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Project
NEW PRIVATE FLOWS INTO LATIN AMERICA

***CAPITAL MOVEMENTS, EXPORT STRATEGY
AND MACROECONOMIC STABILITY IN CHILE***

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CAPITAL MOVEMENTS, EXPORT STRATEGY AND MACROECONOMIC
STABILITY IN CHILE*

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INTRODUCTION

The purpose of this study is to analyse the determinants and macroeconomic management of foreign capital flows, and their effects on the Chilean economy. In the period 1982-87, the main constraint on the Chilean economy was the shortage of foreign exchange brought about by the debt crisis. Since then, it has had to face the opposite conjuncture, resulting first from a substantial rise in the price of copper and then from the abundance of foreign capital. The main effects of the renewed capital inflows have been its positive impact on investment and its pressure on the money supply and towards exchange-rate appreciation. To counter the effect on the exchange rate, the authorities have adopted a number of measures which have driven a wedge between the domestic and external short-term financial markets. The main aim has been to prevent an exchange-rate appreciation like the one experienced in the previous period of abundant capital inflows (1978-81) and, in so doing, avert its negative effects on the sustainability of macroeconomic balances and on the growth of exports, which have led Chile's recent economic growth. The monetary effect of Central Bank intervention in the foreign-exchange market has been offset by sterilizing the corresponding increase in liquidity.

Four basic instruments have been used to neutralize any effects which, as a result of the influx of short-term capital, may be inconsistent with the objectives of the export development strategy. These instruments are: the application of taxes and

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reserve requirements to capital inflows; an exchange-rate policy based on dirty floating of the exchange rate in relation to a reference value pegged to a basket of currencies; open market operations to sterilize the monetary effects of exchange-rate dealings, and the prudent supervision of financial markets.

These measures have succeeded in moderating the inevitable exchange-rate appreciation that the new capital inflows entail. Even so, between February 1991 and December 1992, there was a 17% revaluation in real terms;¹ then, in 1993, the real exchange rate recovered slightly. It is difficult to determine with any certainty what impact the appreciation has had on investment in exportables. It is likely that the growth of non-traditional exports, as well as investment in them, involves a large measure of inertia.

Although the analysis concentrates on the period 1987-93, it also refers to the period 1978-81, when most of the liberalization of external financing took place in Chile. These two periods were marked by massive capital inflows, which the economic authorities managed in very different ways.

Section I describes the characteristics of capital flows and analyses their determinants. It particularly emphasizes three different types of flows: foreign direct investment (FDI), new types of portfolio investment (stock exchange, mutual investment funds and the flotation of Chilean securities on the New York Stock Exchange), and other speculative flows.

Section II analyses the management of these flows from the standpoints of export strategy, macroeconomic balances and fiscal, monetary and exchange-rate policies. As regards monetary policy, it studies the policy measures taken in the current period of capital inflows and compares them with those taken during the period 1978-

¹ The real exchange rate is defined as the nominal price of the dollar multiplied by the quotient between the relevant external and domestic inflation rates. The latter is measured by the consumer price index (CPI). External inflation is calculated using the wholesale price indexes (WPI), expressed in dollars, of Chile's principal trading partners, weighted by the relative importance of Chile's trade (excluding petroleum and copper) with them (Feliú, 1992).

81. With respect to exchange-rate policy, it discusses the measures implemented and their effectiveness in considerably moderating the appreciation that might have occurred had the economic authorities not intervened.

Section III analyses the effects of capital flows on domestic investment. One finding of the study is that, partly as a result of the policies pursued, capital flows have tended to take the form primarily of FDI. Although not all FDI involves new investment (it sometimes simply is the purchase of existing assets), an attempt is made to roughly determine the effective contribution of FDI to overall investment.

The concluding section draws some policy lessons for dealing with sudden capital inflows and appreciations in the real exchange rate. The regulation of capital movements has achieved important, closely interrelated objectives: first, the development of policy instruments that serve as incentives/barriers to capital inflows and outflows; second, the regulation of foreign-exchange and money markets in order to influence basic macroeconomic relative prices, trying to ensure that the latter do not deviate significantly from the target of long-term equilibrium and thereby affect the allocation of resources and sustainable growth; and third, a degree of control over monetary aggregates and the determinants of aggregate demand, so as to have a positive influence on capital formation and its productivity.

I. CHARACTERISTICS OF THE NEW CAPITAL FLOWS

In the last two decades, the drastic liberalization of the Chilean economy has been reflected in all spheres of economic policy. In the trade sphere, all non-tariff measures were eliminated between 1974 and 1979 and tariffs were reduced to a uniform rate of 10% (now 11%). With respect to the balance of payments capital account, most of the liberalization of capital inflows and of the domestic financial market took place in the 1970s and early 1980s, although inflows and outflows are still subject to certain controls that were partially liberalized in

1991. However, a strict system of prudential supervision of banking institutions was introduced in 1986 and various regulations were reimposed in 1991 to deal with the abundance of foreign exchange.

Economic growth, that has fluctuated widely, has been led by exports, whose share of the gross domestic product (GDP) has risen substantially (from under 15% in 1974 to over a third at present, at 1977 prices). The greatest growth has been in a group of new exports, including horticultural products and fruit, forestry, sea food (particularly fishmeal and salmon) and a growing group of manufactures, especially paper and pulp: Investment in fixed capital has been low for virtually the entire period. However, it began to pick up towards the end of the 1980s and has since grown, reaching well over 20% of GDP (at 1977 pesos) in 1993.²

Since the 1982-83 depression, during which GDP fell by 15%, Chile's economy has been enjoying a period of sustained recovery, interrupted briefly in 1985 as a result of deliberate policies to rebalance the external and fiscal accounts, and again in 1990 to reduce the inflation and excess of aggregate demand over production capacity, generated by a massive spending increase in the last biennium of the military government. This growth of GDP has been accompanied by a boom in non-traditional exports, a recovery of investment, a very high copper price and, subsequently, a major private capital inflow.

Private voluntary capital flows began to recover in 1987 (see table 1). From then until 1989, capital inflows increased steadily, but to amounts below the average level for 1983-86. Debt-for-equity swaps grew spectacularly. Cash inflows began to take off in 1990. After declining in 1991, they rose again sharply in 1992-93. The

² The Central Bank (1994) has published new national accounts (based on year 1986); these give investment rates with fluctuations similar to those in the accounts of base year 1977, but with considerably higher levels than in the previous series. The new series has yet to be extrapolated further back in time. In this article we shall be working with the earlier national accounts.

most important item has been effective foreign direct investment.³ Other significant components between 1989 and 1993 were private short-term loans and the return in 1991 of medium- and long-term voluntary private loans.

Table 1

Portfolio investments, which made their appearance in 1989, are a new phenomenon. The bulk of these investments go through two channels: foreign mutual funds, organized specifically for investing in the shares of Chilean and other Latin American corporations; and offerings of shares of a number of Chilean companies on the New York Stock Exchange through American Depositary Receipts (ADRs).

Another recent development in the opposite direction was the beginning, in 1991, of a significant outflow of capital by Chilean companies, in the form of direct investments and the purchase of assets abroad, especially in Argentina.

It is interesting to place the 1987-93 capital flows in the context of trends in those flows since 1978.⁴ Net capital inflows during the period 1978-81 accounted for between 11% and 14% of GDP at current prices (see table 2). If this proportion is measured at 1977 prices, the range is 11% to 18%. Although there was a considerable accumulation of reserves, between 54% and 100% of capital inflows financed massive current account deficits (caused by the increasing real overvaluation of the peso and the rapid increase in aggregate demand). During the current period, capital inflows have been smaller, both in nominal terms and as a percentage of GDP. The only year in which capital inflows reached

³Effective foreign direct investment includes net capital inflows obtained under Decree-Law 600 and Chapter XIV of the Central Bank's Compendio de Normas de Cambios Internacionales (CNCI). To these can be added the net credits associated with DL 600. Here, external debt capitalization and debt-equity swaps under Chapter XIX of the CNCI are classified separately.

⁴For an analysis of the management and impact of capital inflows in 1978-82, see Ffrench-Davis and Arellano (1981), Ffrench-Davis (1985), Hachette and Cabrera (1989), Mizala (1985), Morandé (1991) and Ramos (1988).

levels similar to those between 1978 and 1981 was 1990, when they climbed to 11% of GDP at current prices. However, the current account deficit that year was small and shrinking, while the accumulation of reserves reached 77% of capital inflows.

Table 2

A subsequent, marked change in the trade balance has also been reflected in the current account. After showing a surplus in 1991, it deteriorated rapidly, reaching nearly 5% of GDP in 1993. The sharp switch was associated with: i) a change in the domestic economic conjuncture —the economy grew very slowly in 1990 and rebounded strongly in 1992-93; ii) the terms of trade, which changed from favorable (clearly above "normal") to unfavorable;⁵ and iii) the lagged effects of the 1991-92 currency appreciation and of a tariff reduction in 1991.

Obviously, the external sector balance may fluctuate dramatically because of external shocks and changes in the short-term domestic macroeconomic situation. Consequently, a short-term horizon can lead to costly mistakes, as happened in the years 1978-81. The present economic authorities seem to have had this lesson well in mind when they tried to curb the pressures toward exchange rate appreciation in 1991, even though there were trade and current account surpluses that year.

The composition of capital inflows has varied more markedly than their overall volume (see table 1). In 1978-81, capital inflows took the form primarily of medium- and long-term loans from international banks to the domestic private sector. Given the abundant supply of bank loans, this situation was partly attributable to the steady relaxation of the limits imposed on banks' external indebtedness in order to provide loans in pesos and

⁵ The depressed international situation caused a drop in prices for the main export products. In the case of copper, for instance, by December 1993 the price had dropped by 25% with respect to the average of 1991-92, while the price of pulp had dropped by 35% and that of fishmeal by 19%.

of the guarantees that banks could extend to the external indebtedness of non-banking firms.

In the remainings of this section four main components of capital flows are analyzed: foreign direct investment (FDI), portfolio investments, hot money, and Chilean investment abroad.

1. Foreign direct investment

FDI has played a leading role in the current period of capital inflows. Since 1974, FDI has been regulated by Decree-Law 600, which has been slightly modified subsequently. The principles underlying this decree are national treatment for foreign investors, their free access to domestic markets and the virtual absence of State oversight of the activities of foreign corporations and the sectoral destination of their resources. At present, capital can be repatriated one year after an investment has been made. Foreign investors are guaranteed the right to profit remittances and can choose between the tax regime applicable to national corporations or a fixed rate of taxation on their profits which is guaranteed for a certain period of time. When investments for export projects are over US\$50 million, corporations may hold escrow accounts outside Chile for paying interest, dividends and royalties and for purchasing raw materials and capital goods. Since these benefits are not available to national investors, present legislation can be said to give preferential treatment to foreign investors.

Another intensively used channel for investing in Chile was through the debt-for-equity mechanism provided for in Chapter XIX of the Central Bank's CNCI, introduced in 1985. However, this mechanism did not represent an effective net capital inflow, but rather a debt swap.⁶ Chapter XIX investments were subject to approval by the Central Bank on a case-by-case basis. Moreover,

⁶ In the balance of payments capital account, investments made with external debt notes are recorded as capital inflows. However, they are also noted as special amortizations of the debts represented by those notes.

there were some limitations on the use of this mechanism: in the case of major investment projects in mining, only 10% of investments could be made through debt conversions. When the mechanism was introduced, profits could not be remitted for a period of four years and capital could be repatriated only after 10 years.

FDI has accounted for a growing proportion of net capital inflows, reaching 32% in 1993. This proportion increases to 54% if we add to it net credits associated with Decree-Law 600. A change of composition between risk capital and associated credits in favour of the former can be observed too and may be related to the policies discouraging financial capital inflows discussed in section II.

Apart from the long-term stability of the rules governing foreign investments and the stability and good prospects of the Chilean economy as a whole, debt-for-equity swaps were obviously a favorable factor in the increase in the presence of foreign investors. While it was in action (1985-90), it accounted for well over half of all the foreign investment entering Chile⁷ (see figure 1). The controversy about the degree of additionality that these resources represented is difficult to resolve.⁸ Investors who used this channel to enter Chile benefited from a substantial subsidy that was not available to those using DL 600. French-Davis (1990, table 6) estimates that, between 1985 and 1989, the subsidy implicit in the mechanism amounted to 46% of the value of investments (the greater value received in Chile by the investor of the notes, divided by their purchase price in international markets); at current values, these investors brought in paper

⁷ If total FI is taken to include net capital inflows under DL 600 and Chapter XIV (effective FDI); credits associated with DL 600; capitalization of external credits; and external debt-equity swaps.

⁸ Evaluations of the mechanism are to be found in Desormeaux (1989), French-Davis (1990) and Larraín (1988).

valued at US\$1.9 billion in international markets and at US\$2.8 billion in Chile.⁹

Figure 1

The international publicity surrounding the introduction of the mechanism probably helped create a favorable climate among foreign investors and tended to attract them to Chile. Moreover, it contributed to mitigate the debt crisis and reduce the debt service at a very opportune moment, when external restrictions predominated. Partly because the debt stock was reduced (and partly because the quantum and price of exports rose sharply), the debt-export ratio fell from over 5 in 1984 to under 2 in 1990. When the price of Chilean debt notes rose in international markets, conversion ceased to be a good deal for investors. In fact, no new operations have been conducted since 1991.

A large share of FDI has gone to export sectors. Between 1985 and 1992, mining projects absorbed over half the capital flows brought in by DL 600. Two major copper-mining projects (La Escondida and La Disputada de Las Condes) accounted for a substantial proportion of such investments in 1987-90. The only other sectors of any significance were manufactures and services. Although there are no disaggregated figures for manufactures, judging by the information available for investments worth over US\$100 million, most projects in manufacturing relate to the forestry, paper and pulp industries, geared basically to external markets. It is possible, therefore, that approximately two-thirds of the FDI brought in through DL 600 have gone to export sectors. With regard to services, the evidence shows that investment has been concentrated in the financial sector. In some cases, whose percentage of the total is difficult to determine, these investments do not represent the creation of new assets but the

⁹ Their par value reached US\$ 3.2 billion -roughly 15% of Chile's external debt at the time the conversion programme began. Other mechanisms became more important. See references in the preceding footnote.

purchase of existing ones, meaning that not all FDI contributes directly to increase gross capital formation.

Chapter XIX has treated sectors somewhat selectively. The limits imposed on mining explain the sector's low share of these investments. On the other hand, some export-manufacturing sectors (processed foods, paper and pulp), forestry, fisheries and agriculture for export have received a large share. Investments in services have been concentrated in telecommunications (privatized in the late 1980s), private pension funds (AFPs), banks, electricity-generating corporations (also recently privatized) and hotels. To sum up, between one-half and two-thirds of debt-equity swaps has gone to export sectors, but largely through the purchase of existing assets. By contrast with DL 600, such investment has been concentrated in mining sectors or in the processing of non-mineral raw materials. Investments in manufactures unrelated to the commodities in which Chile enjoys natural comparative advantages do not figure significantly in either DL 600 or Chapter XIX flows.

The purchase of existing assets has undoubtedly been more important among Chapter XIX investments than among DL 600 operations. A large proportion of Chapter XIX investments in the services sector were purchases of existing firms. Even in some export sectors, some joint ventures with national entrepreneurs included purchases of stock in local corporations. An estimate based on data from the Central Bank shows that purchases of existing firms accounted for somewhat over one-half of all debt-equity swaps. This high percentage prompted the Central Bank in 1990 to give new investment in tradables priority over the purchase of existing assets.

2. Portfolio investment

It is interesting to analyse the determinants of the newest kinds of flows that have been taking place recently: portfolio investment, which enter the country through foreign capital investment funds (FICE) and through the sale of shares on US stock markets through the ADR mechanism. As can be seen from table 1, FICE were quantitatively more significant in 1989 and 1990. ADRs,

on the other hand, after a first operation in 1990, gained importance since 1992. ADRs have aroused increasing interest among local firms and foreign investors.

There are two radically different forms of ADRs. The original one ("Inicial offering") is subject to stringent requirements; for instance, it must fulfill given capital and gross income minimums, exceed solvency classification, and, most significant of all, ADRs must correspond to an increase of the capital of the firm and must be placed in the US stock markets. Paradoxically, the second one, ("inflows") corresponds to purchases made in the local stock exchanges of any shares, of the firms that have approved the first stage mentioned above, in any amount. Subsequently, they are converted into ADRs with all the benefits of tax exemptions and access to the formal foreign exchange market.

Well over two-thirds of all outstanding ADRs correspond to the second category (see table 3).

Interest in Chilean securities grows when major price differentials arise between the local and the foreign stock exchange markets. When foreign investors take advantage of these differentials, this gives rise to inflow operations whereby securities are bought on the Chilean stock market and then exchanged for ADRs tradable in the United States. Such operations rely on access to the formal foreign-exchange market for converting dollars to Chilean pesos and vice versa. There are also flowbacks, opposite operations which involve converting ADRs to shares and reselling the latter on the local market. In any event, as said, it is the inflow that is more prevalent at present; the amount brought in totals US\$796 million, vis a vis only US\$ \\\ in initial offerings (see table 3).

This mechanism has been used frequently by Chilean firms to finance their internationalization process, especially in the purchase of assets in Argentina.

There are two kinds of foreign capital investment funds in Chile: those regulated by annex 2 to Chapter XIX of the CNCI, now reduced to already existing funds, and those regulated by Act No. 18.657.¹⁰ Most resources for establishing these funds have been channelled through the latter mechanism. By the end of 1993, the Office of the Superintendent of Securities and Insurance had authorized the functioning of 17 funds, which by that date had brought in US\$487 million. With respect to the composition of the funds' portfolios, 94% corresponded to shares in over a hundred corporations. However, just four local firms accounted for 44% of the funds' total portfolio¹¹ (see table 4).

Table 4

On the other hand, the three funds set up under Chapter XIX have brought in capital totalling US\$130 million through the debt conversion mechanism. In early 1990, as we already mentioned, the Central Bank announced more selective rules for the application of Chapter XIX and excluded new investment fund inflows from it.¹²

Chile's favorable macroeconomic prospects since the end of the 1980s and the anticipated rise in stock exchange quotations have undoubtedly been important for attracting this kind of capital.

It is interesting to contrast the return for the investor, and hence the payments of Chile to foreign factors, obtained by ADRs and FICE. ADRs were offered at NYSE price/earnings ratios that were

¹⁰ Act. No. 18.657 has authorized and regulated the functioning of foreign capital investment funds (FICE) in Chile since September 1987. The Act may be applied to entities organized as FICE which raise money outside the national territory by placing shares on a foreign stock market (public investment funds), or which bring into the country capital contributed directly by foreign institutional investors (private funds) for the purchase of securities offered publicly in Chile.

¹¹ These include the Compañía de Teléfonos (CTC) and Endesa, with 13% each, and Enersis and Copec, each with 9% of the funds' total assets.

¹² These funds are in process of dissolving; they paid a 3% commission which allows investors to retire their contributions through the informal exchange market, without having to comply with the waiting period initially set for repatriating capital brought in through debt swaps.

relatively high for the Chilean market. FICE, on the other hand, entered the local stock market at low prices, and this resulted later in a marked increase in the price of their assets. FICE capital inflows originally totalling US\$600 million were worth US\$1.5 billion by December 1993 (see table 4). Both kinds of external liabilities are relatively liquid and can be rapidly withdrawn from Chile through the formal foreign-exchange market if investors see fit to sell their assets in the domestic market.

3. Speculative flows

In 1975, existing regulations on the domestic financial market and controls on capital flows from abroad hindered the entry of speculative flows into the country. Only from 1978 onward, with the liberalization of restrictions on banks' external indebtedness, the possibility of speculative capital movements through the official exchange market was opened. Subsequently, during 1982, with the abrupt curtailment of bank loans to Latin America, the perception that Chile was a risk country and the growing expectation that the peso would be devalued led to a significant reduction of private capital flows; between then and 1986, they were non-voluntary and went mostly to the public sector.¹³ Only from 1987 onwards did large private capital flows resume, an appreciable amount of which was speculative capital. Short-term private capital has increased significantly since 1988.

The measurement of speculative capital flows is problematic from a statistical viewpoint, since they tend to be hidden in both the current and the capital account. Short-term (less than one year) capital, with the exception of loans to finance foreign trade, is usually considered to be speculative or "hot money". But not all flows of less than one year, are speculative. In any case,

¹³ Since voluntary credit dried up, credits were mostly from multilateral financial bodies and medium-term new money from international banks granted to the Central Bank and the Treasury as part of debt restructuring. Unlike other Latin American debtor countries, Chile received significant net transfers from multilateral creditors, which facilitated the strong structural adjustment of the economy (Damill, Fanelli and Frenkel, 1992; French-Davis, 1992).

private short-term flows provide a tentative measurement of speculative capital.

When controls are placed on capital or measures introduced to discourage short-term flows (as in the case of Chile since mid-1991), the most common ways to enter speculative capital are overinvoicing exports, underinvoicing imports and leads and lags in foreign trade payments.

Another channel by which speculative capital enters is through the informal exchange market (the ex-parallel market). Such flows are undoubtedly influenced by interest rate differentials between Chile and international financial markets (especially rates on the dollar) and expectations of the depreciation or appreciation of the peso. The Central Bank makes estimates of some of these flows associated with the current account and certain capital account operations. The balance is included in the capital account under "other assets". This has made it possible to reduce the "errors and omissions" entry.

Recorded speculative flows are found within short-term movements carried out by the private and banking sectors and direct trade credit operations. These latter, although not speculative, clearly are responsive to interest rate differentials. Speculative flows, therefore, can be estimated by adding the sum of short-term private flows recorded in the balance of payments and the "other assets" entry. In the period since the fourth quarter of 1991, the quarterly rise in the value of reserve requirements that have affected those credits has been subtracted from the balance of payment figures, since banks had to become indebted abroad in order to comply with the reserve requirements of the Central Bank.

Figure 2

As figure 2 shows, private short-term flows behave as expected: they are strongly positive in 1989-92. This period was characterized by a growing gap between domestic and international interest rates (shown in figure 4), an expectation on the part of economic agents that the Chilean peso would appreciate in real terms (due to the huge inflow of foreign exchange plus a rise in

the terms of trade), and a perception that Chile's risk country rating had improved significantly.

4. Investment abroad

At the end of 1990, this kind of capital movement was of little significance, with an accumulated total of US\$178 million. However, they began to increase rapidly when the Central Bank liberalized regulations governing foreign investments.¹⁴

The presence of Chilean enterprises abroad was radically changed by the liberalization of some capital outflows in 1991; by the end of 1993 Chileans had invested an accumulated total of US\$1038 million abroad. A good part of these new investments were in Argentina, where Chileans own or are partners in more than 50 enterprises. Only since 1992 did the Chilean presence in Argentina begin to become significant, especially through privatization programmes. By the end of 1993, the Central Bank had recorded investment in Argentina amounting to US\$532 million.

From the viewpoint of Chilean investors, Argentina's privatization programme has been a success, since three of the four enterprises into which the Greater Buenos Aires electric company (SEGBA) was divided wound up in the hands of consortia controlled by Chilean electric companies.¹⁵ Chileans also participated in the

¹⁴ The legal mechanism through which this kind of operation has been carried out is Chapter XII of the Compendium of Regulations Governing International Exchange (CNCI) of the Central Bank. This legal instrument established that remittances of foreign exchange used for foreign investment had to be carried out exclusively in the formal market and with the authorization of the Central Bank. That clause was changed in April 1991 to allow also the purchase of foreign exchange in the informal market, informing the Central Bank within 20 days.

¹⁵ In March 1992, 60% of the shares of Central Puerto were sold to the Chilean firms Chilgener (49.5%) and Chilectra Quinta Región (10.5%) for US\$92 million. In May 1992, 60% of Central Térmica Costanera were sold to the consortium formed by the Chilean enterprises Endesa (30% and operator of the plant), Enersis (9%), Chilectra (3%), the Argentinean company Pérez Compac (15%) and the United States company Public Services of Indiana (3%) for US\$90 million. In July 1992, 51% of the distributor EDESUR was sold for US\$511 million to the same consortium that won the bid for Central Térmica Costanera. But since this was another deal altogether, distinct from electricity generation, the largest Chilean shareholders were Enersis and Chilectra, holding 20% between them, which together with the 5% share of Endesa, brought the Chilean presence to 25%.

privatization of Gas del Estado and since 1992 in the purchase of a steel mill.

Another area where the Chilean presence is beginning to grow is the service sector, especially supermarkets and insurance. In manufacturing, besides the presence in steel, Chilean firms have diversified by buying assets in Argentina, such as factories making ceramic, disposable diapers, bottled gas and welded products, candies and sweets, cables and industrial oils, and more recently in private pension funds that began to function in 1994 and where Chilean firms have several years of experience.

In 1993, Chilean investors also began to become interested in Peru. There, as in Argentina, the most profitable deals have been linked to the privatization of public enterprises and new opportunities generated by economic liberalization, such as the private pension funds in process of creation.

5. The changing nature of external liabilities

With the development of new forms of capital flows, the traditional measurement of external debt has lost some of its meaning. It is a phenomenon similar to what happened with the standard measurement of the debt during the 1970s, which did not include private debt with creditor banks nor short-term debt. Both components sky-rocketed, leading to an ever larger underestimation of external indebtedness (French-Davis, 1982). A similar phenomenon has been taking place in the 1990s, though now implying a rise in the share of external liabilities related to portfolio and FDI flows.

For this reason, international financial institutions today seek to measure external liabilities more precisely by broadening definitions. The following table measures Chile's external liabilities for certain years, including the peak year of the traditional measurement, 1986 (see table 5).

Table 5

II. MACROECONOMIC EQUILIBRIA, DEVELOPMENT AND CAPITAL INFLOWS

Capital movements can significantly affect exports and macroeconomic equilibria through their impact on the exchange-rate and on aggregate demand. The current development strategy assigns a central role to the expansion and diversification of exports. The level and stability of the real exchange rate are key determinants of export behaviour. The Chilean economy has been highly unstable in macroeconomic terms, due to external shocks in terms of trade and external financing. For example, the 15% plunge in GDP in 1982 and the 10% rise in 1989, each the most pronounced in Latin America in those two years, were connected with external shocks.

Generally speaking, recent macroeconomic policy has been relatively successful in offsetting the appreciation of the peso and the impact of capital flows on the rate of expansion of aggregate demand and inflation. To achieve that, the economic authorities have resorted to compensatory intervention policies or sterilization at three levels. First, capital inflows were discouraged by restricting and taxing the entrance of (mainly) short-term capital and by increasing the uncertainty of interest rate arbitrage. Second, the exchange rate has been actively sustained by accumulating considerable international reserves. Third, the monetary effects of the accumulation of reserves have been effectively sterilized.

1. Macroeconomic policy and the character of capital movements

When the debt crisis broke out in 1982, the exchange rate was fixed and monetary policy was passive, which, as a consequence of those shocks, gave rise to an automatic sharp drop in domestic spending for consumption and investment (table 6, lines 2, 3 and 4). In order to narrow the external gap, the main policy variable was an extremely strong reduction in aggregate demand. The adjustment spread to the external sector, reducing imports and increasing exportable supply (line 6).

This endogenous reallocation was also subsequently supported by a series of real devaluations of the exchange rate and import surcharges. However, demand-reducing policies were notably stronger

than switching policies, hence, the adjustment did more to shrink demand than to reallocate demand and supply. This led to a high rate of underutilization of production capacity, which is partially reflected in line 1.¹⁶ Over the course of time, given exchange rate and tariff incentives for the production of tradables, economic activity and investment gradually recovered, though very mildly, led by dynamic export growth.¹⁷

Table 6

From 1988 onward, thanks to an improvement in the terms of trade, especially a rise in the price of copper (4.7% of GDP between 1986 and 1988; line 7) and new flows of foreign capital (line 8c), the Chilean economy began to face a radically different conjuncture.

Among the more important effects of the new flow of foreign capital have been, on the one hand, its positive impact on the level of economic activity and investment, and on the other, an expansive pressure on money supply to expand and the currency to appreciate. To offset the effect on the exchange-rate, the authorities undertook a series of measures to prevent an appreciation like the one in the previous period of capital inflows (1978-81) and its negative effects on the sustainability of macroeconomic equilibria and the expansion and diversification of exports.

The perception that large deficits on the current account of the balance of payments are not sustainable over the long term and the lessons from the debt crisis, led the authorities to give priority attention to the level of the real exchange-rate. The Central Bank decided to intervene actively in order to keep the real exchange rate at a level that allows for sustainable

¹⁶ Estimates of the gap between effective demand and the production frontier are found in French-Davis and Muñoz (1990) and Marfán (1992).

¹⁷ Per cápita GDP in 1988 was still 1% less than that of 1981, and surpassed it by 27% in 1993 (table 6, line 1). Investment began to show signs of recovery only in 1987, and did not exceed its 1981 per capita level till 1989; in 1993 it was 38% above the 1981 level.

macroeconomic equilibria, protects the development of tradables sectors and directs investment resources towards those sectors.

Ultimately, the authorities seek to determine if the forces that are affecting foreign trade, FDI and access to international capital markets are transitory or permanent. The objective is to avoid volatility in a key price for an open economy in order to avoid generating uncertainty among investors, particularly those in tradable sectors.

The impact of capital inflows on the stabilization and formation of relative prices has been a cause of concern for the monetary authorities in Chile (Zahler, 1992). Inflows affect the country's level and structure of relative prices in two basic ways: first, by encouraging an exchange-rate appreciation, lowering the costs of imports and generating greater demands on producers of tradables; second, through the monetary effect of foreign exchange operations, which, if not sufficiently sterilized, can lead to either excessive demand and inflation or to recessions that hinder investment and technological innovation.

Expectations can play a strong role over the short term. For example, favorable expectations can provide incentives for a strong inflow of funds, which in turn generates expectations of an appreciation, which then leads to an additional inflow of funds.

The Chilean authorities opted to regulate the market in order to influence the real exchange-rate over the short-term, so that it matches better with the long-term trend. That option, purportedly to make the fundamentals prevail, is based on the asymmetry of information between the market and the monetary authorities, assuming that the latter: i) have a better knowledge of the prospects of the different components of the balance of payments and their probable effects on the economy; and ii) have a longer planning horizon than agents who operate intensely in short-term markets. However, faced with the uncertainty about what will happen in reality, the authorities have used an exchange-rate band centred on a reference price defined by a basket of three currencies, in

which the U.S. dollar, the deutsche mark and the yen are represented with fixed weights¹⁸.

There are crucial policy implications for two key variables that affect the allocation and volume of investment resources: the exchange rate and the interest rate. Fiscal policy can also play a key role in shaping market trends and the short-term. The policy dilemma is how to reconcile three objectives simultaneously: low price inflation, a stable real exchange-rate, in order to provide a reasonable incentive to the tradables sector of the economy: and the achievement of sustained development with social equity.

The goal is to have the exchange rate, interest rates and fiscal policy sending proper medium-term signals to economic agents, in order to promote an efficient development of production. To do so, the inevitable short-term problems must be dealt with an appropriate policy mix. Too much dependence on one policy tends to lead to an overadjustment of its tool, and therefore to a distorted resource allocation.

2. The evolution of exchange-rate policy

Exchange-rate policy has experienced substantial change over time. At the beginning of the military regime, there was an attempt to offset the impact of trade liberalization with real devaluations. Subsequently, beginning in 1976, the nominal exchange-rate began to be used to fight inflation. This was because inflation stubbornly refused to slow down in reaction to the deep economic recession, which also caused a surplus on current account. The real revaluation that usually results from this policy culminated in 1979, when the rate was fixed at CH\$39 per dollar, a nominal parity that was maintained until the crisis of 1982; a significant real appreciation took place during these years. After a period of experimentation with successive policy changes, a crawling-peg exchange rate was again adopted, and was maintained from 1983 to 1988. Basically, the Central Bank fixed a benchmark

¹⁸An excellent comparative analysis of bands in Chile, Israel and Mexico is presented in Helpman, Leiderman and Bufman (1993).

price for the dollar on the official market (called the "agreed" exchange rate), with a floating band of $\pm 2\%$. Since various exchange controls remained in force (except for a few weeks in 1982), there also operated a parallel, illegal exchange market. This was legalized as the "informal" exchange market only in April 1990, under the provisions of the Central Bank Autonomy Act issued by the end of the Pinochet Government. 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 real devaluations were added, helping to achieve the notable depreciation following the 1982 crisis (119% from 1981 to 1988).

In 1988, revaluations together with tax and tariff reductions managed to reconcile a reduction in inflation with a rise in economic activity. The recovery was completed in 1989, with economic activity situated near or on the production frontier. This was achieved through an accelerated increase in aggregate demand, sustained by tax reductions, exchange-rate appreciation and the additional income generated by a sharp increase in the price of copper in 1988-89; the improvement in the terms of trade from 1986 to 1988 was equivalent to 4.7% of GDP (French-Davis and Muñoz, 1990). A considerable increase in imports and in the current-account deficit (which rose to 10% of GDP, if the current account is recalculated using the "normalized" price of the Copper Stabilization Fund, which is discussed below) led the Central Bank to reverse earlier drops in interest rates and, in particular, to an appreciation of the exchange-rate.

In mid-1989, the dollar floating band was widened to $\pm 5\%$. The Central Bank's action was accompanied by a shift in the foreign exchange market expectations, which led the market to move quickly to the ceiling of the band. Thus, without any great trauma, a significant depreciation was achieved without modifying the "official" rate. For about a year—which included the return to a democratic regime, presidential elections (in December 1989) and the inauguration of President Aylwin (in March 1990)—the observed

exchange rate remained at the top of the band. This occurred despite the fact that the adjustment process was tightened in January 1990 to control a jump in inflation (which had reached an annualized rate of about 31% in the five preceding months). The adjustment was based on a sharp rise in interest rates on a Central Bank ten year paper, which was offered at the high real annual rate of 9.7%.

The changes taking place in global markets, the high interest rates in Chile and the fact that the uncertainty stemming from the 1988 plebiscite and from the induction into office of President Aylwin was quickly dispelled, stimulated a growing inflow of capital to Chile (also, imports slowed down as a result of the domestic adjustment). These events were quickly reflected in a real appreciation of the market exchange rate. Beginning in July 1990, the observed exchange rate was on the floor of the band. Even during the Iraq crisis in September 1990, the observed rate stayed on the floor, despite the fact that Chile was then importing 85% of its oil consumption; Chile reacted to this crisis by drastically raising the domestic price of fuel (together with reducing non-social fiscal expenditure), which caused an inflationary shock in September and October. The CPI, whose inertial component implied a rise of about 2% monthly at the time, jumped to 4.9% and 3.8%, respectively, in those months. The speed and close coordination with which the Central Bank and the Government reacted to external events may explain why in the foreign exchange market pressures continued to be toward an appreciation.

The strong inflow of capital continued. In October 1990, the Central Bank had to buy US\$620 million worth of surplus foreign exchange, equivalent to 27% of monthly GDP. Recurrent runs on the dollar and in favour of the peso were reinforced with expectations of a revaluation (and drops in domestic interest rates), which hampered monetary policy.

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 was 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, what actually happened in the third move. Nevertheless, during nearly one-semester, the authorities gained time to design a policy to enable them to act efficiently in a more prolonged transition period. The policy was based on the perception that 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 non-financial services account, a more vigorous non-traditional exports sector and a reduction in the external debt burden—was more structural or permanent. In June 1991, in reaction to this mix of factors (some of which were regarded by the authorities as temporary and others as permanent), in addition to a small (2%) revaluation of the "agreed" dollar and a drop in the import tariff from 15% to 11%, a reserve requirement of 20% was established on external credits—whose effect was concentrated on short-term credits—and a tax on domestic credit, at an annual rate of 1.2% on operations of up to one year, was extended to apply to external loans. Both the reserve requirement and the tax have a zero marginal cost for operations of more than one year. The reserve requirement, in turn, is more burdensome for operations of less than 90 days, since that is the minimum period that the cash reserve must be kept in a non-interest-bearing account (Central

Bank, 1992, pp. 13-19).²⁰ The authorities estimated the financial burden of the two measures, at the time they were taken, as an equalizer of the cost of external (from the US market) and domestic funds.²¹

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 to a reduction in domestic interest rates. It should be noted that the stages of the business cycle in Chile and in its "financial centre" (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; exports continued to surge, including a notable increase in tourism from Argentina; the price of copper remained abnormally high; the coefficients of remittances of profits and interest payments were also low; the recovery of imports was very slow and lagged behind the economic upturn. The net result was a current-account surplus of 0.5% of GDP.

Many observers began to hold the view that a modification of exchange-rate policy with a significant revaluation was inevitable. Consequently, the "official" rate began to lose its allocative capacity. In January 1992, the official dollar was revalued by 5% and the floating band in the formal market was expanded to $\pm 10\%$.

The observed rate abruptly appreciated by 9% in the market, i.e., a little less than the sum of the appreciation of the official rate and the lowering of the floor of the band. There

²⁰ By law, the reserve requirement could not be applied to "buyers' advances" or imports for collection, which are not considered credit operations. Deposits in foreign currency, in June 1991, were still bound by a 4% (demand deposits) and 10% (time deposits) reserve requirement, which applied to all deposits. This rate was raised to the same rate as the reserve requirement for external credits in January 1992.

²¹ For further information on calculation methods, see Banco Central (1992), tables 4 and 5.

followed an overwhelming wave of expectations of more revaluations, 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. Thus, 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 was in January 1992.

For a long time the proposal had been circulating in the 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 towards 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% between January and February 1992 contributed to have the Bank taking the decision to initiate the dirty floating in March of that year. The observed rate has fluctuated since then within a range of 1 to 8 points above the floor, i.e., normally not on the floor itself, with the Bank continuing to make active purchases but also frequent sales.

The widening of the band in itself apparently meant that the Bank had renounced the attempt to deter pressures to reevaluate in defence of the export strategy, allowing the market, dominated by the more short-termist segment, to determine the observed rate within a very wide range. Contrarywise, 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, US 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% over 12 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, cash reserve requirements on external credits were raised to 30%.

Finally, in July of the same year, the dollar-peg of the official rate was replaced by a peg to a basket of currencies (of which the dollar represented 50%, the German mark 30% and the Japanese yen 20%) 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 the international prices between these three currencies. The replacement of the dollar by a basket of currencies pegged to the agreed rate also tended to give greater average stability to the peso values of proceeds from exports. Indeed, unlike financial operations that are largely dollar-denominated, trade is fairly diversified in geographic terms, with the United States representing only one-fifth of the total, and actually it also operates with a more diversified basket of currencies.

Since 1991 an attempt has been made to ease or anticipate capital outflows as a way of alleviating downward pressures on the exchange-rate. For example, the minimum time periods for repatriating capital or remitting profits for investments under chapter XIX (debt-equity swaps) were liberalized, under some options after paying a commission on the original investment or on the capital gain or subsidy received by the swapper. In addition, the private pension fund administrators (AFPs) were authorized to invest up to 3% of their funds abroad. The national banks were also permitted to finance intra-Latin American trade to firms in other countries of the region, and to buy low-risk financial assets abroad. Lastly, as discussed in section 1, investment abroad was liberalized, through both foreign exchange markets.

It is unlikely, in the prevailing foreign exchange market climate, that these measures would have a significant impact on the

real exchange rate, since the rate of return on financial assets has been considerably higher within Chile than outside, and this has acted as a disincentive for banks or pension fund administrators to make large investments abroad.²² There are even signs that foreign investors have been reinvesting a bigger than "normal" share of their profits in Chile instead of repatriating them. On the other hand, direct and portfolio investment in countries of the region has indeed been significant, a fact that is associated with the capital gains that could be obtained in the stock markets and in the purchase of privatized firms.

A distinction should be drawn between short-term and permanent effects of the liberalization of capital outflows. In a situation of "orderly" market conditions and an abundant supply of foreign exchange, as in Chile, and with the prevailing very low interest rates in the "financial centre", measures to ease the outflow of capital (or of profits, dividends or interest) in the short-run may have an effect contrary to the one desired, and may act as an incentive to more inflows instead (Williamson, 1992; Laban and Larraín, 1992). In the long-run it may probably happen that too many doors are left open for outflows, which are used in case the market gets nervous and shifts to devaluatory expectations.

As can be seen in figure 3, the real (observed) exchange-rate depreciated sharply from its low point in April 1982 until the beginning of 1988. After fluctuating without any particular trend until February 1991, it began a decline that continued until April 1992. The appreciation in this last period was 18%.

Figure 3

Since that time, the strong pressures for a real currency appreciation have eased, and there has been a certain amount of depreciation, in part owing to the above-mentioned deterioration

²² There has not been much investment by banks in low-risk foreign assets, because the rate of return in Chile is higher; the same is true so far in the case of the pension funds. On the other hand, trade credits have indeed moved, since the banks were able to take advantage of a high spread. Within a short time, however, situations of insolvency of creditors, involving losses to Chilean banks, caused the Central Bank to suspend new operations.

in the prices of Chile's principal export products, and (as predicted by supporters of avoiding additional revaluation) a strong increase of imports in 1992-93. The trade surplus that had prevailed since the 1982 crisis turned into a deficit of around US\$1 billion and the current-account balance fell from a slight surplus in 1991 to a deficit of about US\$2 billion in 1993 (5% of GDP). Nevertheless, the balance of payments continues to show a surplus (see table 1).

If policies towards foreign capital and regulation of its effects on the economy during the current episode are compared with those adopted in similar circumstances in 1978-81, it may be concluded that macroeconomic policies that have been followed since 1991 have been, on the average, much more pragmatic and have yielded positive results.

As for the impact of capital flows on the exchange rate, the policies that have been followed since the beginning of the new foreign-exchange boom have met their objective of moderating a real appreciation which otherwise would have been more significant. In contrast, a policy was implemented in 1978-81 that involved a substantial exchange-rate appreciation, parallel to the effects of a radical trade liberalization that culminated with the uniform tariff of 10% in 1979. The appreciation turned out to be extremely damaging to the production of tradables. In contrast to that episode, ever since foreign capital again became abundant, an attempt has been made to keep appreciation within reasonable limits, and to promote the predominance of FDI and long-term credits in capital inflows. The differences between the two episodes are even more marked in terms of domestic saving, since this appears to have undergone a crowding-out by external saving in 1978-81, while now there seems to be evidence of a crowding-in (see figures in table 6).

3. Monetary and fiscal policies²³

The Central Bank's intervention in the foreign exchange market was reflected, *inter alia*, in a large accumulation of international reserves from 1989 to 1992 (table 2 and table 6, line 8d)). The counterpart of foreign exchange purchases in the market was an increase in money supply. This frequently meant a greater increase in liquidity than was consistent with official targets for economic activity and inflation.

The monetary authority has managed to successfully sterilize the monetary effects of the above-mentioned capital inflows and the ensuing accumulation of international reserves. The Bank, in order to prevent a monetary expansion, issued domestic debt paper to sterilize the effect of the purchase of foreign exchange. Sterilization through the placement of domestic debt may have two feedback effects. First, the issue of debt paper puts pressure on the domestic interest rate, preventing it from dropping to the international level and creating incentives to a greater inflow of capital. Second, it may entail a deficit to the Central Bank, since it has to borrow domestically at a higher cost than the returns that it can obtain from international reserves. This situation is unsustainable in the long run, because if it persists, it creates expectations of a revaluation and thus increases the expected profitability of arbitrage.

a) Sterilization and macroeconomic balances

The need for sterilization varies according to the prevailing macroeconomic situation. In the period 1976-79, the Chilean economy was in recession, operating well below its production capacity (Marfán, 1992). The first inflows of capital and the resulting expansion of the monetary base contributed to a recovery of aggregate demand, for both tradables and non-tradables, which was met by a supply that was able to react owing to increased financing

²³ Here we will focus only on the aspects that are most closely related with exchange-rate policy and capital movements. Other topics of considerable interest include the implications of different ways of carrying out open market operations, and policy concerning the interest rate yield curve.

for imports and the available production capacity. The economic conjuncture did not require an active sterilization.

As production capacity began to be used, as early as 1979, growing capital inflows tended to create an increase in aggregate demand that was manifested in a rapid expansion of the current-account deficit, a rise in the relative price of non-tradables and a weakness in exportable supply (Ffrench-Davis and Arellano, 1981; Morandé, 1988).²⁴ A passive monetary policy had been adopted deliberately, however, within the monetary approach to the balance of payments. It was assumed that the economy would automatically make an efficient adjustment.

Following the 1982 crisis, the economy again stood well below the production frontier. In addition, during an initial stage, the need to depreciate the national currency caused a sharp drop in incentives for arbitrage between external and domestic funding. Figure 4 shows that the spread for arbitrage between the international and the domestic interest rates, measured *ex-post*²⁵ and without taking into account the country risk, showed negative values, on average, for the four-year period 1983-86.

Figure 4

Capital flows were concentrated on short-term trade credit, involuntary loans from creditor banks and funds from international financial institutions to the Treasury and the Central Bank. The growing, voluminous debt swaps did not have any direct monetary or exchange-rate effects, although they did influence the secondary paper market and the parallel foreign exchange market. Only later did the spread for arbitrage become positive and begin to attract external funds, but still in smaller amounts than debt service (see

²⁴ Nevertheless, capital inflows increased until 1981, attracted by the gradual currency appreciation and a manifest short-term horizon.

²⁵ It is evident that investors' decisions are taken on the basis of expectations of devaluation. However, in view of how difficult it is to measure such expectations, and for purposes of the graph, we have estimated the spread using the actual devaluation observed during that period. The term *ex post* is used in this sense.

figure 5). The Chilean economy continued in a process of recovery until 1988. There was therefore no need for active sterilization.

Only in 1988-89 did the dilemma begin to arise concerning the difficulty, in the absence of active policies, of simultaneously maintaining macroeconomic equilibria, the complementarity between external and domestic saving and a stable real exchange-rate. Active sterilization has clearly become a necessity in the 1990s, with a macroeconomic environment hovering around the production frontier and a surplus foreign exchange market. Unlike 1985, when a mini-adjustment was made because of excess demand as against an external constraint, in 1990 and 1992 two mini-adjustments were made because of a primarily domestic constraint (a tendency to exceed the production frontier on both occasions).

b) Interest rates and the quasi-fiscal deficit

Sterilization can help to stabilize the real exchange rate and short-term macroeconomic balances. However, it has other effects as well: on domestic interest rates, aggregate supply and demand, and the reserve position of the Central Bank.

Net sales of paper have kept interest rates higher than they would have been otherwise. That is, if domestic absorption had increased in response to exchange-rate revaluations and more intensive spending on tradables, lower domestic interest rates, tending to converge with the corresponding external rates, would have resulted. Investment is still low, especially in comparison to the levels reached by the most dynamic developing economies; lower real domestic interest rates would give it a boost (although this result may be more than offset by the discouraging effect of the corresponding exchange-rate appreciation on the demand for tradables).

If the supply and cost of external credits were to stay as favorable as in 1990-93 indefinitely, the appropriate policy would be to allow domestic interest rates to fall to the external level, and to revalue the exchange-rate. The pending policy issue would solely concern the relative gradualness of these measures. However, the authorities have operated on the assumption that significant

components of the current abundance of external funds are only temporary. Therefore, in the current macroeconomic circumstances, it would be advisable to implement policies that maintain a positive gap between domestic and external rates.

The immediate financial cost of monetary sterilization has been high: the interest rates which the Central Bank must pay on its notes are much higher than those it obtains on its loans in foreign currency. It is estimated that in 1992, the Central Bank's losses on this score amounted to approximately 0.5% of GDP.²⁶

These costs are not necessarily permanent. If the intervention stabilizes an "equilibrium" exchange rate, it should be profitable for the Central Bank in that the Bank would sell higher than it buys; nonetheless, losses would be incurred because of the differential in interest rates, which would always tend to be higher than in the creditor financial centre. The longer the surplus phase in a clean-float regime, the greater the financial cost incurred because of this differential; dirty floating tends to lower this cost. The net financial effect of sterilization on the Central Bank's balance sheet could be either positive or negative.

When the final inevitable result is a significant revaluation, this cost is added to that of the interest differentials. However, it must be borne in mind that it seems essential for Chile to maintain some level of international reserves. It is clear, too, that Chile's reserves were in need of replenishment at the end of the last decade; indeed, in early 1990 the Central Bank had US\$3 billion in international reserves and US\$5 billion in short-term foreign-currency liabilities "with residents". The costs of accumulating reserves and of the monetary sterilization this may require do not, then, appear to be exclusively attributable to

²⁶ The Central Bank estimates that in 1992, it lost 130 billion Chilean pesos on account of differences in rates of return between its assets and its liabilities (Banco Central de Chile, 1992, p. 51). This is equivalent to US\$ 359 million, or approximately 1% of GDP. About half of these losses are attributable to differences in rates of return between foreign-currency reserves and the notes which the Bank had to issue to sterilize the monetary effects of accumulating them.

stabilizing foreign exchange and monetary policies. Additionally, if a drastic revaluation is unavoidable over time, a phasing-in of the change in relative prices may be efficient, what can be achieved with a flexible stabilization policy-cum a mix of stepwise revaluations. Therefore, the financial cost of sterilization could represent an investment in the country's transition to more efficient resource allocation and greater stability.

c) The domestic capital market and fiscal policy

These arguments do not tackle the assertion that a tighter fiscal expenditure policy could obviate the need for revaluation. This approach seems to overestimate the effect on the foreign exchange market of saving by cutting fiscal expenditure,²⁷ and to underestimate the importance of government spending on social services and on infrastructure and institutions for developing modern production. Chile still shows a severe deficit in this regard.

Fiscal policy has supported efforts towards macroeconomic and exchange-rate stabilization in two ways. On the one hand, it has generated growing savings in the non-financial public sector. Increased spending has been more than offset by a rise in revenues as a result of a tax reform adopted in 1990 (at the beginning of the democratic Government's administration), higher collection levels and faster-than-expected economic growth (an effective average of 6.3% versus the 5% projected at the beginning of the current administration).

Fiscal policy has given priority to the objectives of maintaining domestic stability and, at the same time, increasing social spending, especially on health and education. Since the inflow of capital began, the Treasury has maintained a significant and growing savings rate and surplus. The fiscal surplus (excluding the Central Bank's quasi-fiscal deficit) has ranged from 0.8% of GDP in 1989 to 2.5% in 1992. The robust increase in aggregate

²⁷ See, for example, Arrau and Quiroz (1992) for a study that supports this thesis of overestimation.

demand has also led to a cautious fiscal expenditure policy. In recent years, instead of increasing disbursements in proportion to the growth of government revenues, the administration has used part of its surplus to pre-pay its large debt with the Central Bank (which originated in the bail-out of the private banking sector after the crisis of 1982).

A central factor in the Chilean monetary situation, in addition to the disciplined management of public finances, was the establishment of a fund to stabilize the price of the country's main export, whose production is primarily in the hands of the State (Romaguera, 1991).

The Copper Stabilization Fund accrues whenever the price of copper exceeds the "base" level. The Fund is deposited in the Central Bank. In 1988 and 1989, nearly all of these resources were used as pre-payments of the Treasury's debt with the Central Bank (see table 7). The policy of using resources from the Fund to pre-pay fiscal debt has continued in part, so that the accrued amount is less than total deposits. This implies that during upswings in copper prices, the Fund has helped to moderate the expansive cycle; having transferred funds to the Bank, the Treasury will be unable to operate symmetrically, and with similar intensity, in the event of a contractive cycle.

Period	Deposits	Withdrawals	Balance
1987	26.4	--	26.4
1988	496.0	439.5	82.9
1989	1202.9	1260.1	25.7
1990	785.1	256.2	554.6
1991	289.7	200.0	644.3
1992	134.6	--	778.9
1993	9.8	39.0	749.7

Source: Romaguera (1991) and Central Bank.

The Central Bank has been able to resort to the financial market to regulate the flood of liquidity that emerged in response to the flow of capital, partly because of a reform of the pension system and the fiscal effort that made it viable.²⁸

One of the basic features of Chile's social security reform is individual capitalization, through which growing volumes of financial resources have been accumulated (Iglesias and Acuña, 1991). This has led to a substantial increase in the participation of these institutional investors in the market for financial instruments in which they are authorized to operate. The pension-funds are majority participants in the market for certain instruments, such as mortgage bills, corporate bonds and Treasury securities. They also purchase a significant proportion of Central Bank notes (Iglesias and Acuña, 1991).

By virtue of fiscal discipline and a relatively well-developed financial market, the Central Bank has been able to regulate the money supply by intervening in the foreign exchange and money markets. Discipline in public-sector finances and deposits by the Government and pension funds in the Central Bank's financial instruments have helped to regulate the money supply.

Figure 5

This effect can be seen in figure 5, which shows variations in the monetary base and disaggregates them into Central Bank foreign exchange operations and domestic credit. Note that the changes in domestic credit are closely (and negatively) correlated ($r^2 = 0.99$) with foreign exchange operations. This suggests that domestic credit was used extensively to counteract the buying and selling of foreign exchange after the crisis of 1982. The differences between the two components are related to changes in the demand for money, which in Chile is highly sensitive to variations in the cost of

²⁸ The public sector is still responsible for paying old pensions, while the bulk of the flow of revenues was transferred from the public sector to private administrators. The net fiscal burden equals about 3% of GDP.

maintaining liquidity (the nominal interest rate) and to the stage of the cycle in which the economy is situated.

III. EFFECTS ON INVESTMENT

Domestic investment was markedly depressed in the first half of the 1980s, and did not begin to recover significantly until the end of that decade. The recovery of investment has affected all components. Taking 1981 as a base year, by 1993 gross fixed investment per capita had increased by 41%, and imports of capital goods, by about 60% (up to 1992). A good part of these very significant improvement took place in the last two years. Up to 1989, the increases in the investment ratio in Chile can be considered to have been purely a recovery from the very low levels reached in 1983 and 1984. Only in 1993 did the ratio of fixed investment to GDP surpass the peaks reached in the late 1960s. In view of the strong upsurge during the second half of the 1980s in investment in the export sectors, particularly those related to foreign investment, the weak performance of overall investment seems to indicate that, with the exception of exports related to raw materials, investment in most of the other tradable sectors (especially manufacturing) experienced setbacks throughout the 1980s.

1. The general impact of capital flows

It is difficult to assess the extent to which capital flows have contributed to boost investment. Four main effects can be distinguished: 1) the direct and positive effect of FDI; 2) a possible impact through the relaxation of the balance-of-payments restriction, which led to a normalization of effective demand and increased the country's capacity to import capital goods; 3) if investment was constrained by a lack of access to credit (in other words, if the interest rate did not, in itself, clear the credit market), the increased liquidity produced by capital inflows and the ensuing accumulation of reserves may have promoted investment; 4) the appreciation of the exchange rate as one of the effects of

capital inflows may have provided an incentive for investment by lowering the replacement costs of capital goods, most of which are imported.

Moreover, the effects of capital flows on the distribution of investment between tradables and non-tradables may have been significant. When the appreciation of the peso exceeds increases in productivity, it tends to have net adverse effects on investment in tradables (particularly exportables, which have fuelled Chile's recovery of economic growth since the mid-1980s) by adversely affecting their profitability. Exchange-rate appreciation also has an expansive effect on economic activity in the short term (by raising real income). Consequently, the acceleration effect should increase investment in the short term and decrease it in the medium term.

Table 8
INVESTMENT INDICATORS, 1981-93

	Gross fixed investment/ GDP ^a (%)		Net transfers from abroad ^b (% of GDP)	Real p/c gross fixed investment (1981 = 100)	Imports of capital goods (millions of 1981 US\$)
	Old national accounts ^a	New national accounts ^b			
1981	19.5	--	12.9	100.0	1249.7
1982	15.0	--	0.1	65.1	599.3
1983	12.9	--	-4.4	54.4	366.3
1984	13.2	--	-2.1	58.5	617.7
1985	14.8	17.7	-7.1	65.6	664.4
1986	15.0	17.1	-7.4	69.2	693.0
1987	16.4	19.6	-6.0	79.0	942.0
1988	17.0	20.8	-4.7	86.1	1097.9
1989	18.6	23.9	-2.9	102.6	1581.1
1990	19.5	24.6	-4.9	107.7	1686.3
1991	18.2	22.3	-6.3	105.1	1475.8
1992 ^c	19.8	25.1	-4.0	124.6	1969.6
1993 ^c	--	27.2	--	141.2	--

Source: Prepared for this document on the basis of data from the Central Bank of Chile.

^a In 1977 pesos.

^a In 1986 pesos. The figures for 1985 onwards reflect the recent revision in the national accounts.

^b Imports of goods and services minus exports of goods and services (excluding factor services).

^c Preliminary figures

A study by Solimano (1990) on the determinants of investment sheds light on some of these effects. Solimano presents a model of three simultaneous equations for investment, Tobin's q (approximated by the real share price index) and real income. The results obtained using this model show that investment is affected by the level of credit to the private sector, but that the effect is not very significant in quantitative terms. However, the exchange rate's impact on investment is complex. In the short term,

over-valuation of the exchange rate can encourage investment by reducing the cost of replenishing capital goods, thereby giving rise to an expansion of investment that is, however, concentrated in the "wrong" (i.e., non-tradable) sectors. In the longer term, the impact of real depreciation can become positive, since it raises the value of installed capital in the tradable sector, and this effect eventually outweighs that of increased replacement costs in so far as the tradable sector of the economy takes on greater relative importance and investment becomes less dependent on imported capital goods.

It is unlikely that the impact of recent capital flows on investment has had themselves the effect of relaxing potential restrictions on the availability of foreign exchange or credit to the private sector. As argued earlier, the abundance of foreign exchange in the Chilean economy is attributable to a variety of factors, the most important of which has been the previous positive change in the current account (see table 2). With respect to the private sector's access to credit, external conditions undoubtedly have become more favorable in recent years, since Chilean debtors, particularly banks and some large firms, have been able to return to international credit markets. If there was a credit squeeze that operated through channels other than the interest rate, the resumption of voluntary loans to Chilean banks and firms may have helped to ease it. All firms, including those that did not have access to the international capital market, have benefited from an effective demand which, for the first time in two decades, has been located close to the production frontier for five years.

The most important impact of flows apparently has been via FDI. As noted above, a significant share of these investments has gone towards increasing the capacity to produce exportables. On the other hand, without the capital inflows that have taken place, Chile's exchange rate would have appreciated considerably less than it actually has. This, in turn, might have promoted domestic investment in tradables, particularly marginal projects related to exports of manufactures, the most dynamic of Chile's export

sectors, which depend heavily on the maintenance of a favorable exchange-rate.

2. Impact on investment in exportables

It is particularly interesting to study the indirect effect of capital inflows on investment in exportables, especially manufactures, via its influence on the exchange rate. Unfortunately, information disaggregated by sector of economic activity is lacking, as are data on investment in producing exportables. Chile's economic development over the past two decades has been closely linked to the expansion and diversification of exports. Exports of raw materials other than copper and of semi-manufactured products associated with them have performed most dynamically. Exports of manufactures as such have also grown fast, but from very low initial levels. The exchange-rate is the basic variable that explains the behaviour of the supply of exportables (Moguillansky and Titelman, 1993). The only sub-period in which the volume of manufactures exports contracted (while exports of non-mining resource-based products grew much more slowly) was 1979-83. Interestingly, as already noted, in 1979-82 there took place a massive exchange-rate appreciation, associated with the previous episode of heavy inflows of private capital.

With a lag of about 18 months, the exchange rate appreciation of 1991-92 began exerting an adverse effect on the rate of growth of manufacturing exports. While these grew in real terms at an average of more than 21% between 1986 and 1992, during 1993 the rate of growth had gone down to 2.4%, which indicates that exchange-rate appreciation is affecting investment in exportables (Department of Economics, Universidad de Chile, 1993). These figures are evidence of the serious problems of economic management which are faced by a small and open economy as the Chilean's (and as most developing economies), even when they confront "positive" external shocks. This is why the authorities have given such high priority to moderating exchange-rate appreciation.

In a small, open economy like Chile's, appreciation affects not only the allocation of resources between tradable and non-tradable

sectors, but also the long-term growth rate.²⁹ The growth of the non-tradable sector (like that of import-substituting sectors) is bounded by narrow limits determined by the size of the domestic market. The expansion of exports generally is not subject to these limitations, especially when it is accompanied by a process of diversifying products and of the markets to which they are exported. Moreover, producers are more likely to reap economies of scale and the benefits of learning by exporting than by producing solely for the domestic market.

3. The exchange rate and imports of capital goods

The exchange rate can also affect investment through its impact on the cost of capital goods, most of which are imported in a small economy like Chile's. This effect and that associated with investment in exportables may be of opposite signs: the higher the real exchange rate, the higher the replacement costs of capital goods, which, in turn, could discourage investment. Even if an exchange-rate depreciation adversely affects investment through the effect on the price of capital goods, it may still increase total investment by leading to a higher growth rate (income effect of depreciation). What must be determined is the relative importance of both effects.

A recent study (Assael and Rojas, 1993) examines disaggregated import demand functions. In calculating the co-integration equation for imports of capital goods, the authors find that they show a negative elasticity of 0.24 in relation to the real exchange rate, and a positive elasticity of 1.15 in relation to gross fixed capital formation (which is the scale variable used by the authors). Since a co-integration ratio is obtained, an error-correction model is estimated. In this model, the elasticity with respect to the exchange-rate is negative, at 0.32 in the short

²⁹ We are referring here to appreciation that is not sustained by factors that affect the level of exchange-rate equilibrium in the long term. It is normal for the exchange rate to appreciate as an economy develops, because of the systematic improvement in the productivity of factors relative to the rest of the world.

term. Thus, both calculations show an effect that has the expected sign, but is of a relatively low magnitude.

As noted previously, the effects of a real depreciation of the exchange rate on exports are significant and positive, though they vary by sector (Moguillansky and Titelman, 1993). This, in turn, has a positive effect on economic growth, which should be reflected in an increase in total investment, and ultimately in larger imports of capital goods. Consequently, a real depreciation of the exchange-rate, by positively affecting exports and import-substituting sectors, is likely to have a net positive effect on investment through its effects on aggregate demand, despite the fact that it raises the price of capital goods.

IV. CONCLUDING REMARKS

Chile's experience shows that achieving the simultaneous goals of bringing in capital, maintaining some control over exchange-rate and monetary policies and increasing national savings usually calls for a high degree of sterilized intervention and regulation of inflows of short-term capital. The success of this strategy is rooted in macro-financial factors that are within the competence of the Central Bank and the Ministry of Finance.

The Chilean experience highlights the importance of taking a pragmatic approach to the regulation of capital movements. In general, regulations have been modified with a view to maintaining incentives that attract capital to the country while minimizing the temporary undesirable side effects which these inflows may cause.

One manifestation of this pragmatism is a gradual approach that reflects an intention on the part of the economic authorities to identify whether the inflow of external financing constitutes a temporary or permanent external shock. This allows them to minimize the costs and maximize the benefits of receiving such resources. The combination of policy tools used for these purposes has involved regulating speculative short-term movements through reserve requirements, quotas and fees; intervening in the foreign exchange market through dirty floating, with an enlarged band,

around a reference value pegged to a currency basket; and sterilizing the monetary effect of the larger supply of foreign exchange.

It is unlikely that the current abundance of external funds is exclusively attributable to domestic economic policy. This situation is common to countries with different policies. Important external factors are effectively diverting international capital towards Latin America (Calvo et al., 1993), and Chile is a major recipient of that capital. The recovery of international economic activity and interest rates may cause significant reversals of capital flows, regardless of Chile's domestic policies.

Most of the foreign capital that has flowed into Chile in recent years has consisted of FDI. The first important factor has been the "replenishment" of FDI stocks, whose levels were unusually low in the mid-1980s. But additional flows are related to the favorable conditions which the Chilean economy offered, and still offers, for foreign investment, particularly in exportables in which Chile has natural comparative advantages.

Another important component of capital flows in recent years is so-called speculative or hot money. Since this concept is hard to define, alternative definitions were discussed in this study. The definition chosen is closely related to movements of short-term private capital. Under "normal" circumstances, these flows are strongly influenced by the differential between domestic and international interest rates, corrected by expectations of devaluation.

Basically, two structural changes explain the changes observed in flows of short-term capital since 1987. The first is the debt problem, which was at its worst between 1982 and mid-1987. In the latter date, copper prices rose sharply and Chile was able to reach an agreement with its foreign bank creditors to reschedule its external debt. In addition, the pressure of external debt was being lessened by the debt-equity swap programme. The second structural change concerns the exchange-rate measures adopted to discourage international arbitrage of interest rates, in particular

the introduction of reserve requirements for short-term external credits and the increased uncertainty about the price of the dollar owing to the widening of its flotation band, along with the initiation of a dirty-float regime, and to the use of a currency basket to determine the midpoint of the band. These policies, adopted in 1991, have markedly reduced short-term capital flows, which had been stimulated by the maintenance of domestic interest rates that were much higher than international ones.

Thus, far from exemplifying liberalization with perfect mobility of capital, a fixed exchange-rate and lack of control over aggregate demand, Chile's case has involved a flexible pragmatic intervention to regulate the inflow of capital and to act in money and foreign exchange markets as a means of managing domestic liquidity and regulating aggregate expenditure.

The Central Bank and the Ministry of Finance have acted in concert to implement this strategy. Their role has consisted of using the domestic capital market—deepened as a result of the pension system reform—as an area in which to sterilize the monetary effects of the accumulation of reserves so as to avert an unwanted appreciation of the real exchange rate. This approach, in turn, has required savings on the part of the public sector and, ultimately, a disciplined fiscal policy in which positive shocks to the prices of State-owned copper exports are duly saved for use during periods of negative shocks.

The differences between the first period of large capital inflows (1978-81) and the period 1987-92 have been studied. The main difference is that, during the first period, monetary policy was essentially passive and allowed the flows to be monetized; whereas, in the second, the monetary authorities have effectively sterilized a good proportion of the capital inflow. This has caused interest rates to rise higher than they would have in the absence of sterilization, and has required the use of the above-mentioned exchange-rate measures and cost restrictions to forestall an even larger flow of speculative capital. In compensation, this

contributes to a more sustainable macroeconomic balance and to sounder productive development linked to the dynamism of exports.

FDI has increased a great deal in relation to the Chilean GDP, whereas total investment has shown more modest growth. This may reflect two complementary phenomena: 1) despite the increase in the investment coefficient of the economy as a whole, in tradable sectors not associated with natural resources, which have not received FDI, it remains weak; and 2) a significant but difficult-to-quantify proportion of FDI has been used to finance the purchase of existing assets.

Even though there are no systematic figures on the sectoral distribution of investment between tradables and non-tradables, available analyses show that the exchange-rate is a crucial variable for maintaining the dynamism of exports, particularly with respect to non traditional products. Chile's economic growth is increasingly rooted in the steady expansion of the supply of exportables, which has risen considerably as a share of GDP. As a result of this structural change, exchange-rate depreciation has an increasingly positive effect on investment. This is partly due to the fact that the capital stock in exportables has grown, so that exchange-rate depreciation raises the value of the economy's installed capital (an effect discussed by Solimano, 1990). Moreover, the larger the exportable sector, the greater the positive impact of a real depreciation on investment. As the export sector grows, the increases in investment caused by the effect of depreciation on relative prices of tradable goods become greater than the decreases in investment in non-tradable sectors. In turn, the multiplier effect of export growth on the economy as a whole could be exerting a positive income effect, even on non-tradable and import-substituting sectors.

These considerations explain the authorities' effort to contain the real appreciation of the peso in response to foreign private capital inflows in recent years. For Chilean development it is especially important to avoid additional real exchange-rate appreciations in the near future.

One of the reasons why so much emphasis has been placed on stabilizing the exchange-rate is that the authorities have few alternative tools. The trade liberalization undertaken by Chile nearly 20 years ago, and the country's uncritical adherence to neutral incentive policies, made it difficult to design fiscal or financial measures to support the process of diversifying and expanding Chile's supply of exportables. The fact that the exchange rate has fluctuated despite the efforts of the monetary authorities implies that more pragmatic policies could make an important contribution to the development of the Chilean economy.

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Cuadro 1

CHILE: CUENTA DE CAPITALS, 1980-93

(montos en millones de dólares)

	1980-82	1983-85	1986	1987	1988	1989	1990	1991	1992	1993
CUENTA DE CAPITALS	3026	1278	741	945	1009	1264	3049	829	2883	2763
1. INVERSION EXTRANJERA	421	113	380	1068	1305	1677	1690	761	703	1768
a. Inversión del exterior	448	118	383	1075	1321	1687	1698	883	1082	2289
Inversión extranjera directa efectiva a/	332	92	60	104	124	182	235	562	730	891
Créditos asociados al DL 600 (netos) b/	115	-1	67	185	388	311	749	336	51	615
Desembolsos	134	53	108	226	524	437	888	458	328	847
Conversión de deuda/capital	0	27	255	786	809	1107	355	-40	-32	-50
Inversión de cartera	0	0	0	0	0	87	359	25	332	833
Fondos de inversión c/	0	0	0	0	0	87	254	56	50	40
American Depository Receipts (ADR)	0	0	0	0	0	0	105	-31	282	793
b. Inversión al exterior	-27	-5	-3	-7	-16	-10	-8	-122	-378	-521
2. OTROS CAPITALS	2605	1164	361	-123	-296	-413	1358	68	2179	996
a. Capitales de mediano y largo plazo	2080	1438	-41	-968	-986	-1616	-57	-419	239	-96
Desembolsos de mediano y largo plazo	3613	1623	1144	829	998	1009	1328	1152	1376	1438
Por créditos	3572	1623	1144	829	998	1009	1328	952	1256	1114
Créditos a través del Art. 15	65	23	16	27	42	232	395	210	104	187
Créditos de proveedoras	237	124	159	197	124	134	86	85	77	129
Créditos oficiales	80	445	510	535	765	558	652	508	656	290
Bancos	3176	1021	459	69	68	67	164	87	386	448
Empresas y Particulares	15	10	0	0	0	18	32	61	32	60
Por bonos	41	0	0	0	0	0	0	200	120	324
Amortizaciones de créditos externos	-1487	-638	-1192	-1804	-2381	-2636	-1432	-1546	-1174	-1506
Amortizaciones efectivas d/	-1487	-552	-432	-269	-513	-690	-604	-863	-838	-1230
Conversiones de deuda externa	0	-85	-760	-1535	-1868	-1946	-828	-684	-336	-276
Otros capitales de mediano y largo plazo (netos)	-46	452	7	8	397	11	48	-24	38	-28
b. Capitales de corto plazo	525	-273	402	845	690	1203	1415	487	1940	1091
Líneas de corto plazo	729	-165	242	141	371	819	549	-998	1879	154
Sector público no financiero	249	-26	22	5	44	161	-101	-600	61	-12
Sector privado y bancario	480	-139	220	136	328	658	650	-398	1818	165
Corto plazo comercial directo	58	-19	-47	-99	-3	105	251	400	-217	207
Activos de corto plazo	-346	248	563	577	546	273	610	1094	280	732
Contrapartida conversión deuda externa f/	0	44	478	750	991	606	473	665	263	135
Otros	-346	204	85	-172	-445	-332	137	429	17	597
Otros capitales de corto plazo (netos)	85	-338	-357	225	-225	5	5	-9	-1	-1

Fuente: Cepal en base a información del Banco Central de Chile.

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- a/ Corresponde a los ingresos netos mediante el Decreto Ley No. 600 y el Capítulo XIV del CNCI.
- b/ A pesar de no ser estrictamente capital de riesgo es un crédito asociado directamente al proceso de inversión.
- c/ Corresponde a los fondos constituidos mediante la Ley No. 18657.
- d/ Descontadas las amortizaciones de los créditos asociados al DL 600.
- e/ Incluye el refinanciamiento de amortizaciones, retiming de intereses, amortizaciones diferidas al Club de Paris, y otros activos y pasivos de mediano y largo plazo. En 1983, corresponde al refinanciamiento de amortizaciones efectuado en el marco del acuerdo de reestructuración de la deuda de ese año. En 1988, corresponde al retiming de intereses en el marco de la reestructuración de la deuda de ese año.
- f/ Refleja la disminución de activos del sector privado para financiar conversiones de deuda hechas con recursos del mercado informal, y que no tienen contrapartida en otros componentes de la balanza de pagos.

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Cuadro 2

RESUMEN DE LA BALANZA DE PAGOS DE CHILE, 1979-93
 (montos en millones de dólares)

	Balanza comercial	Cuenta corriente	Cuenta de capitales a/	Errores y omisiones	Acumulación de reservas	Ingresos netos de capital a PIB	
						En dólares nominales	En dólares de 1977 ^{b/}
1979	-355	-1189	2247	-11	1047	10.8	11.2
1980	-764	-1971	3165	50	1244	11.5	13.0
1981	-2677	-4733	4698	102	67	14.2	17.9
1982	62	-2304	1215	-76	-1165	4.8	5.5
1983	986	-1117	508	68	-541	2.6	2.3
1984	363	-2111	1940	188	17	10.1	8.5
1985	884	-1413	1384	-70	-99	8.6	5.9
1986	1092	-1191	741	223	-227	4.4	2.8
1987	1229	-808	945	-91	45	4.9	3.0
1988	2219	-167	1009	-110	732	4.6	2.8
1989	1578	-705	1264	-122	437	5.0	3.2
1990	1273	-648	3049	-32	2368	11.0	7.6
1991	1576	15	829	394	1238	3.0	1.7
1992	749	-743	2883	359	2498	7.6	5.4
1993	-979	-2092	2763	-94	578		

Fuente: Banco Central de Chile.

- a/ Ingresos netos de capital. Errores y omisiones menos la variación de reservas (según balanza de pagos) es igual al financiamiento neto de la cuenta corriente.
- b/ El PIB (en pesos de 1977) fue convertido a dólares con el tipo de cambio promedio para 1977. Los ingresos de capital fueron deflactados por el índice de precios externos para Chile.

Table 4
ASSETS OF FOREIGN CAPITAL INVESTMENT FUNDS
(in billions of pesos, December 1993)

	Stock	Government securities	Other ^a	Total assets
Funds under Act No. 18,657 ^b	649.2	6.6	13.8	669.6
Investment funds under annex 2 of Chapter XIX ^c	40.1	25.0	37.7	102.8
Total				

Source: Superintendency of Securities and Insurance and Central Bank of Chile.
^a Includes time deposits, mortgages, bonds, bills of exchange and other assets. ^b Includes 17 investment funds. ^c Includes three investment funds.

Table 5
EXTERNAL LIABILITIES
(Billions of dollars)

	1980	1986	1990	1993
I. Traditional debt	11.1	19.5	17.4	19.2
Long-term	9.4	17.8	14.0	15.3
Public	4.7	14.4	9.8	8.6
Private	4.7	3.4	4.2	6.8
Short-term	1.7	1.7	3.4	3.9
Public	0.3	1.4	2.0	0.5
Private	1.3	0.3	1.4	3.3
II. International reserves				
1. Central Bank ^a	4.0	1.8	5.4	9.9
2. Financial system assets	0.6	0.5	0.5	0.4
3. Investment abroad (Chapter XII)	0.0	0.1	0.2	0.9
III. Foreign investment				
1. Foreign direct investment (FDI) ^b	0.5	1.6	2.3	4.4
2. Investment with external debt notes ^c	-	0.3	3.5	3.4
3. American Depositary Receipts (ADR)	-	-	0.1	1.0
4. Investment funds ^d	-	-	0.3	1.5
IV. Undistributed profits

Source: Central Bank of Chile.

^a Gross international reserves, net of use of IMF credits.

^b Estimated nominal value of risk capital under decree-law 600; excludes directly capitalized debt under Chapter XIX of CNCI and undistributed profits.

^c Redenominated value (net capital withdrawals) of Chapter XIX investment and direct capitalizations.

^d Stock at market prices.

Cuadro 6

PRODUCCION, CONSUMO, INVERSION Y SHOCKS EXTERNOS PER CAPITA:
CHILE, 1980-92 ^{a/}
(Porcentajes de PIB per cápita de 1981)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1983-89	1990-92
1. PIB	96.3	100.0	84.5	82.5	86.2	86.8	90.2	93.8	99.0	107.1	107.7	112.3	122.1	92.2	114.0
2. Gasto Interno	102.7	112.9	84.6	78.8	84.4	80.6	83.5	88.1	94.3	103.9	102.4	105.2	117.1	87.7	108.2
3. Consumo	79.7	85.3	74.9	71.4	71.1	69.2	70.7	72.1	77.3	81.7	81.0	83.9	90.4	73.4	85.1
4. Formación Bruta de Capital Fijo	17.0	19.5	12.7	10.6	11.4	12.8	13.5	15.4	16.8	20.0	21.0	20.5	24.2	14.4	21.9
5. Ahorro Interno ^{b/}	16.5	14.7	9.6	11.0	15.1	17.6	19.5	21.7	21.7	25.4	26.6	28.4	31.7	18.9	28.9
6. Cuenta Corriente no Financiera ^{c/}	-6.4	-12.9	-0.1	3.6	1.8	6.2	6.7	5.7	4.7	3.2	5.3	7.1	5.0	4.6	5.8
a) Exportaciones	20.2	20.4	20.1	18.5	19.7	23.0	24.8	26.6	27.7	31.5	33.3	37.1	41.0	24.5	37.1
b) Importaciones	-29.3	-33.4	-21.2	-17.1	-19.1	-16.8	-18.1	-20.9	-23.0	-28.3	-28.0	-30.0	-35.9	-20.5	-31.3
7. Efectos Términos del Intercambio	2.0	0.0	-2.1	-1.1	-2.7	-3.3	-2.9	-1.6	1.5	0.9	-1.6	-1.0	-0.8	-1.3	-1.1
8. Transferencias Netas de Fondos	4.5	-12.9	1.9	-2.3	0.8	-2.2	-2.5	-3.3	-6.2	-4.1	-3.7	-6.1	-4.1	-2.8	-4.7
a) Movimientos de Capital	12.8	18.2	3.9	1.9	8.2	4.6	3.7	2.9	2.8	3.5	8.7	3.1	9.1	3.9	7.0
b) Pago Neto de Utilidades e Intereses	-3.4	-5.1	-6.7	-6.5	-7.3	-7.2	-7.2	-6.0	-6.4	-6.1	-5.0	-5.3	-5.4	-6.7	-5.2
c) Subtotal	9.4	13.1	-2.8	-4.6	0.9	-2.6	-3.5	-3.1	-3.6	-2.6	3.7	-2.2	3.7	-2.7	1.7
d) Variación Reservas Internacionales	4.9	0.3	-4.7	-2.2	0.1	-0.4	-1.0	0.2	2.6	1.5	7.4	4.0	7.9	0.1	6.4

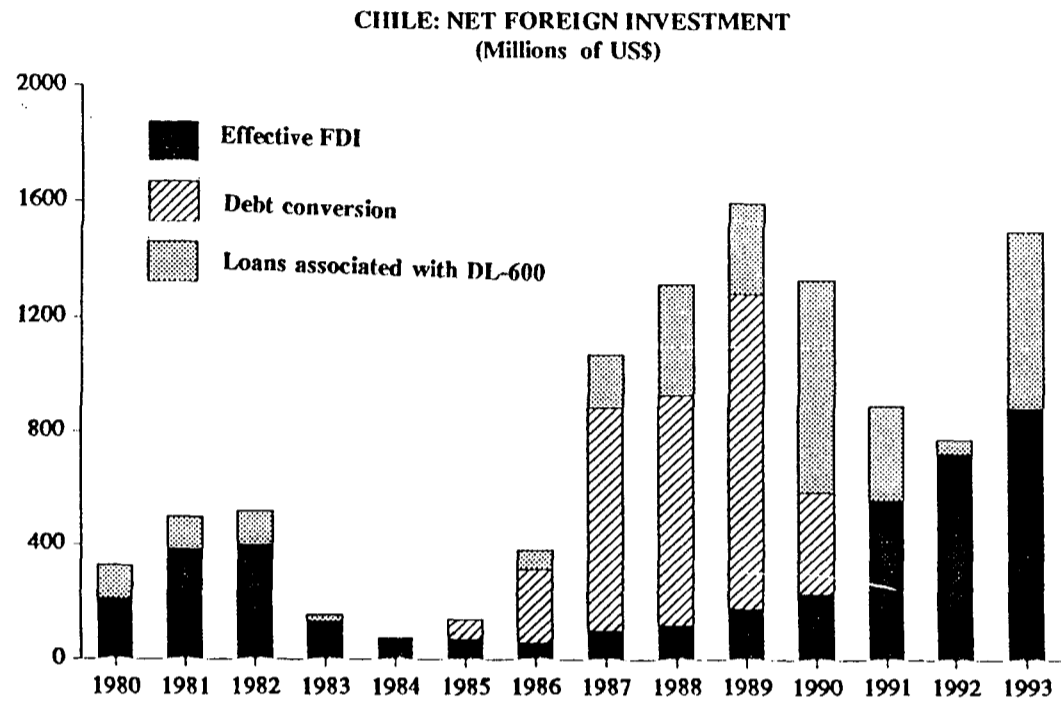
Fuente: Banco Central de Chile, Boletín Mensual; CEPAL, Balanza de Pagos.

^{a/} En este cuadro todas las cifras han sido ajustadas por el crecimiento de la población y se expresan como porcentajes del PIB de 1981. De esta manera, la comparación de cualquier cifra en una línea dada con su valor en 1981, indica el cambio porcentual per cápita en el período respectivo.

^{b/} Calculado como la diferencia entre el PIB y consumo

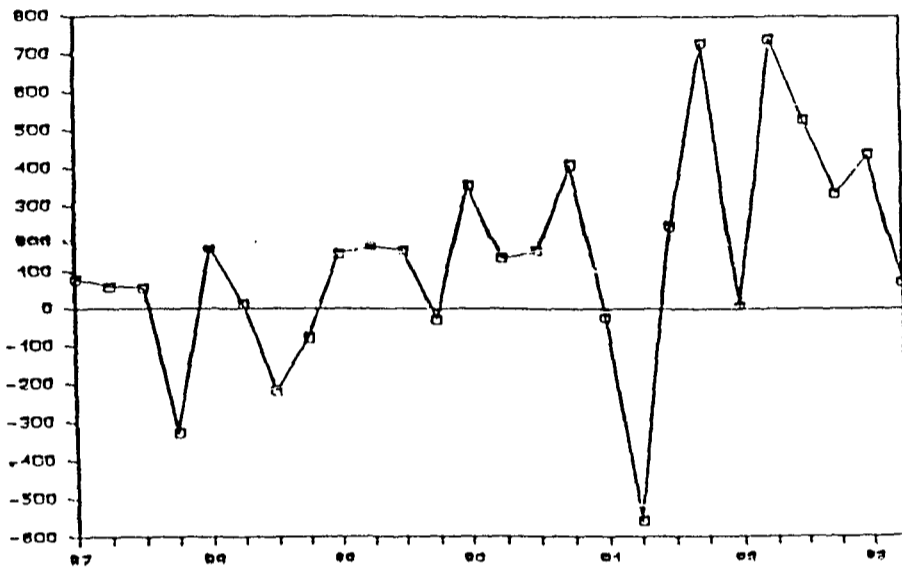
^{c/} Las transferencias unilaterales netas están incluidas en movimientos de capital (8.a.).

Figure 1



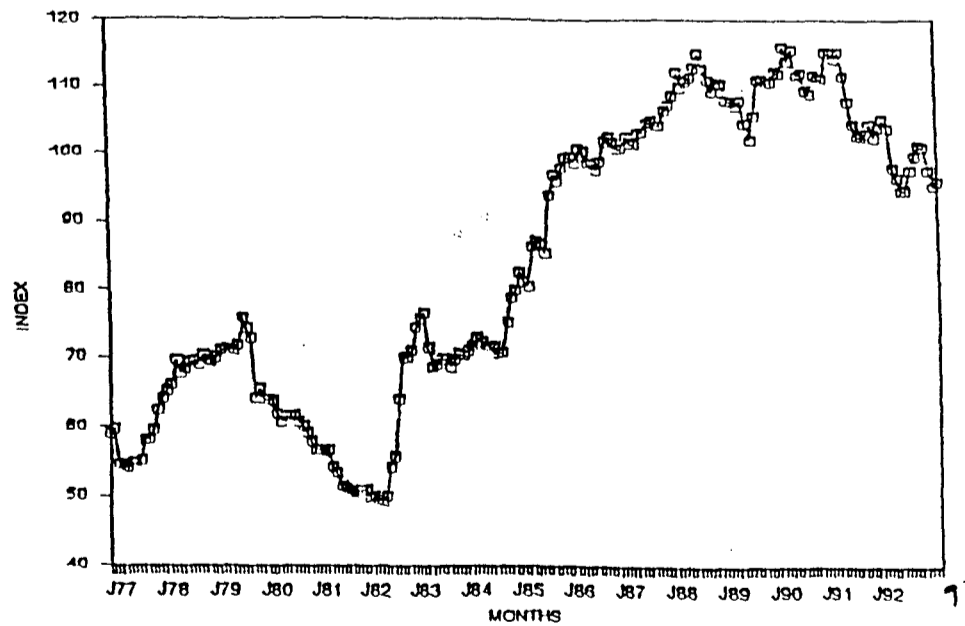
Source: Central Bank of Chile and Table 1.

Figure 2
INFLOW OF SHORT-TERM CAPITAL
 (Millions of *us.* \$, quarterly data)



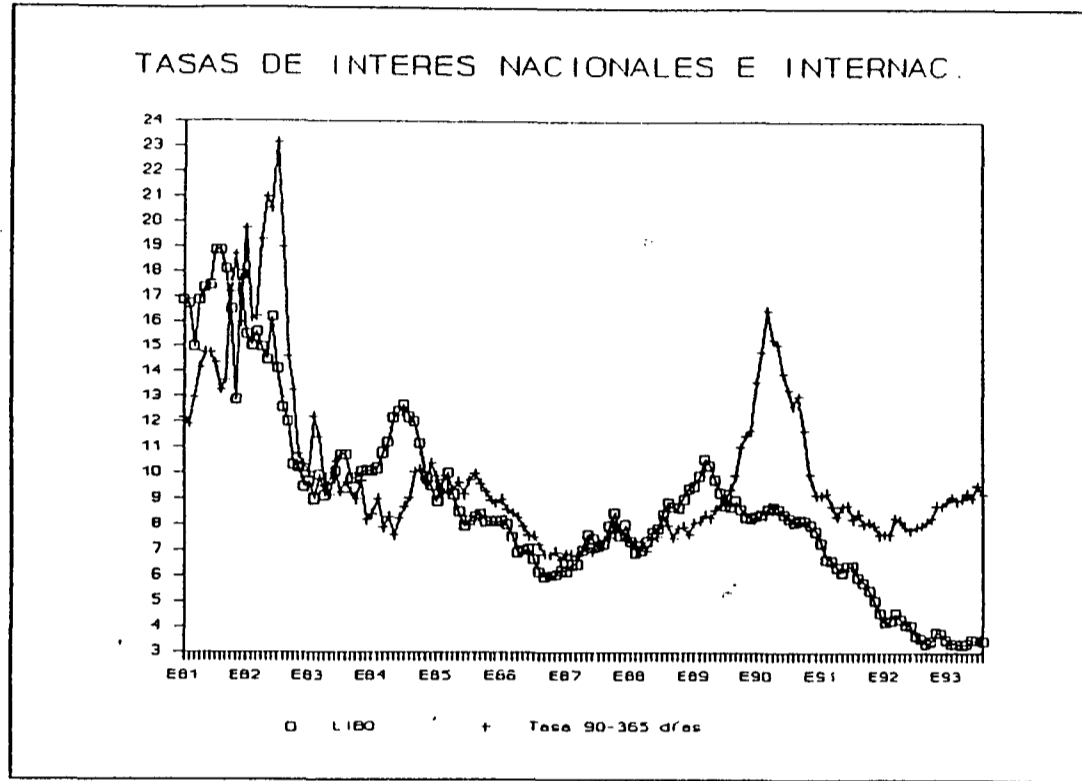
Source: Central Bank and calculations by the authors.

Figure 3
REAL EXCHANGE RATE INDEX
 (Base: 1986 average = 100)



Source: Central Bank of Chile.

Figure 4



Fuente: Banco Central de Chile

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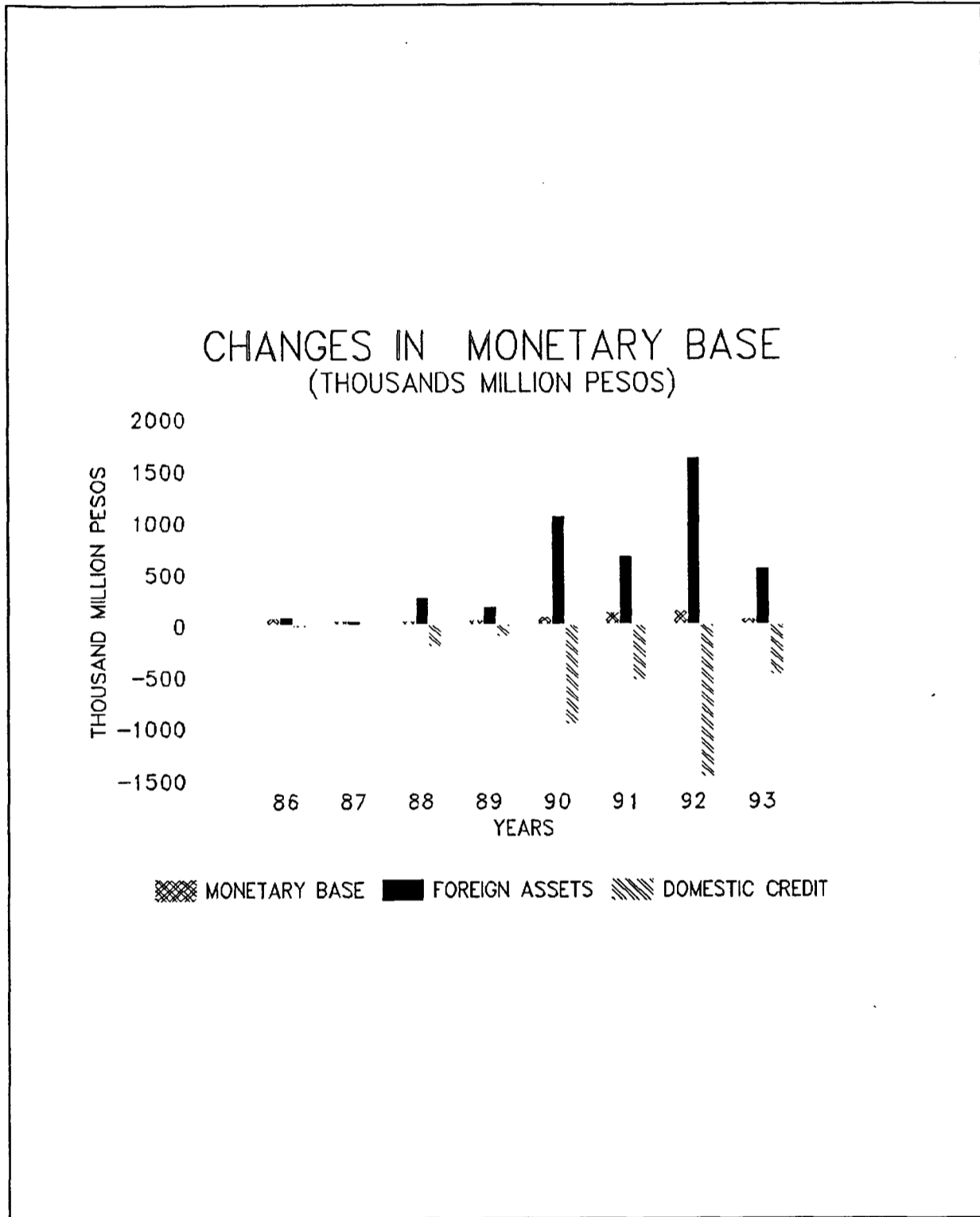


Figure 5

Source: Central Bank: Assets and Liabilities (Changes in balance in millions of Ch. \$)