CHAPTER 10

Managing Capital Inflows in the 1990s

Toward the end of the 1980s, private capital inflows began to return to Latin America (see Calvo et al. 1993 and Ffrench-Davis and Griffith-Jones 1995). The reversal of the drought in capital inflows of the 1980s undoubtedly had positive effects. It relaxed the binding foreign exchange constraint under which most countries labored during the debt crisis. However, both the large magnitude of the new capital flows and their composition, which is prone to volatility, have caused disequilibria for which the recipient countries have been, by and large, ill prepared.

In the first place, if they are to contribute to long-term development, capital inflows should lead to a significant increase in the investment rate, something that, with the exception of Chile, has not taken place in most countries in the region. Chile was one of the first countries to attract the renewed flows of foreign capital and one that faced the largest supply in relation to its size. It will be argued that one reason for the greater degree of success in channeling foreign capital to investment has been the discouragement of short-term flows and the large share of foreign direct investment in capital inflows in the 1990s. The Chilean experience does indeed suggest that, when capital inflows take the form of FDI, there is a greater likelihood that the investment rate will rise than when foreign capital takes more liquid or short-term forms.

Second, large inflows pose difficult dilemmas to policymakers. Without intervention on foreign exchange markets and in the absence of regulations on capital inflows, the real exchange rate will appreciate, which may be undesirable from the point of view of other important policy objectives (e.g., encouraging export growth and diversification, attaining higher domestic investment rates, or meeting targets for the

This chapter is based on a paper coauthored with Manuel Agosin (Professor of Economics, Universidad de Chile), in *Short-Term Capital Flows and Economic Crises*, Stephany Griffith-Jones, Manuel Montes, and Answar Nasution, eds. (London: Oxford University Press and United Nations University, 2001). Reprinted with permission from Oxford University Press and United Nations University/the World Institute for Development Economic Research.

current account deficit consistent with sustainable capital inflows). On the other hand, intervention in the foreign exchange market tends to swell the domestic money supply and increases the difficulties of controlling inflation.

Third, a significant proportion of the recent inflow to emerging markets has taken the form of short-term or liquid capital. Two components of capital inflows are clearly of a short-term nature: short-term credits and deposits, on the one hand, and portfolio flows on the other.

Portfolio inflows, defined here as financial investment mostly in Chilean equity, are not usually thought of as short-term capital, but in practice they are. Portfolio investments can be liquidated at any moment at the market price of the moment and therefore may be just as short term in nature as short-term indebtedness. Typically, portfolio investors operate with imperfect information, they seek short-term capital appreciation, and they are prone to bandwagon effects, either in taking positions or in liquidating them. This has been clearly evident in the financial crises that have stricken first Mexico (December 1994) and more recently the Asian economies since mid-1997 and Latin America since 1998. In both cases, the original crisis spread to other "emerging market" countries, as investors lost confidence not only in the economy, where the crisis had started, but in those of other developing countries that had received large financial capital inflows. Large portfolio inflows were thus followed by large outflows, with sharp reversals of initial appreciation in exchange rates and stock market prices.[1]

During the capital surge of the 1970s, Chile had maintained a fairly open capital account, pioneering the neoliberal fashion. However, policies in the 1990s represented a significant move toward greater pragmatism. In a nutshell, the policy response during the 1990s surges in the supply of foreign capital can be described as an attempt to discourage short-term inflows while maintaining liberal policies toward long-term inflows. Particularly, policies were directed toward increasing the cost of short-term inflows via non-interest-bearing reserve requirements; it is a price-based policy tool intended to modify relative costs in the market. The authorities also resorted to the introduction of uncertainty in the spot exchange rate (with intramarginal intervention) and had sterilized intervention in order to slow down real exchange rate appreciation (in face of inflows that surpassed the barrier of the reserve requirement)

1. Nationals of the countries concerned have been observed to behave much in the same way as foreign portfolio investors when they are allowed to do so. Thus, the ultimate cause of exchange rate and asset price volatility appears to be the openness of the capital account and the ease of moving into and out of assets denominated in foreign currency rather than just the behavior of foreign investors.

and compensate for the monetary effects of reserve accumulation. With this set of policies, the government sought to protect a development strategy whose main elements are export growth and diversification. In parallel, the fiscal budget was in surplus and prudential supervision of the financial sector was enhanced.

Policy was effective in achieving its targets during most of the 1990s. However, in 1996–97 this policy mix and the intensity with which it was applied remained unchanged, in spite of a new vigorous surge in capital flows to most countries in the region. This surge should have been met with increased restrictions.

As a consequence of the lack of stronger action on capital inflows during 1996–97, and despite heavy intervention in foreign exchange markets, the Central Bank was unable to prevent a sharp real exchange rate appreciation and a worrisome rise of the deficit on the current account. Undoubtedly, this problem could have been met with a higher reserve requirement or other similar policy tools. Nonetheless, as will be discussed, the benefits of the active regulation implemented in previous years had left large international reserves, a rather low stock of foreign liabilities, and a small share of volatile inflows.

By 1998–99, the contagion effects of the Asian currency crisis had made themselves felt. The large inflows of financial capital of 1996–97 gave way to outflows, and the nominal exchange rate began to depreciate. By late 1999 the real exchange rate had returned to its 1995 average level but in the process the Central Bank had lost international reserves, with the corresponding significant impact on domestic liquidity. For the first time in the decade, in 1999 the Chilean economy experienced a significant gap between effective GDP and productive capacity; as a consequence, unemployment rose and the investment ratio dropped sharply and remained recessed in 1999–2001. Naturally, the extent of recessive adjustment was partly associated with the boom in 1996–97.

Thus, there is a need to reassess the policy options to further improve the management of financial flows and exchange rate policy in the future, so as to discourage excessive inflows and protect the economy from excessive exchange rate volatility. A more active and flexible use of a comprehensive policy mix, matching the intensity of surges, should be adopted.

This chapter studies the phenomenon of massive capital inflows in Chile in the 1990s, the policy approaches utilized to deal with it, and its effects on the domestic economy. The first section describes the dimensions and composition of capital inflows. There follows a discussion of the policy approaches utilized to deal with capital surges and an analysis of their macroeconomic impacts. The chapter concludes with a discussion of policy lessons that can be drawn from Chile's experience.

TABLE 10.1. Net Capital Inflows and Deficit on the Current Account, 1960–2000 (as a percentage of GDP)

	Net Capital Inflows		Deficit on Current Account
	Current Prices	Constant Prices 1986[a]	Current Prices
1960–70	2.6	4.3	2.5
1971–73	1.2	2.1	2.9
1974–77	2.7	3.4	1.9
1978–81	12.2	19.7	8.0
1982–89	5.5	6.4	6.2
1990–95	6.9	6.9	2.5
1996–97	8.0	9.2	5.7
1998–2000	1.2	1.3	2.4

Source: Based on *Balanza de Pagos* and national accounts data from the Central Bank of Chile.

[a]The constant price series was derived by deflating the dollar series by an index of foreign prices faced by the Chilean economy. As for the denominator, GDP at constant prices was transformed into 1986 dollars using the 1986 peso-dollar exchange rate.

Recent Capital Inflows: Magnitude and Composition

The period since 1990 corresponds to the return to democratic rule and is roughly coincident with the two latest episodes of foreign capital abundance and the implementation of a set of active macroeconomic policies, especially the policies oriented toward managing capital inflows in the first half of the 1990s. During the decade, the economy expanded briskly and was close to its output capacity up to 1998. This was determinant of a record investment ratio, in a virtuous circle.

The data in table 10.1 show that capital inflows, as a proportion of GDP, were substantially larger in the 1990–98 period than in the 1960s and, surprisingly, only slightly higher than during the debt crisis of 1982–89. However, it should be taken into account that Chilean GDP is much larger now (in dollar terms) than in previous periods. Consequently, in absolute terms capital inflows are of a much larger order of magnitude. Moreover, in 1997 total inflows soared, reaching levels that were much higher than earlier in the decade and accounting for 10 percent of GDP.

In the mid-1980s, and in spite of the debt crisis, capital inflows were relatively large, both in nominal terms and as a share of GDP.[2] The disappearance of voluntary bank lending was partly compensated for by substantial support from multilateral financial institutions (see chap. 6).

2. This partly reflects the effects of the debt crisis itself, which led to the dramatic real devaluations of 1982–85, with the consequent fall in the dollar value of Chilean GDP from U.S.$32.6 billion in 1981 to U.S.$16.0 billion in 1985.

Thus, public flows became the main form of international financial resources available to the Chilean economy during the 1980s.

Private capital began to return to Chile in 1986, but the initial spurt was associated almost exclusively with the debt-equity swap program started by the authorities in the second half of 1985. It was not until 1989 that other private flows became significant (see fig. 10.1). In part owing to the large exchange rate subsidy implicit in the swap scheme, the program was successful in attracting significant amounts of foreign investment in the form of swaps (see chap. 7). The swap program was abandoned by foreign investors in 1991, mainly because the rise in the international price of Chilean debt made it no longer profitable to invest via debt swaps. However, FDI not associated with the swaps continued to grow apace. During the 1990s, FDI represented an overwhelming part of the capital inflows into Chile.

The supply of short-term private inflows also figured prominently in the capital surge, though at a much lower scale than FDI. For interest-arbitraging capital inflows to take place, the domestic interest rate must exceed the international rate by a margin that is more than sufficient to compensate for the expected exchange rate depreciation and the country risk premium. These conditions have prevailed in Chile since the late 1980s. On the one hand, in 1992 and 1993 international dollar interest rates reached a thirty-year low, and, while they have risen since then, they have remained moderate and are still much lower than they were in the 1980s. On the other hand, notwithstanding the record high investment ratio of Chile in the 1990s, it still has a low stock of productive capital, associated with its U.S.$5,000 income per capita. Obviously, that shortage of productive capital results in a higher level in its trend market rate of return or price. Therefore, the interest rate must tend to be higher than in a developed economy. Thus, monetary policy, in order to be consistent with sustainable macroeconomic balances, must hold real interest rates over the foreign ones. In the Chilean case, additionally, an adjustment process accompanied this "structural gap" in 1990, which relied on a significant rise in domestic interest rates (see Ffrench-Davis 2000, chap. 7).

The other two requirements for interest arbitrage were also favorable to capital inflows. Chile experienced 130 percent appreciation in 1982–88, and, as it emerged from the debt crisis, expectations regarding the real exchange rate turned from depreciation to appreciation. Improving terms of trade in the late 1980s also contributed to the change in expectations. Moreover, in the early 1990s expectations of exchange rate appreciation, owing to the capital inflow itself and an improved current account position, made short-term round-tripping appear very profitable. Also, the "emerging markets" mania of recent

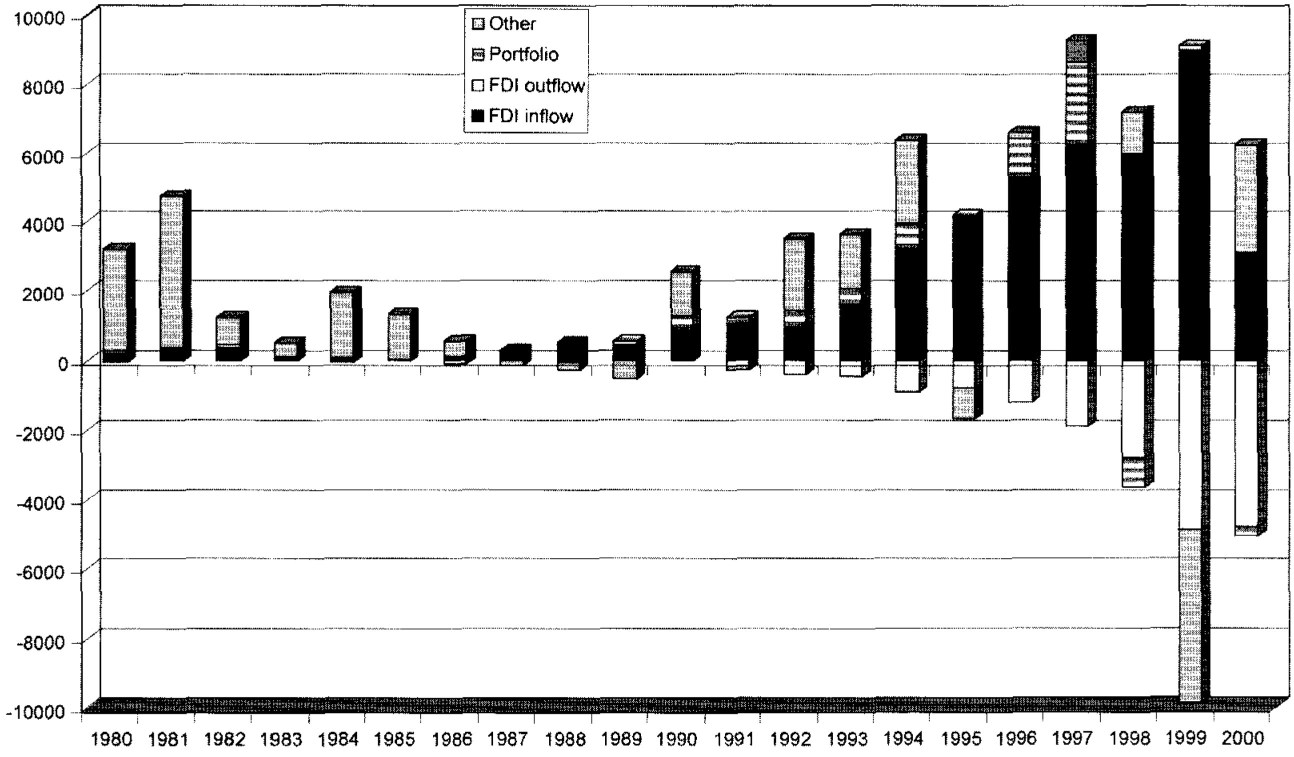

Fig. 10.1. Composition of capital flows, 1980–2000 (U.S.$ millions). (Data from Central Bank of Chile.)

years in international stock markets can be interpreted as a dramatic reduction in perceived country risk. Short-term private flows were very important until 1992, when they began to fall as a consequence of the policy measures adopted to stem them.

Portfolio inflows have taken two forms: investments through mutual funds set up in the major international capital markets and the issue of American Depositary Receipts (ADRs) by large Chilean corporations. The ADR is a mechanism by means of which foreign corporations can issue new shares on the U.S. stock markets. The "primary" issue of ADRs represents an opportunity to expand the capital of firms at a relatively low cost, since capital costs in international markets naturally tend to be lower than in Chile. The relatively developed domestic stock market, the low country risk, and the burgeoning use of ADRs for placing shares in the U.S. stock markets made Chilean stocks a prime candidate for investors seeking new and more exotic financial vehicles.

There is also a "secondary" issue of ADRs through the purchase of the underlying stock in the Chilean market by foreigners and its subsequent conversion into ADRs (for a thorough discussion, see Ffrench-Davis, Agosin, and Uthoff 1995). This operation does not constitute an enlargement of the capital of the issuing company but only a change in ownership from nationals to foreigners. At a moment when foreign exchange is overabundant and there are significant downward pressures on the exchange rate, it may be necessary to discourage them. These shifts in ownership involve exposing the economy to an additional degree of uncertainty and volatility, since when foreign investors' mood changes they can easily reverse the operation and convert their ADRs into the underlying stock in national currency for sale on the domestic stock market. These flows have played a destabilizing role.[3] They inflated the stock exchanges in 1994 and 1997 and depressed them in 1995 and 1998, in a clear case of procyclical behavior.

The Mexican and East Asian crises are illustrative of these dangers of financial destabilization. In the case of Mexico, as emphasized by Sachs, Tornell, and Velasco (1996), domestic policy failures, particularly the large increase in domestic credit that resulted from a poorly regulated domestic financial system, were important factors. Domestic credit booms in both of these crises, however, were triggered by large capital

3. It has been argued that foreigners who become pessimistic about a country will sell their ADRs on the U.S. stock market, therefore having no impact on the domestic stock and foreign exchange markets. However, this argument ignores the fact that the issuance of ADRs implies that stock prices in the domestic and U.S. markets must tend toward equality through arbitrage. This is in fact what happened: movements in stock prices of Chilean companies that issued ADRs in U.S. stock exchanges are highly correlated with those in the Santiago exchange.

inflows. The herding behavior displayed by foreign portfolio investors has been increasingly recognized as a critical element in the crisis (Calvo and Mendoza 1996; Griffith-Jones 1998). Since assets of firms from a particular developing country are normally a very small proportion of international investors' portfolios, it may not pay to go to the trouble of obtaining costly information. Therefore, they tend to follow "signals." The positive signal at the end of the 1980s was that Mexico was undertaking market-oriented reforms (and entering NAFTA) that would, in the eyes of the international banks, raise returns on Mexican corporate assets. In the case of Mexico, the signal for a reversal of the financial capital inflow was the notion that current account deficits had become "unsustainable" and the exchange rate had appreciated "excessively." Of course, the large current account deficits and outlier macroeconomic prices, particularly an appreciating exchange rate, had principally been a consequence of the exogenous (and collective) behavior of foreign investors in the first place.

What this boils down to is that a large component of capital inflows, particularly portfolio capital, is not only volatile but largely exogenous from the point of view of the recipient country. Even short-term credit has an exogenous component, since the so-called country risk premium has a large subjective element. Hence, paradoxically, a successful country can see its fundamentals—such as the deficit on the current account, exchange rate, domestic savings, and bank portfolio—worsened by a large capital surge (see Ffrench-Davis 2000, chap. 10).

From a theoretical point of view, what we have here is the possibility of multiple equilibria: an appreciated exchange rate with large capital inflows and a depreciated exchange rate with capital outflows. Moreover, there are dynamics involved: capital inflows appreciate the real exchange rate, and the latter, if it is gradual, encourages additional inflows. This can proceed for several years, as happened in 1976–81 and 1990–94 in several LACs. After a while, when the deficits on the current account accumulate and the stock of external liabilities has risen, the appreciation trend is replaced with expectations of depreciation, which in turn tends to lead to a reversal in the direction of flows. This indicates that there is a need for policies that reduce the more volatile components of capital inflows and demonstrates that the "fundamentals" are not independent of policies toward inflows. Moreover, some equilibria are more "desirable" than others, in terms of their effects on economic growth and sustainability.

While private flows have increased, public debt has been reduced with public outflows. During 1989–91, these net outflows were caused mainly by the public debt operations involved in debt-equity swaps. More recently, the reduction of public debt corresponds mostly to debt prepayments. These were particularly large in 1995–96. These prepayments were undertaken to alleviate the large accumulation of international reserves by the Central Bank; to reduce net financial costs; and, in doing so, to relieve appreciating pressures on foreign exchange markets and improve the balance of the bank.

Since 1991, several large Chilean corporations have been making direct investments abroad. The destinations are mainly neighboring countries. The largest investments have been in electricity generation and distribution (mostly in recently privatized companies, first in Argentina and then in other Latin American countries), but other sectors such as light manufacturing and retailing are also represented (Calderón and Griffith-Jones 1995). In 1996, after a persistent expansion since 1991, investment abroad represented 1.7 percent of GDP.[4] A major rise in 1997–99 is commented upon later.

The Policy Response and Its Effects

In the 1990s, Chilean monetary authorities have deployed a wide range of policies to regulate the surge in capital inflows. On the one hand, the Central Bank has attempted to discourage short-term and speculative capital inflows while maintaining open access to the economy for FDI. On the other, it has sought to moderate the impact of capital inflows on the domestic economy, by intervening in foreign exchange markets so as to prevent an excess supply as a result of unduly appreciating the real exchange rate and sterilizing almost completely the monetary effects of the rapid accumulation of international reserves (see Ffrench-Davis, Agosin, and Uthoff 1995).

Two other policy factors have contributed to the success achieved in managing capital inflows. First, fiscal policy has been very cautious. Higher levels of social expenditure have been financed through new taxes. Chile ran a significant public sector surplus during the 1990s, amounting to 1 to 2 percent of GDP.[5] The prudent stance of fiscal policy, including compliance with the rules of a copper stabilization fund,[6]

4. Balance of payments data underestimate the size of these investments because a large share of them is financed with funds raised on international capital markets that never enter the country. A similar situation emerged regarding Korean investments in its neighbors.

5. In 1999, a deficit was recorded, determined by the significant drop in fiscal income. This was associated with the severe adjustment process that depressed aggregate demand.

6. Given copper's weight in the balance of payments and fiscal accounts, and the instability of its price, a Buffer Fund was created in the 1980s under an SAL from the World Bank. The fund accumulates a share of price increases in order to compensate for future

eased the task for the monetary authorities in managing capital inflows and preventing undue exchange rate appreciation during most of the decade. Second, as a result of the 1982–83 banking crisis, prudential banking regulations were introduced and have been perfected over the years. This, again, prevented capital inflow from unleashing a lending spree by the commercial banks, which, in turn, eased the task of keeping the current account and the exchange rate within sustainable bounds up to 1996.

Policies Aimed at Managing Capital Inflows

In a context of massive capital inflows, the two main goals of exchange rate and inflow management policies were, first, that in an economy prone to huge cycles (recall that in 1975 and 1982 Chile experienced the sharpest recessions in all Latin America) achieving sustained macrostability should be a priority. The second goal is to protect the growth model adopted by the authorities, which grants a leading role to the expansion and diversification of exports.

For exports to continue to act as an engine of growth for the Chilean economy, the level and stability of the real exchange rate are crucial. This objective could have been placed in jeopardy if capital inflows had caused excessive exchange rate appreciation and greater future volatility when the direction of net flows went into reverse. A summary of policy actions to tackle the excess supply can be found in table 10.2.

The Chilean authorities opted to regulate the foreign exchange market in order to prevent large misalignments in the real exchange rate relative to its long-term trend. The option chosen to make long-term fundamentals prevail over short-term factors influencing the exchange rate assumes (correctly, in my view) that there exists an asymmetry of information between the market and the monetary authorities, because the latter have better knowledge of the factors driving the balance of payments and principally because they have a longer planning horizon than agents who operate intensely at the short-term end of the market. However, in the face of market uncertainty, rather than a unique price, the authorities have used an exchange rate band centered on a reference price linked to a basket of three currencies, in which the dollar, the deutsche mark, and the yen are represented with weights associated with their share of Chilean trade.

Here I give an analytical account relating policy changes to the events that elicited them. The changes taking place in global markets,

---

low-price periods. The fund was active throughout the 1990s and plays a stabilizing role for fiscal income (see table 1.2).

the increasing international approval of Chilean economic policies, high interest rates in Chile, and a smooth transition to democracy stimulated a growing capital inflow in mid-1990.

These events were quickly reflected in a real appreciation of the market exchange rate. Beginning in July 1990, the exchange rate was at the floor of the band (in Latin American terms, i.e., the appreciated extreme). Even during the Iraq crisis in September 1990, the market rate stayed at the floor, despite the fact that Chile was then importing 85 percent of its oil needs; Chile reacted to this crisis by drastically raising

TABLE 10.2. Regulations on Capital Flows in Chile, Second Quarter of 1998

Foreign direct investment

The only restriction on FDI inflows is the requirement that investments remain in Chile for a one-year period. There are no restrictions on profit remittances. FDI must be financed with a maximum debt component of 30 percent (70 percent equity). This limit was reduced from 50 percent in October 1997.

Portfolio investment inflows through ADRs

Minimum amount of ADR issue is U.S.$25 million, reduced from U.S.$50 million in September 1994. Minimum risk rating of BBB required for nonfinancial firms and BBB+ for banking companies. 30 percent reserve requirement on secondary ADRs since July 1995.

Other financial and portfolio inflows

Subject to the 30 percent reserve requirement up to June 1998, then reduced to 10 percent. These include trade credits, foreign currency deposits, loans associated with FDI, and bond issues. Bond issuers face the same quality-enhancing restrictions as ADR issuers. In September 1998, the reserve requirement was set at zero. Subject to a minimum stay in Chile of one year, except in the case of ADRs, which can be retired at any moment.

Foreign investment by the Chilean nonfinancial private sector

Investors not wishing to have access to the official foreign exchange market need only inform the Central Bank of their investments abroad. Those wishing to have access to the official market need permission from the Central Bank. This is not difficult to obtain. At the present time, the formal and free market exchange rates are similar.

Foreign investment by Chilean institutional investors

Foreign investments by pension funds, mutual funds, and life insurance companies are subject to certain limits as to the amounts and type of foreign assets that they can hold. Pension funds are allowed to hold up to 12 percent of their total assets in foreign assets (raised to 16 percent in 1999), and stocks are limited to one-half of total foreign holdings.

Foreign investment by banks

Foreign financial investments by commercial banks are limited to 25 percent of bank capital and reserves and are restricted to fixed income securities issued or guaranteed by foreign governments or Central Banks. Banks are authorized to use foreign currency deposits to finance trade among countries belonging to the Latin American Integration Association (LAIA). Commercial banks may hold equity in foreign banks provided that they have a capital adequacy index of at least 10 percent.

Source: Adapted and updated from Budnevich and Le Fort 1997.

the domestic price of fuel (together with reducing nonsocial fiscal expenditure), which caused an inflationary shock in September and October. The CPI, whose inertial component implied a rise of about 2 percent monthly at the time, jumped to 4.9 and 3.8 percent, respectively, in those months. The speed and close coordination with which the Central Bank and the government reacted to external events may explain why pressures in the foreign exchange market continued to encourage appreciation and inflation was quickly reduced.

In early 1991, the strict crawling peg system that had been followed by the monetary authorities was modified and, in order to introduce "exchange rate noise," which would discourage short-term flows, the rate was moderately revalued on three occasions and then, in compensation, devalued in the following months. Thus, at the end of each of these moves the "official" rate returned to its initial real level; the real devaluations within each move made it more costly for short-term funds to enter the country and thus served as an effective tool for temporarily stemming the excess supply of foreign exchange. However, the measure could not be repeated too often, since the market would then anticipate the revaluation and the policy would lose its effectiveness, which actually happened in the third move. Nevertheless, during almost six months the authorities gained time to design a policy that would act efficiently in a more prolonged transition period. This policy reform had to advance against the opinion of multilateral institutions and financial agents, which stressed the need for an across the board opening of the capital account. The reform, against the fashion, was based on the perception that the large supply of financing was not stable, and short-term factors affecting the current account, such as the high price of copper, the incentive of high domestic interest rates, and the temporary depressed level of imports, would tend to change in the near to medium term.

It was recognized, however, that part of the observed improvement in the current account—a considerably improved nonfinancial services account, a more vigorous nontraditional exports sector, and a reduction in the external debt burden—was more structural or permanent. In June 1991, in response to this combination of factors, and pari passu with a 2 percent revaluation and a tariff reduction from 15 to 11 percent, a non-interest-bearing reserve requirement of 20 percent was established on foreign loans (covering the whole range of foreign credits, from those associated with FDI to trade credits). The reserves had to be maintained with the Central Bank for a minimum of ninety days and a maximum of one year, according to the maturity of the operation. At the same time, a stamp tax on domestic credit, a rate of up to 1.2 percent, was extended to external loans. In July, an alternative to the reserve requirement was allowed for medium-term credits, which consisted of making a payment to the Central Bank of an amount equivalent to the financial cost of the reserve requirement. The financial cost was calculated by applying the London Inter-Bank Interest-Offer Rate (LIBOR) plus 2.5 percent (at an annual rate) to the amount of the reserve requirement. The reserve requirement, the option of paying its financial cost, and the tax on foreign credits all have a zero marginal cost for lending that exceeds one year, and, as will be discussed, the first two are particularly onerous for flows with short maturities.

With continuing capital inflows, over time, the system of reserve requirements was tightened and extended to most international financial transactions. Beginning in May 1992, the reserve requirement on external credits stood at 30 percent. It was extended to time deposits in foreign currency and in 1995 to purchases of Chilean stocks ("secondary ADRs") by foreigners.[7] The period during which the deposit had to be maintained was extended to one year, regardless of the maturity of the loan. The spread charged over LIBOR in the option of paying the financial cost of the reserve requirement was increased from the original 2.5 to 4 percent. In order to close a loophole through which the reserve requirements were being evaded (since equity investment is exempt), the authorities decided to screen FDI applications; permission to enter the country as FDI exempted from the reserve requirement was denied when it was determined that the inflow was disguised financial capital. In such a case, foreign investors had to register their funds at the Central Bank as financial investments subject to the reserve requirement.

With the Asian crisis, and the sudden sharp scarcity of financial inflows, the reserve requirement rate was reduced to 10 percent and then to zero in 1998. The authorities announced, however, that the policy tool would remain available in case of new capital surges (Massad 2000).

Since 1991, an attempt has been made to facilitate capital outflows as a way of alleviating downward pressure on the exchange rate. In particular, Chilean pension funds (AFPs) have been allowed to invest up to 16 percent of their total assets abroad. With similar intentions but also the objective of enhancing the productive development of Chilean firms, residents who wished to invest abroad were granted access to the formal foreign exchange market. The policy was effective in encouraging significant flows of FDI and purchases of foreign firms by Chilean companies in neighboring countries (so-called Chapter XII; see Calderón and

7. It is not difficult to impose reserve requirements on foreign portfolio investments. If funds that will be used for the investment are deposited with a Chilean bank, the foreign deposit is liable to reserve requirements. For funds that do not use a Chilean bank as an intermediary, the reserve requirement can be imposed when the asset is registered in the name of an agent with a foreign address. In order to be converted into ADRs, such assets must also be registered with the Central Bank.

Griffith-Jones 1995). However, higher rates of return on financial assets in Chile than abroad and expectations of peso appreciation discouraged foreign financial investments by Chilean pension funds and recently authorized closed-end mutual funds. These investments had been rising slowly as domestic firms and pension funds obtained more and better information about foreign financial assets. In mid-1997, the AFPs had only U.S.$200 million invested abroad, which represented 0.5 percent of their funds.[8] An immediate effect of liberalizing outflows has probably been to encourage additional inflows as a result of a fall in the country risk perceived by international investors (Williamson 1993; Labán and Larraín 1997). Consequently, the resulting effect tends to be the opposite of the desired one.

When does the market take advantage of opportunities to place foreign currency abroad? Obviously, this occurs when expectations of appreciation are replaced with expectations of depreciation. As is evident, in face of expectations of exchange rate devaluation there were massive outflows in the channels opened; for instance, outflows from pension funds rose sharply only when expectations changed from appreciation to depreciation after late 1997. In fact, these outflows from AFPs, between January 1998 and June 1999, climbed to the equivalent of 4.8 percent of 1998 GDP and 12 percent of their whole fund.[9] Something similar occurred with chapter XII, mainly in the form of financial investment in places such as the Cayman Islands, in an evident distortion of the chapter's initial purpose.

Exchange Rate Policy

Exchange rate policy has also experienced substantial change over time. The use of a fixed nominal exchange rate in 1979–82, in the context of an increasing and eventually complete liberalization of capital account transactions, was abandoned after the crisis of 1982–83, during which GDP declined by 17 percent (measured in 1986 pesos). In 1983–89 the

8. One obstacle to the liberalization of outflows by institutional investors is the lack of knowledge that regulators have of foreign financial assets. Thus, the fear that liberalization will lead to a worsening of the asset quality of institutional investors has been a key factor explaining the gradual approach to the liberalization of outflows.

9. A hasty financial liberalization risks leaving too many doors open for outflows, which tend to be massive in cases of market nervousness and shifts to expectations of currency depreciation, as was advised in due time (see Ffrench-Davis, Agosin, and Uthoff 1995). This could make more difficult the achievement of exchange rate and macroeconomic stability and more costly the international financial crises, as illustrated by the Chilean experience of 1998–99: pension funds and residents investing abroad, through Chapter XII, were the main agents behind the losses in reserves by the Central Bank and the 10 percent drop in domestic demand.

authorities utilized a crawling peg, with a floating band of ± 2 percent (widened to 3 percent in 1988 and ± 5 percent in mid-1989). The "official" rate was devalued daily, in line with the differential between domestic inflation and an estimate of external inflation. On a number of occasions, discrete nominal devaluations were added, which helped stimulate a remarkable degree of real depreciation following the 1982 crisis: 130 percent between 1982 and 1988 (see fig. 10.2).

The large capital inflows of the early 1990s put persistent pressure on the real exchange rate. In order to moderate this trend, the authorities operated through exchange rate policy, as noted earlier. However, pressures on the foreign exchange market continued in the ensuing months, although short-term capital inflows remained at low levels in response to the regulatory policies that had been adopted and a reduction in domestic interest rates. It should be noted that the stages of the business cycle in Chile and in its "financial center" (the United States) coincided during most of 1991, although this was no longer true by the end of the year and in 1992.

The pressure on the market in 1991 stemmed from long-term inflows, but mainly from a very favorable current account, with a small surplus.

Many observers began to hold the view that a modification of exchange rate policy with a significant revaluation was unavoidable. Consequently, the official rate began to lose its allocative capacity. In January 1992, the official exchange rate was revalued by 5 percent and the floating band in the formal market was expanded to ± 10 percent.[10] The observed rate abruptly appreciated by 9 percent in the market, that is, a little less than the sum of the appreciation of the official rate and the lowering of the floor of the band. There followed an overwhelming wave of expectations of more revaluations, which was fed by capital inflows in the formal and informal markets. These flows were encouraged by the certainty that the Central Bank, under its own rules, could not intervene within the band. In fact, in a market persistently situated near the floor, it intervened only by buying at the bottom price. The market's expectation was that, if something changed, the floor exchange rate would be revalued, as in fact it had been in January 1992.

10. It must be noted that Chile was emerging from a profound debt crisis, which was accompanied by a sharp exchange rate depreciation. Consequently, there was space for some appreciation. However, as Chile was moving from a restricted to an overabundant supply of external savings, the authorities wanted to avoid an overadjustment of the exchange rate. One specifically troublesome feature is that, as the expectations of foreign agents change from pessimism to optimism, they seek a higher desired stock of investment in the "emerging market" over a short period of time. This implies excessively large inflows for a while. Obviously, these are transitory rather than permanently higher levels of periodic inflows.

For a long time, the proposal had been circulating in the Central Bank that a "dirty" or regulated float should be initiated within the band; proponents of this view argued that the prevailing rules, with a pure band, an increasingly active informal market, and a more porous formal market, would lead to an observed exchange rate leaning toward either extreme of the band (on the ceiling in 1989–90, on the floor later). The sudden revaluation of the observed rate by nearly 10 percent between January and February 1992 contributed to the bank taking the decision to initiate the dirty float in March of that year. The observed rate fluctuated then for several years within a range of one to eight points above the floor (i.e., normally not on the floor itself), with the bank continuing to make active purchases but also frequent sales (though with a significant accumulation of reserves).

The widening of the band apparently had signaled that the Central Bank had renounced the attempt to deter revaluating pressures in defense of the export strategy, allowing the market, dominated by the short-termish segment, to determine the observed rate within a very wide range. On the contrary, the establishment of the dirty float gave back to the Central Bank a greater management capacity, enabling it to strengthen long-term variables in determining the exchange rate for producers of exportable and importable goods and services.

In the ensuing months, U.S. interest rates continued to decline, exerting pressure on the Central Bank. However, the Chilean economy was booming, and its GDP growth rate had risen well into two digits (about 15 percent over twelve months). Consequently, for reasons of macroeconomic equilibrium, the Central Bank wanted to raise rather than lower domestic interest rates. To avoid encouraging arbitrage, it decided to raise the reserve requirement rate on capital inflows. In May 1992, reserve requirements on external credits were raised to 30 percent and the period of deposit was fixed at one year.

Finally, in July of the same year, the dollar peg of the official rate was replaced with a peg to a basket of currencies (of which the dollar represented 50 percent, the deutsche mark 30 percent, and the yen 20 percent) as the new benchmark exchange rate. The purpose of these measures was to make arbitrage of interest rates between the dollar and the peso less profitable and to introduce greater exchange rate uncertainty in the short term, given the daily instability of international prices among these three currencies. The replacement of a peg to the dollar for a basket of currencies also tended to give greater average stability to the peso values of proceeds from exports. Indeed, unlike financial operations, which are largely dollar-denominated, trade is fairly diversified in geographic terms, with the United States representing only one-fifth of the total, and also operates with a more diversified basket of currencies.

As a result of the policy mix implemented in 1990–94 (plus some "good luck," the improvement in the terms of trade in 1995), Chile was enjoying a solid external sector (a small deficit on the current account, a sustainable exchange rate, and a limited amount of external short-term liabilities) when the Tequila crisis exploded in late 1994 and its contagion effect reached Argentina in 1995. Therefore, the across the board cutoff in liquid resources for Latin America did not dampen the Chilean economy. Toward mid-1995, speculative capital flows began to return to the region and with special intensity to Chile.

Given the existence of expectations overwhelmingly in favor of currency appreciation, after the Tequila shock appeared to have been left behind, the large interest rate differential between the peso and the dollar (together with good prospects for large Chilean companies) gave foreign portfolio and short-term investors what amounted to a very profitable one-way bet, in spite of the toll they had to pay for entering domestic financial markets in the form of the reserve requirement (see table 10.3). This trend toward appreciation could have been softened by intensifying price restrictions on inflows (i.e., by increasing the reserve requirement). The generalized overoptimism that financial crises had been left behind and the risky temptation to speed the reduction of domestic inflation with exchange rate appreciation weakened a highly successful policy of sustainable macroeconomic equilibria. In fact, the external deficit increased jointly with exchange rate appreciation and rapid aggregate demand growth, which were stimulated by the capital inflows of 1996–97.

Exchange rate management did not help deter speculative inflows after 1995. In spite of its formal adherence to a crawling band in 1996–97, the Central Bank was in fact maintaining a nominal, almost fixed, exchange rate. Moreover, in order to lower the floor of the band, in 1997 the authorities tinkered with the weights assigned to each currency in the basket, making less credible the peg to a currency basket rather than the dollar.[11] In addition, they factored a 2 percent rate of annual appreciation into the calculation of the central rate, ostensibly to account for higher productivity growth in Chile than in its main trading partners.

The effects of the Asian crisis, including notably worsened terms of trade in 1998 (now combined with some "bad luck"), found Chile with an appreciated exchange rate (which had not happened prior to mid-

11. In November 1994, the weight of the U.S. dollar was reduced from 50 to 45 percent, reflecting the falling incidence of that currency in Chilean trade. In January 1997, it was arbitrarily raised to 80 percent. For a comparative analysis of bands in Chile, Israel, and Mexico, see Helpman, Leiderman, and Bufman 1994. For an analysis of Chile, Colombia, and Israel, see Williamson 1996.

1995; see fig. 10.2) and a deficit on the current account twice as large as the average for 1990–95.[12]

The Strengthening of Banking Supervision

As noted, a tough bank supervision and regulatory environment prevented the excess liquidity of banks from fueling a consumption boom and deterioration in the quality of bank assets (as clearly took place in Mexico). This was a legacy of the banking crisis of 1981–86 in the aftermath of the preceding foreign capital surge, which led to a virtual collapse of the entire banking system (see Díaz-Alejandro 1985 and Held and Jiménez 2000). Some elements of prudential supervision adopted since then include the continuous monitoring of the quality of bank assets; strict limits on lending by banks to related firms; the existence of automatic mechanisms of bank equity adjustment when its market value falls below the limits required by the regulators; and faculties to freeze banking operations, impede fund transfers outside of troubled banks, and restrict the payment of dividends by institutions that fail to comply with capital adequacy requirements. Chilean financial markets have also acquired a depth that allows for the orderly infusion of new funds, and for their withdrawal, without significantly affecting the quality of bank portfolios (Aninat and Larraín 1996).

Capital adequacy ratios along the lines of the 1988 Basle Accord have been incorporated into the new banking law approved by Congress in 1997. But banks' capital, in practice, is well above the Basle norm of 8 percent. In addition, the Central Bank imposes limits on banks' open positions in foreign exchange, although these are still fairly crude in that they do not differentiate between loans made in foreign currency to firms that earn foreign currency and to firms whose earnings are in domestic currency. Neither do these limits differentiate between different foreign currencies. Currency risk is only one aspect of credit risk evaluation systems, which as a whole are quite good in Chile. Therefore, this compensates for the weaknesses in the norms on open positions in foreign exchange.

Nevertheless, despite the quality of prudential supervision, there are other macroeconomic variables—imbalances that cause abrupt devaluations, overly high interest rates, and bubbles in stock markets, among others—that can dampen the banking portfolio. Sustainable

12. An enlarged deficit on the current account, duly adjusted by the trend terms of trade, is a revealed proof of an overly appreciated exchange rate, which moved faster than net productivity improvements. I contend that in 1990–95 there was equilibrating appreciation, while in 1995–97 there was an outlier overvaluation.

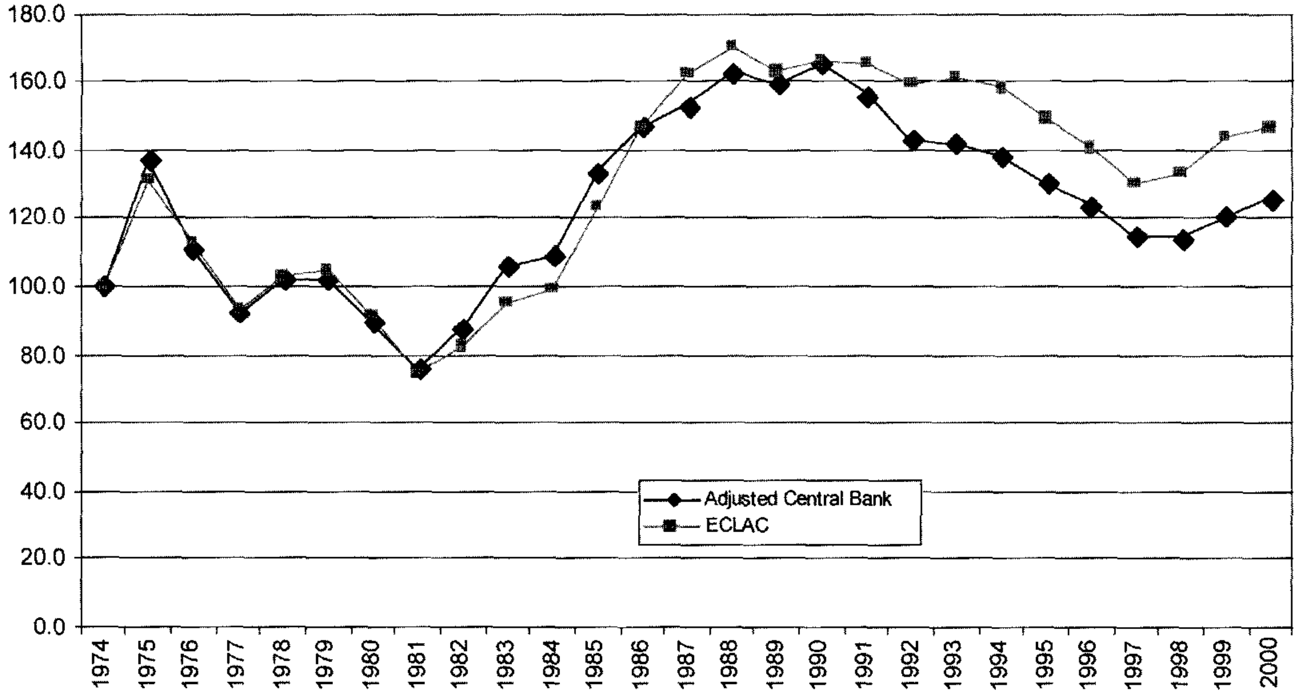

Fig. 10.2. Real exchange rate, 1974–2000 (1974 = 100). (Data from ECLAC, Central Bank of Chile, and Ffrench-Davis 1984. The main difference between ECLAC and Adjusted Central Bank methodologies is that the former uses CPI to measure external inflation, while the latter uses wholesale prices. The first is more consistent with available estimates of real exchange rates for Latin America.)

macroeconomic balances are unavoidable partners of sustainable prudential supervision.

Effectiveness of Measures

What have been the financial costs imposed by the system of reserve requirements and taxes on foreign lending? The total tax consists of the extra interest costs imposed by the reserve requirements and the tax on foreign credits. The calculations can be seen in table 10.3. As a result of the lengthening (in 1992) of the reserve requirement holding period to a full year, and regardless of the maturity of the financial transaction, the implicit tax rate on foreign borrowing increased dramatically as maturities shortened. This characteristic of the system, which is similar in its effects to a unilateral Tobin tax (Tobin 1978), is the rationale behind the requirement that reserves be held for an entire year. Before its imposition, the implicit tax rate (on an annualized basis) was identical on transactions as short as a quarter (the minimum holding period up to May 1992) or as long as a year. These very large estimates of the implicit tax rate on short-term operations suggest that, if the regulations were not evaded, they must have implied strong discouragement of short-term and portfolio flows.

How effective has the reserve requirement (together with exchange rate management) been in deterring short-term flows and preventing excessive exchange rate appreciation? There are two kinds of evidence that one can use. The first is qualitative. There is broad consensus that Chile faced a larger supply of external finance (relative to its GDP) than other countries in the region, because of its better economic performance and greater political stability. However, during the first half of the 1990s exchange rate appreciation and the current account deficit (as a share of GDP) were smaller than in other countries in the region that

TABLE 10.3. Implicit Cost of Reserve Requirement on Foreign Borrowing, 1991–99 (annualized rates)

	1991 (II)	1992 (I)	1992 (II)	1996	1997	1998 (I)	1998 (Q3)	1999 (Q4)
Reserve requirement (%)	20	20	30	30	30	30	10	0
Minimum holding period (months)	3	3	12	12	12	12	12	0
LIBOR	5.5	4.3	3.6	5.6	5.8	5.7	5.6	5.3
Implicit cost								
1 year	1.4	1.2	1.5	2.4	2.5	2.4	0.6	0.0
3 months	1.4	1.2	6.4	10.2	10.6	10.4	2.6	0.0

Source: Calculations based on data from the Central Bank of Chile. 1.2 percent tax is not included.

were major recipients of foreign capital (see Ffrench-Davis 2000, chap. 10). In addition, FDI represented a much larger share of inflows in Chile than in other countries.[13] Second, there is econometric evidence that policies directed toward the capital account have worked rather well. Recent studies indicate that the combination of disincentives to short-term inflows with the reforms in the exchange rate regime, at least up to 1994, had been able to reduce the inflow of short-term, interest-arbitrage funds significantly (Agosin 1998; Schmidt-Hebbel, Hernández, and Gallego 1999). As will be discussed, the situation changed markedly in more recent years in the face of both a new capital surge toward the emerging economies and restrictions that paradoxically were left unchanged by the autonomous Central Bank rather than increasing them in response to the huge capital surge of 1996–97 (see Le Fort and Lehmann 2000).

Some observers have claimed that the efficacy of measures intended to discourage capital inflows is only temporary, as private sector operators usually find ways to evade them (for an example of this literature, see Valdés-Prieto and Soto 1998). In principle, this can be done through several mechanisms. One is the underinvoicing of imports or the overinvoicing of exports. The second is to delay payment for imports or accelerate export receipts. Third, it is possible to bring in funds through the informal foreign exchange market. Fourth, there is also the possibility of registering short-term funds as FDI. However, this could be a costly option, since Chilean law requires that FDI remain in the country for at least one year before repatriation. Nonetheless, it was becoming a significant loophole, which, as already noted, the authorities have moved to close. Fifth, it is possible for agents to arrange back-to-back operations in which, for example, an agent pays for imports with a bank deposit in Chile rather than with foreign exchange; at the same time, the exporter is paid in foreign exchange by a bank in his or her country. All of these (and other forms of evasion as well) are possible, but they are not costless, and some of them may have undesirable effects on tax liabilities. While some evasion is inevitable, there is no hard evidence that the measures meant to discourage short-term capital inflows have been massively evaded.

However, it is clear that maintaining the reserve requirement at an unchanged rate and/or failing to supplement it with other measures came to be insufficient in the face of the new capital surge of 1996–97. Additionally, depressed stock market prices in late 1995 and a real exchange rate that was widely expected to appreciate further over time attracted portfo-

13. It should be noted that the loans associated with FDI were subject to the reserve requirement. Since the average maturity of these loans was about seven years, the incidence of the restriction was low. However, this avoided the danger that short-term credit would be disguised as long-term credit.

lio inflows, as witnessed by the very heavy inflows into the Chilean stock market in 1996–97. But large financial inflows are inevitably bound to turn into outflows at some point. Contagion from the Asian crisis had such an effect in 1998–2000, although it was moderate.

In addition, actual exchange rate management (in contrast to what the authorities claimed they were doing) did not contribute to discouraging speculative inflows. In spite of its formal adherence to a crawling band in 1996–97, the Central Bank was in effect managing a quasi fixed nominal price for the dollar.

In the period after 1993, the secondary issue of ADRs became an important source of short-term capital inflow with particularly volatile characteristics. Thus, the extension of reserve requirements to these inflows in 1995 can be considered to have been an attempt to deal with an incipient problem that was already causing difficulties in policy management and could become even more important in the future. It is likely that, in the absence of reserve requirements, portfolio inflows would have been much larger. However, after a temporary lull in 1995, they again surged beginning in early 1996, paying the corresponding cost of the reserve requirement. The evidence suggests that the entry fee came to be perceived as cheap in the face of positive fundamentals and a strong likelihood of further real exchange rate appreciation.

In opposition to the several studies that show a significant effect over short-term inflows, another line of attack against the use of disincentives has been to claim that, with regard to their behavior, it is impossible to distinguish between capital inflows such as FDI or long-term lending, on the one hand, and short-term or liquid flows on the other. Claessens, Dooley, and Warner (1995) claim that balance of payments categories have nothing to do with the stability of flows themselves, long-term flows being just as likely to be unstable as short-term flows.[14]

In order to check their hypothesis for Chile, a series of tests were run to determine the degree of persistence of different types of private flows (see Agosin 1998). In the first place, an autoregressive analysis of quarterly data on the components of flows for the period 1983–95 reveals that, indeed, FDI and long-term borrowing have the most persistence. On the other hand, for portfolio flows and for short-term private borrowing there is no persistence at all.

---

14. Part of the explanation of the finding that FDI is just as likely to be volatile as short-term flows may stem from the fact that, for the countries that they selected, FDI flows were a very small percentage of total foreign financing, as reported by IMF statistics. Fluctuations in small numbers tend to be greater than fluctuations in large ones. On the other hand, the period covered excludes the Tequila crisis, when portfolio flows played a significant destabilizing role. It is evident that instability must be tested in critical situations rather than during bonanzas.

Second, the coefficient of variation and the R^2 of the time trends of the same four categories of flows indicate that FDI is more stable than short-term borrowing and portfolio flows. Finally, unit root tests for FDI and other net capital inflows in real annual terms for the long period 1960–95 demonstrate that FDI does have a unit root, while other flows are stationary (without a constant or trend). Therefore, in Chile FDI has behaved as a "permanent" variable and other flows as "transitory" disturbances.

A controversial issue is assigning fiscal responsibility for the aggregate demand excess in 1996–97. In this period, an expansionary fiscal policy was recorded, with government expenditure growing faster than GDP (7.9 compared to 7.4 percent per year). However, it must be considered that the fiscal expenditure with macroeconomic effects represents only 20 percent of the economy; therefore, the large majority of the pulls behind the 8.5 percent growth in domestic aggregate demand in the period were in the private sector, accounting for 90 percent of the expenditure increase. Thus, a fiscal contribution to moderate global expenditure would have been insufficient and socially costly,[15] especially considering that the fiscal budget showed a surplus and consequently was not the source of disequilibrium. Here, once again, imbalances were of external origin and overwhelmingly private. The government's responsibility in this case lay in the lack of more effective efforts to enforce coordination between the Central Bank and the Ministry of Finance.[16] This shortcoming, which is related to the Central Bank's autonomy, was a "taboo" issue. It ignores the fact that there is no single form of autonomy in the world but several alternative ones.

Thus, we can conclude that FDI is considerably less volatile than other kinds of capital inflows and that it is advisable to target policies of prudential macroeconomic management (such as the reserve requirement on short-term or liquid inflows). This is what the Chilean authorities attempted to do, with more success in the early years of application than more recently. *Undoubtedly, short-term and portfolio inflows would have been much larger in the absence of the reserve requirement.* Additionally, sterilized intervention in foreign exchange markets prevented undue exchange rate appreciation and a consumption boom, thus keep-

15. The main growing components in fiscal expenditure were education, justice, and infrastructure, all fields in which there were major and widely demanded transformations, with a political consensus around increasing spending on them.

16. The lack of coordination between the Central Bank and the government was evident. As mentioned, the Central Bank authorities expressed no concern about imbalances in the external sector, while, for instance, the minister of economics said that "it is necessary to intensify and strengthen policies such as the reserve requirement to reduce exchange rate appreciation" (*Estrategia,* September 26, 1997).

ing the current account deficit within reasonable bounds, except in 1996–97.

The policy mix also had financial costs for the authorities. The accumulation of large volumes of foreign exchange reserves imposes a financial cost, which is also a social cost on the economy, since the returns on these assets have been inferior to the interest payments on the Central Bank liabilities that were issued to sterilize the monetary effects of reserve accumulation, generating large losses for the Central Bank (estimated at about 0.5 percent of GDP per annum). That is the cost of "insurance" for economic stability, but it was probably unnecessarily high given an excessive reserve accumulation. Undoubtedly, more flexible and restrictive management of the reserve requirement and other prudential macroeconomic policy tools by the authorities would have moderated that cost.

Saving, Investment, and Growth

The period since 1989 marks a clear-cut improvement in growth performance, in comparison with not only 1974–89 but the more favorable 1960s (see table 10.4). The ratio of gross fixed investment to GDP rose steadily since its trough in the mid-1980s, from about 15 percent in 1983–84 to more than 30 percent in 1995–98. Even taking longer averages, the investment ratio rose sharply, from 18 percent in 1974–89 to 28 percent in 1990–98. This increased ratio allowed Chile to sustain growth of GDP averaging 7 percent per annum in the 1990s. The increase in the national

TABLE 10.4. Investment, Foreign Savings, and Growth Indicators, 1960–2000 (as a percentage of GDP)

	GDP Growth	Gap GDP/GDP*	Gross Fixed Investment	Foreign Savings	National Savings
1960–70	4.2	2.0	21.2	2.5	—
1971–73	0.5	3.6	16.8	2.9	—
1974–81	3.3	8.8	17.8	5.0	12.6
1982–89	2.6	11.6	18.2	6.2	11.5
1990–95	7.8	1.8	26.1	2.5	22.1
1996–97	7.4	−0.9	31.6	5.7	21.2
1998	3.9	2.0	32.2	6.2	21.2
1999	−1.1	8.5	26.9	0.2	21.8
2000	5.4	7.5	26.6	1.6	21.9

Source: Calculations based on national accounts data from the Central Bank of Chile.

Note: Columns 1 and 3 are in 1986 constant prices for 1974–2000 and rates of change in 1977 prices for previous years. Column 2 is the ratio between actual GDP (GDP) and potential GDP (GDP*). Columns 4 and 5 are in current prices.

saving rate was also strong, rising from 11 percent in the 1980s to 22 percent in the 1990s (in current prices). This reveals that domestic and foreign savings worked as complements, as opposed to the substitution that took place in Mexico before 1995 and in Chile before 1982 (see Uthoff and Titelman 1998). At the same time, the use of foreign savings declined sharply, from 6 to 3.6 percent of GDP.

The Chilean policies directed toward restraining capital surges and moderating exchange rate appreciation can be credited with a significant share of the success achieved with regard to investment, saving, and growth rates. On the one hand, the management of inflows has had a positive impact on macroeconomic stability and has contributed to keeping effective demand close to productive capacity, which is essential for investment expenditures to rise. On the other hand, there is evidence that foreign and domestic savings have tended to exhibit a high degree of substitutability in emerging economies when capital arrives in surges rather than trends and when it takes the form of volatile financial flows rather than FDI or financing of imports of capital goods.[17] Foreign savings stimulate consumption through their effects on domestic liquidity, the exchange rate, and asset prices. Thus, success in keeping the current account deficit and aggregate demand within sustainable bounds contributed to the sharp increase in saving rates (Agosin 1998, 2001; Uthoff and Titelman 1998).

Some Policy Lessons of the Chilean Experience

The Chilean experience with the prudential macroeconomic management of capital inflows provides us with several important lessons. For developing countries, the swings in capital flows can be of extraordinary magnitude relative to the size of their economies. Over the last two decades, Latin American countries have gone from a severe shortage of financing during the debt crisis (and the shorter lived Tequila and Asian crises) to an overabundance of foreign capital during most of the 1990s. Totally passive policy stances will inevitably result in enormous volatility in key domestic macroprices (exchange and interest rates) and economic aggregates. By depressing investment, these fluctuations have adverse effects on long-term growth and productive employment.

By and large, policies aimed at regulating capital inflows and exchange rate management appear to have discouraged the more volatile

17. The data suggest that some crowding out occurred in 1996–98, associated with excessive inflows, exchange rate appreciation in the three-year period, and worsening of terms of trade. Nonetheless, the savings rate was significantly higher than in 1985–89. See table 1.3.

forms of inflows and prevented excessive exchange rate appreciation in 1990–95. However, in 1996–97 financial capital inflows overwhelmed the capacity of the authorities to control them with the unchanged intensity of policy tools they were using. Then, the Central Bank was unable to prevent a significant real appreciation of the peso in spite of heavy purchases of foreign exchange. The ensuing real exchange rate appreciation contributed to a widening of the current account deficit, which climbed to 5.7 percent of GDP. It must be stressed that the Central Bank did not dismantle its policies, as several other countries in the region and Asia opened their capital accounts. Nonetheless, there was clear evidence that a strengthening of the instruments used to deal with financial surges had become necessary in Chile by 1996–97.

Then the economy experienced the downside of large financial inflows: outflows of financial capital were concentrated in 1998–99 (see table 10.1), with exchange rate depreciation, in a price correction process after the significant imbalance created in macroprices. However, in response to the active management of inflows in the first half of the 1990s, and at least its subsistence in subsequent years, the accumulated deficit on current account was moderate, with a rather low stock of external liabilities, and the share of volatile funds was minor. Together with large international reserves, Chile was able to face the sharp terms of trade shock brought on by the Asian crisis. Despite the soft recession recorded in 1999, the social and economic costs, with an output loss of U.S.$ 7 billion in 1999, were significant. This roughly reflects the gap between the 1999 productive frontier and actual GDP. The gap persisted in 1999–2001, with a negative impact on employment and productive investment.

Contrary to conventional wisdom, it is possible to discriminate between flows that are stable, are of a long-term nature, and do contribute to the country's growth (such as FDI when it creates new capacity) and those that are basically speculative and lead to excessive domestic volatility. In the Chilean case, the market-based discouragement applied to speculative flows had no adverse effects on FDI, which reached unprecedented levels during the decade. The large share of FDI in capital inflows, in fact, has mitigated the effects of Asian contagion on the Chilean balance of payments.

Some evasion is inevitable: any system of discouragement makes it attractive for some operators to attempt to circumvent it. In the Chilean case, it was necessary to close loopholes when it became obvious that agents were using them. However, circumvention can be kept to a minimum with a well-designed and transparent system such as the reserve requirement on capital inflows (*encaje*) implemented by Chile and the continued monitoring by authorities in the first half of the 1990s.

The objective of sustaining economic growth in the face of volatile capital flows (or volatile export prices, as in Chile) requires the use of a battery of policy instruments. In the Chilean case, the combination of taxlike instruments meant to deter speculative inflows, a crawling band with intramarginal intervention (in my view, this was too sparsely utilized), increasing short-term exchange rate uncertainty, and sterilizing the monetary effects of capital inflows worked well for several years. It should be remembered that reserve requirements alone (or any other policy that increases the cost of external borrowing), while clearly useful, do not deter speculative attacks when large exchange rate changes are anticipated.

There is a series of possible complements to the present set of policies in the face of a new surge. Two recommendations — based on the experiences of emerging economies, especially the Chilean one — emerge. On the one hand, significant exchange rate appreciation, as in 1996–97, must be avoided. On the other, a flexible policy package, rather than a single rigid policy tool, is desirable when a new capital surge emerges.

With respect to portfolio inflows, the period of application of the reserve requirement could be increased beyond one year during capital surges in order to raise the cost of financial investments in Chile during those conjunctures. On the other hand, recently Chilean star enterprises have been massively acquired by foreign capital. These operations generate major inconsistencies in light of the recommendation that the country achieve sustainable macroeconomic balances and capital flows that reinforce productive investment. Massive operations, which take advantage of the necessary gap between domestic and international interest rates (with their strong impact on the present value of enterprises), and the depressed prices caused by macroeconomic adjustment greatly impact the exchange rate market: it is foreign investment that buys existing assets instead of creating them, the strategic command emigrates, and Chile loses its bridgehead for globalization. All this for what? We are in the forefront of a new "populism"; the benefits for a minority are seen, while the social costs are ignored. The oversupply allows choosing, and choosing allows us to better face the subsequent shortage period.

With regard to the exchange rate regime, the Central Bank should return to active intermediate policy and prevent the exchange rate from sticking to extreme appreciation or depreciation. It must be stressed that the crawling band — the intermediate regime in force in Chile until 1999 — lost prestige because of evident mismanagement that included the lack of vigorous dirty floating (active intramarginal intervention); the fact that the weights assigned to each currency in the basket used to determine the central rate were arbitrarily changed to achieve short-term exchange rate objectives; and the overly long time that authority took to recognize the need to devalue an excessively appreciated rate.

In fact, the Central Bank behaved asymmetrically, allowing the exchange rate to appreciate in 1996–97 and then moved to slow depreciation by the end of 1997 for the sake of a lower inflation rate. This provided a convergence between advocates of a free floating exchange rate and exporters (who should not support a permanently free floating exchange rate because of the enormous instability this implies). This way, in September 1999 the Central Bank announced the suspension of the exchange rate band. This would be advisable as a temporary measure intended to speed the devaluation of the exchange rate in the direction of a level more consistent with a sustainable external balance and then, before the next capital surge, return to an implicit or explicit band. In contrast, if the suspension is thought of as permanent this would mark the peak of a series of measures that amount to a renunciation of sustainable macroeconomic policies as they are defined here and in Ffrench-Davis 2000, chap. 6 (with a level of demand kept close to the productive frontier and "right" macroprices). A free exchange rate, in the context of massive volatile flows worldwide, would fluctuate considerably, with great damage to nontraditional exporters and productive investment.

Actually, there has been significant volatility of the exchange rate, notwithstanding that capital flows have not been fluctuating widely recently. In fact, the financial markets for emerging economies have been rather dry.

The liberalization of the exchange rate in September 1999 led to a rapid devaluation (to $550 per dollar) that lasted until November 1999. This allowed the real exchange rate to return to the average level of 1995. Nevertheless, the recovery of optimism regarding the Chilean economy, plus an improved price of copper and a still depressed level of imports during the first quarter of 2000, was reflected in a significant revaluation (to $500). However, when adjustments of the U.S. stock exchange came during the last quarter of 2000 the RER recovered part of its lost value (to $580); then occurred some recovery of confidence in international markets (in early 2001) and a revaluation (down to $557) and finally a spread of pessimism and a devaluatory process that by August had depreciated the rate to $690. This, according to my estimates, is a rather "right" price, probably the closest to "equilibrium" that the Chilean economy has had since the mid-1990s. Nonetheless, nothing assures that, with the present foreign exchange regime, this "equilibrium" plateau would be sustained by a totally free market. This confirms our expectations about the extreme instability of a free-floating exchange rate. Any good or bad, international or domestic, short-term news will tend to affect the spot and "futures" exchange rates significantly. Evidently, instability would be more damaging with a long process of appreciation, in a pronounced cycle resulting from a new capital surge.