Saving, Investment and the Current Account**



This perception is, somewhat misleading, in that it fails to make a clear enough distinction between trend and short-run movements in saving. While it is true that the Asian saving rate did not fall during the capital inflows episode of 1990-1994, it had been growing rapidly since the mid-1970s, and Asian saving rates *did* fall in relation to this increasing trend. Indeed, once the trend is subtracted from the actual saving rate to estimate the cyclical or short-run component, a remarkable similarity emerges between the East Asian and the Latin American experience. This is illustrated in Figure 17.

**Figure 17**  
**Cyclical component of national saving**  
**Latin America and East Asia**



This figure graphs the cyclical component of saving rates in East Asia and Latin America, defined as the difference

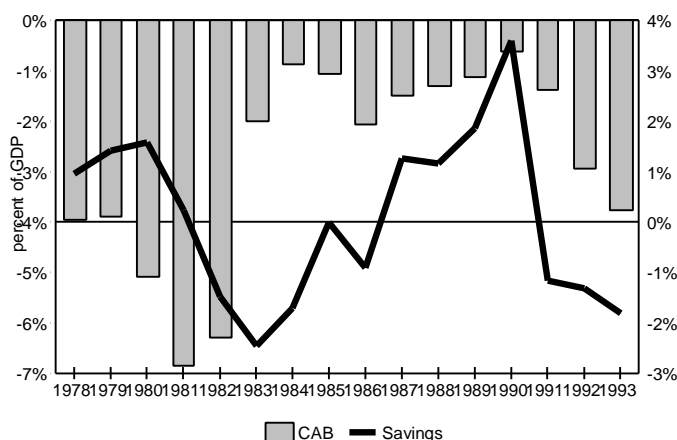
between the actual saving rate and a simple trend line. The correlation between the short-run fluctuations in Latin American and East Asian saving rates is very high, and it is very hard to explain except as the response to a common, international shock.

Even more striking is the strong similarity in the Asian and Latin American relationship between changes in the current-account balance and cyclical fluctuations in saving rates.

Figure 18 shows that saving is inversely correlated with current account deficits in Latin America. This is of course not surprising. Much recent commentary has focused on this fact and how it has increased Latin America's economic vulnerability.

**Figure 18**

**The current account and cyclical component of saving  
Latin America**

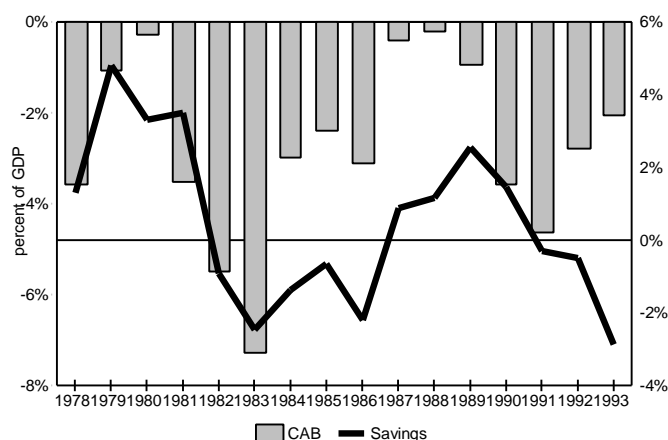


Perhaps more surprising is the very similar relationship between current accounts and the cyclical component of saving in East Asia, as illustrated in Figure 19. In contrast with the widely held view, which asserts that current account deficits in Asia have been associated with increased investment rather than reduced saving, fluctuations in the East Asian current account are, as in

Latin America, associated with reductions in saving, when measured relative to a long-run trend.

**Figure 19**

**The current account and cyclical component of saving  
Asian "miracle" economies**



The similarity of the *short-run* response of saving and investment to capital-flow shocks in Latin America and East Asia suggests two things: first, that attention should be directed away from short-run and toward long-run saving (and investment) behavior, where the differences between the regions are much larger and arguably more significant. Second, one is led to search elsewhere for explanations of Latin America's greater financial vulnerability.

*Policy Issues*

Several explanations have been offered to account for the different response of saving to capital inflows in Latin America and East Asia. One of them emphasizes the different composition of capital flows, i.e., East Asia receives a larger share of total flows in the form of FDI than Latin America, as mainly responsible for the different response of saving in both regions (see for example, Calvo, Leiderman and Reinhart, 1994).

The policy prescription of this view says that Latin America should find ways to change the composition of

capital inflows to stimulate a larger participation of FDI in total flows. This policy would ensure that a larger share of the resources made available by capital inflows are invested and not consumed.

Given the evidence we presented, whatever the merits of policies designed to increase the participation of FDI in

total capital flows, they are unlikely to result in a significant change in the way saving in Latin America responds to those flows.

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## Appendix

This appendix presents the results obtained from the estimation, on a 26 country data set --six East Asian “miracle” economies and 20 Latin American countries-- of the determinants of saving. The estimation was performed on a panel of annual data for the period 1970-1993, utilizing a new data set on saving assembled by the International Monetary Fund.

The specification of the saving model is in line with both economic theory and with the previous empirical literature on saving (see for example Edwards, 1994 and Held and Uthoff 1995). This specification also allows for a simple dynamic structure, which in turn allows us to capture the dynamic adjustment of the economic system to its long-run equilibrium, in response to temporary and permanent shocks.

The variables included in the saving model are the following: growth of GDP per capita (ggcap) and GDP per capita (gcap) which were obtained from Summers and Heston; inflation (infl), capital flows (kflows) and changes in the terms of trade (gtot) which were obtained from the IMF's International Financial Statistics.

The results of the regression are presented in the Table A1:

| Table A1                             |             |                       |             |           |
|--------------------------------------|-------------|-----------------------|-------------|-----------|
| Dependent variable - National Saving |             |                       |             |           |
| Included observations: 416           |             |                       |             |           |
| Variable                             | Coefficient | Std. Error            | T-Statistic | Prob.     |
| GCAP (-1)                            | 2.75E-05    | 5.87E-06              | 4.685077    | 0.0000    |
| GGCAP                                | 0.102982    | 0.035269              | 2.919924    | 0.0037    |
| KFLOWS                               | -0.206742   | 0.050839              | -4.066629   | 0.0001    |
| GTOT                                 | 0.053568    | 0.008768              | 6.109410    | 0.0000    |
| GTOT(-1)                             | 0.028714    | 0.009629              | 2.982002    | 0.0030    |
| GTOT(-2)                             | 0.014147    | 0.008428              | 1.678498    | 0.0940    |
| INFL                                 | -0.000687   | 0.000242              | -2.841819   | 0.0047    |
| INFL(-1)                             | 0.002024    | 0.000273              | 7.420894    | 0.0000    |
| INFL(-2)                             | 0.000758    | 0.000293              | 2.586022    | 0.0101    |
| INFL(-3)                             | -0.000472   | 0.000272              | -1.735052   | 0.0835    |
| C                                    | 0.110729    | 0.028247              | 3.920071    | 0.0001    |
| AR(1)                                |             | 0.023399              | 38.04861    | 0.0000    |
| R-squared                            | 0.840481    | Mean dependent var    |             | 0.198719  |
| Adjusted R-squared                   | 0.836137    | S.D. dependent var    |             | 0.090120  |
| S.E. of regression                   | 0.036481    | Akaike info criterion |             | -6.593527 |
| Sum squared resid                    | 0.537657    | Schwartz criterion    |             | -6.477257 |
| Log likelihood                       | 793.1751    | F-statistic           |             | 193.5099  |
| Durbin-Watson stat                   | 2.103030    | Prob(F-statistic)     |             | 0.000000  |
| Inverted AR Roots                    | .89         |                       |             |           |

The results of the regression indicate that saving is (i) positively affected by the rate of growth, i.e., faster growing economies should, other things being equal, enjoy higher saving rates; (ii) positively affected by the level of income per capita; and (iii) negatively related to the availability of foreign saving (capital flows). A permanent improvement (deterioration) in the terms of trade, temporarily increases (decreases) the saving rate but has no permanent effects. A permanent reduction (increase) in the rate of inflation, reduces temporarily the saving rate, which later increases (decreases) to a level which is close, but still lower (higher), than the one prevailing before the reduction (increase) in the inflation rate.