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Chile: Economic Policy and International Economic Relations since 1970

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CHILE: ECONOMIC POLICY AND INTERNATIONAL
ECONOMIC RELATIONS SINCE 1970*

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1. Introduction

The Chilean economy has suffered major policy changes in the last twenty years. In this paper we will concentrate on those policy changes that affected more directly the foreign sector.

After many years of pursuing an import substitution strategy, a mild attempt to open up the economy to foreign competition was started in the late sixties. Furthermore, during this period the exchange rate policy was one that tried to keep a fairly constant real exchange rate. In contrast, during the Allende regime of the early 70's, the economy was substantially isolated from foreign competition through innumerable tariff and non-tariff barriers. Furthermore, although by early 1973 there were six explicit exchange rates, in practice one could negotiate with the Central Bank the exchange rate for individual transactions.

The military government that started in 1973 concentrated during the first two years in liberalizing domestic commodity markets and then domestic financial markets. Another major initial preoccupation was the reduction of inflation (around 1000% per year) and the closely related fiscal deficit, which amounted to 25% of output in 1973. To reduce the fiscal

deficit, a large tax reform was implemented in 1974, together with drastic reductions in government expenditures.

The large external crisis that Chile suffered in late 74-early 75 (copper prices were cut almost by half while the price of oil quadrupled) forced an initial opening of the economy, which was encouraged by a large peso devaluation. From there on, the implementation of an aperture to commodity trade through tariff reductions began to be implemented. After several changes in the originally announced reforms, Chile arrived in 1979 to a uniform 10% nominal tariff, with an exception for motor vehicles. The aperture to capital flows was started much later.

In June 1979, the peso was pegged to the US dollar at a fixed rate. At the time, Chilean inflation was substantially above international levels and therefore a large real peso appreciation followed. Furthermore, wage indexation based upon lagged changes in the CPI, in a period of decreasing inflation, resulted in large increases in real wages. The final consequence was a large drop in competitiveness, and a large recession in 1982.

This paper evaluates the role of the external policies undertaken during this period. The remainder of this paper

is divided into five sections. Section 2 describes the situation until the late sixties. Section 3 describes the main policies pursued in the foreign sector. Section 4 analyzes the effects of these policies. Section 5 presents an analytic model, which is used to interpret the evolution of the Chilean economy during the period 1976-1981. Finally, section 6 describes the situation in 1982.

2. The Pre-1970 Period¹

The two main events that shaped Chile's trade and industrialization patterns in the 50's and 60's were the Great Depression and World War II. The fall in Chilean export earnings during the Depression (due mainly to price decreases) and the increase in real foreign debt caused by the world-wide deflation created a strong drive for a lesser degree of dependence on the world economy. The interruption of international trade during and following World War II reinforced the experience of the Great Depression and gave further impetus to a desire for reduced reliance on international trade, through

¹For an analysis of the pre-1970 period see Ffrench-Davis (1973), Corbo (1974), Behrman(1976) and Corbo and Meller (1981).

substitution of imported goods by domestic production. A further impulse to this import substitution strategy (ISS) during the 1950's was the role of ECLA (Economic Commission for Latin America), under the leadership of R. Prebisch. Trade policies were influenced by the "Prebisch doctrine", based on the assumption of a long-term deterioration of the terms of trade of primary products². All of these events encouraged Chile and other Latin American countries to pursue the goal of industrialization through strong inducements for domestically oriented industrial programs.

In attempting to implement import substitution, a set of policies was designed to shift the domestic terms of trade in favor of industry rather than agriculture or mining. A major emphasis was given to trade policies which had the side effect of discriminating against exports. Thus, the trade policy that was pursued was a combination of overvalued currency, tariffs and quotas. Table 1 shows the degree of discrimination against agriculture and mining brought about by the trade regime.

The different trade restrictions that were adopted resulted in a structure of effective protection rates which, in

²For a review of these arguments see Askari and Corbo, (1978).

TABLE 1

Price Level Deflated Effective Exchange Rate for
Major Production Sector
(1965 escudos por dollar)

| Time Periods | Agriculture and Forestry | Mining | Manufacturing |
|--------------|-----------------------------|--------|---------------|
| 1946-1949 | 5.01 | 4.75 | 9.48 |
| 1950-1954 | 5.11 | 4.17 | 7.92 |
| 1955-1959 | 5.14 | 3.99 | 8.19 |
| 1960-1964 | 4.67 | 3.44 | 6.77 |
| 1965-1969 | 4.04 | 2.94 | 5.73 |

Source: Behrman, J. Chile: Foreign Trade Regimes and Economic Development, Columbia University Press, 1976, pp. 340-347.

TABLE 2
Effective Protection Rates, and Domestic Resource
Costs in Chile, 28 Sectors, 1961, 1967 and 1968.
(per cent)

| Tradable Goods Sectors | Effective Protection Rates and Domestic Resource Costs (EPR _s) (DRC _s) | | | | |
|---------------------------------|--|-------|-------|-------|-------|
| | 1961 | 1967 | 1968* | 1961 | 1968* |
| 1 Agriculture and forestry | 145 | -7 | 15 | 250 | 111 |
| 2 Fishing | | | | | |
| 3 Coal mining | | | | | |
| 4 Iron mining | | | -12 | | 180 |
| 5 Cooper mining | | | -10 | | 60 |
| 6 Nitrate mining | | | -11 | | |
| 7 Stone, clay, and sands | | | | | |
| 8 Other mining | | | -6 | | 82 |
| 9 Food products | 217 | 365 | 3 | 253 | 97 |
| 10 Beverages | 164 | -23 | | 259 | |
| 11 Tobacco | 1 | -13 | | 47 | |
| 12 Textiles | 462 | 492 | | ** | |
| 13 Footwear and clothing | 319 | 16 | 5 | 1,916 | 52 |
| 14 Wood and cork | 30 | -4 | 22 | 210 | 161 |
| 15 Furniture | 117 | -5 | 18 | 241 | 73 |
| 16 Paper and paper products | 49 | 95 | 14 | 683 | 164 |
| 17 Printing and publishing | 77 | -15 | | 297 | |
| 18 Leather and leather products | 325 | 18 | -20 | 2,109 | 55 |
| 19 Rubber products | 137 | 304 | | 77 | |
| 20 Chemical products | 107 | 64 | 14 | 356 | 75 |
| 21 Petroleum and coal products | -26 | 1,140 | | 47 | |
| 22 Nonmetallic mineral products | 179 | 1 | | ** | |
| 23 Basic metals | 74 | 75 | 21 | ** | 380 |
| 24 Metallic products | 45 | 92 | | 217 | |
| 25 Nonelectrical machinery | 73 | 76 | -9 | 150 | 59 |
| 26 Electrical machinery | 92 | 449 | 10 | 131 | 50 |
| 27 Transport equipment | 68 | 271 | 1 | 118 | 56 |
| 28 Other manufactures | 129 | | 4 | 175 | 41 |

(*) For subsectoral exports only.

(**) Value was negative, indicating that the total foreign-exchange cost per unit exceeds the foreign-exchange final-product price.

Source: Behrman, J. op.cit., Table 5-3.

TABLE 3
Direction of Trade

Origin of Imports: 1960-1970
Percentages

| Time Periods | LAFTA | U.S.A. | Western Europe (*) | Other | Total |
|-------------------------------|-------|--------|--------------------------|-------|--------|
| 1960-1962 | 17.16 | 41.90 | 22.73 | 18.21 | 100.00 |
| 1963-1965 | 22.67 | 38.72 | 22.96 | 15.65 | 100.00 |
| 1966-1968 | 23.55 | 36.89 | 19.87 | 19.69 | 100.00 |
| 1969-70 | 25.18 | 34.21 | 20.99 | 19.62 | 100.00 |
| Average annual Growth Rate | | | | | |
| 1960-1970 | 10.51 | 3.10 | 4.16 | 8.32 | 6.83 |

Destination of Exports: 1960-70
Percentages

| Time Periods | LAFTA | U.S.A. | Western Europe (*) | Other | Total |
|-------------------------------|-------|--------|--------------------------|-------|--------|
| 1960-1962 | 8.04 | 39.10 | 32.84 | 20.02 | 100.00 |
| 1963-1965 | 11.87 | 34.47 | 28.44 | 25.22 | 100.00 |
| 1966-1968 | 9.78 | 22.60 | 28.58 | 39.04 | 100.00 |
| 1969-1970 | 11.15 | 15.47 | 28.14 | 45.24 | 100.00 |
| Average annual Growth Rate | | | | | |
| 1960-1970 | 14.35 | -0.33 | 8.67 | 22.9 | 10.87 |

Source: ODEPLAN: Plan de la Economía Nacional: Antecedentes sobre el Desarrollo Chileno 1960-70, pp.427-428.

(*) Includes only West Germany, United Kingdom and France.

TABLE 4
Composition of Imports: 1960-70
Percentages

| Time Periods | Consumer Goods | Investment Goods | Intermediate Products | Total | |
|-------------------------------|-------------------|---------------------|--------------------------|--------|--------------------------------------|
| | | | | % | Millions of US\$ (Annual Average) |
| 1960 - 62 | 15.14 | 30.67 | 54.19 | 100.00 | 535.30 |
| 1963 - 65 | 13.11 | 27.18 | 59.71 | 100.00 | 588.20 |
| 1966 - 68 | 13.16 | 29.32 | 57.52 | 100.00 | 760.93 |
| 1969 - 70 | 16.11 | 31.36 | 52.53 | 100.00 | 955.75 |
| Average Annual Growth Rate | | | | | |
| 1960 - 70 | 6.73 | 7.50 | 6.52 | - | 6.83 |

ODEPLAN: "Plan de la Economía Nacional: Antecedentes sobre el Desarrollo
Chileno 1960-70, p. 425, Santiago, 1971.

addition to discriminating against exports (especially agricultural and mineral products), was characterized by considerable dispersion in the rate of protection within industrial activities. (See Table 2, first three columns). Such a degree of dispersion could hardly be justified by economic arguments.

With respect to the direction of trade, USA was the main trade partner both for imports and exports, as shown in Table 3. LAFTA was increasingly important as a source of imports. On the export side, there was a substantial regional diversification. The commodity composition during this period (Table 4) reflects the effect of the protection system with only around a 15% share for imports of consumer goods, around 30% for consumer goods and 55% for intermediate products.

The ISS had numerous supporters in the 1930's, 40's and 50's, and many considered it as a panacea for solving the underdevelopment problems of the Latin-American countries. In the 1960's, the ISS began to be strongly criticized. Nowadays, the "conventional wisdom" of the ISS is rejected, to the extent that the inefficiencies and distortions created by such strategy in most of the developing countries are now widely accepted. As documented by the OECD, Balassa and Associates and NBER

studies³, ISS policies not only failed to halt the steady growth of imports, but also led to stagnation of exports and major inefficiencies in the use of resources.

The questioning of the ISS strategy has different stages: 1) The ISS had arrived at a dead end with the completion of the easy stage of ISS, based upon the substitution of non-durable consumption imports by local production, (2) The ISS had created substantial inefficiencies in the use of resources, as indicated by the large dispersion in the computed domestic resource costs for the different import competing activities. (See Table 2, last two columns). This was mainly due to the protectionist policies that reduced foreign competition through the implementation of high tariff walls and the small size of local markets, which either prevented the presence of many efficient firms, or allowed only a few to be present, thus hampering internal competition; (3) Although it appears paradoxical, after more than 30 years of ISS the Latin American countries became

³The OECD studies were published by Oxford University Press in five country volumes and one comparative volume, for references see the comparative volume by Little, Scitovsky and Scott (1970). The Balassa and Associates Study was published in Balassa et.al. (1971). The NBER studies were published by Columbia University Press and Ballinger Press in nine country volumes and two comparative studies one by each of the project co-directors. J. Bhagwati (1978) and A.O. Krueger (1978).

even more vulnerable to the fluctuations in the world economy, due to a change in the import mix. Table 4 shows that the structure of imports moved away from consumption goods and towards raw materials and parts and equipment, which were essential for the functioning of the industrial sector; (4) Finally, it has been shown that in the sixties the ISS strategy gave rise to a low degree of labor absorption⁴.

With respect to capital flows there were no major restrictions; moreover, the level of capital inflows in 1968 were judged to be too high in accordance with the needs of the country and to have contributed to an unwarranted growth in the money base. (French-Davis, op.cit. p. 107).

With respect to the trade policies that were implemented during this period, it is useful to divide them between those followed in the period before and the period after 1955. Before 1955, trade policies were highly restrictive and were enacted mainly as ad hoc reactions to balance of payments problems. The policies after 1955 can be described as "cyclical", that is, switching back and forth from restrictive

⁴See Corbo and Meller (1981) for Chile and Krueger et.al.(1981) for a comparative study.

to more liberalized phases. However, tariff-induced import substitution remained the central orientation of the trade policies. The pre-1970 period ends with a mild liberalization attempt.

3. External Sector Policies in the 1970's

3.1. Commercial Policies

This period can be divided into five sub-periods 1971-September 1973, September 1973-July 1975, August 1975-November 1977, December 1977-July 1979 and July 1979 to the present.

The period 1971-1973 is one of substantial restrictions to commodity trade. At the end of 1973 the situation was the following⁵:

- i) Ad-valorem tariff rates ranged from 0 to 750%.
- ii) The average nominal tariff rate was 105%, the mode 90% and 50% of the tariffs were above 80%.
- iii) 8% of the tariff positions had tariff rates between 220% and 550%.

⁵See Torres, C. (1982).

iv) Only 4% of the tariff positions had tariff rates below 25%.

v) Import prohibition applied to 187 tariff positions.

vi) For 2872 tariff positions there was a 90 days import deposit requirement. These deposits had to be kept at the Central Bank and amounted to 10,000% of the CIF value. The Central Bank had the power to suspend these restrictions at its own discretion.

vii) There were 2278 tariff positions that required the approval of the Central Bank in order to be able to import.

From September 1973 to July 1975 we have the first period of trade liberalization. At this time, the initial purpose was to achieve a target maximum tariff rate of 60%, although the time period in which this target was going to be achieved never was mentioned.

In this period, there were several modifications to the structure of tariffs, with the general purpose of reducing the overall protection level. Thus, the maximum tariff rate was reduced from 750 to 140% and the average unweighted tariff rate from 105 to 65%.

At the beginning of 1975, a tentative tariff structure was announced. This structure contemplated only three nominal rates: 25%, 30% and 35%. These rates would apply to raw-materials and primary commodities, semi-manufactured commodities and manufactured commodities, respectively.

The convergence of the existing structure of tariffs to the target would to be achieved by early 1977. The rationale for this tariff structure was based on the general principle that manufacturing creates more externalities than other economic activities. The reduction in tariffs was going to be implemented through proportional reductions of the difference between existing tariffs and target levels. 20% of the difference would be eliminated by early 1975, 30% by early 1976 and the remaining 50% by early 1977. However, only the first reduction was actually implemented.

During the second stage (August 1975 to December 1977), the tentative tariff structure was modified to another that established 6 nominal tariff rates: 10, 15, 20, 25, 30 and 35%. These targets were to be achieved by early 1978. The purpose of such structure was to create a range of effective tariff rates ranging from 10 to 35%, with the level of effective protection as an increasing function of the processing stage of

each good. The target structure was, in fact, achieved ahead of schedule on August 29, 1977. During this period Chile dropped out of the Andean Pact Agreement.

The third stage of this liberalization process started in December 1977, when the last change in the target tariff structure was announced. This reform was more radical than the previous one. The government announced that its new objective consisted in achieving a uniform 10% nominal tariff by June 1979. The convergence path to the new target contemplated a step reduction initially, and small monthly reduction thereafter. By June 1979, a uniform 10% nominal tariff had been achieved, with the exception of the automobile industry.

As we can see from the above description, Chile began the present liberalization attempt starting from a highly restrictive trade regime. With respect to the implementation of trade liberalization process, one can question its velocity, the final tariff structure and its timing, but there is no doubt that there was a strong economic rationale to open up a small economy like the Chilean one. One can also question the desirability of abrupt policy changes, which had some costs in terms of resource allocation and speed of adjustment.

3.2. Exchange Rate Policy⁶

With respect to the exchange rate policies implemented during the seventies, one we can distinguish six periods: the first period corresponds to the Allende administration (November 1970 to September 1973), the second, to the period from October 1973 to June 1976, the third, from June 1976 to February 1978, the fourth, from February 1978 to July 1979; the fifth, from July 1979 to June 1982; and the sixth, from June 1982 to the present.

During the first period, the highly successful crawling peg policy of the late 60's was abandoned in favor of a fixed nominal exchange rate. The system started with the three exchange rates of the late sixties but changed afterwards to one with multiple rates for commodity trade. Of course, with a domestic inflation substantially above international levels, this was initially sustained with an increasingly restrictive trade regime, and finally, with a series of maxi-devaluations that culminated in March 1973 with a crawling peg system for one of the six explicit exchange rates. Towards the end of this

⁶For references on exchange rate policies during this period see Ffrench-Davis, R. (1979) and Meza, W. (1981).

period, the ratio between the highest and lowest official exchange rate was 52 to 1.

In the period from September 1973 to June 1976, a crawling peg system was implemented after an initial maxi-devaluation. The numerous exchange rates of earlier period were reduced to the three exchange rates that existed in the second half of the sixties and up to end of 1971: one exchange rate for trade operations except copper, one for the copper industry and one for financial flows and tourism. The exchange rate for trade operations was initially devalued by around 300%. The final objective was to arrive to a unique exchange rate. The mini-devaluations (3 to 4 per month) were programmed in such a way that by August 1975 the objective was achieved.

As shown in Table 5 of section 4, the real exchange rate achieved its peak value in the fourth quarter of 1975. This coincides with a period of very low copper prices (see Col 8, Table 7). Towards the end of this period there is a deterioration of the real exchange rate, which culminated in June 1976 with an abrupt 10% peso appreciation. The authorities justified such appreciation based upon the substantial accumulated peso depreciation; the unwanted monetary effects created by the ensuing reserve accumulation; the cost reductions it

would generate for local producers; and the benefits of a reduced protection from imports (see Dirección de Presupuestos (1978, pp. 261-2).

During the third period (June 1976 to February 1978) the mini-devaluations were done on a daily basis, in accordance with a preannounced schedule ("tablita").

During this period, the exchange rate starts to be used as a stabilization device. The government put substantial emphasis on the reduction of the chronic inflation rate, which was around 10% per month at the beginning of the period.

The announced rate of devaluation was 5% for July and the previous monthly change in the CPI from thereon. After an initial reduction, the inflation rate achieved a plateau at an intermediate rate between the June level and the level achieved during October-December 1976. As a result, the government announced another 10% appreciation of the peso in March 1977, together with a programmed devaluation of 4% for March and 3% for April and, from there on, in accordance with the previous monthly change in the CPI. As shown in Table 5, this coincides with a sharp drop in the real exchange rate. The appreciation had the expected effect on the inflation rate, as the monthly inflation rate was reduced to around 3 to 4% per month. During

the second half of 1977, there were two breaks of the "Tablita", with a 6% devaluation in August and a 4.3% devaluation in December. These devaluations were linked to the program of tariff reductions discussed in the previous section.

In December of 1977, the government announced that during 1978 the rate of devaluation would be above the internal rate of inflation, so as to compensate for the tariff reductions that were going to be implemented. In February 1978, however, such policy was abandoned in favor of a different option, which gives rise to a fourth period.

In the fourth period (February 1978 to June 1979), the exchange rate was used again as the main instrument to reduce the rate of inflation. The government's understanding of the inflationary process at that time gave a central role to the law of one price as an explanation of the evolution of domestic prices. It was also thought that the rate of devaluation had an important effect on the formation of inflationary expectations. Thus the link between the rate of devaluation and the previous -month-increase in the CPI was abandoned. The new exchange rate policy consisted of devaluations at a decreasing rate starting with a monthly rate of 2.5% and ending with a rate of 0.75% in

December.

As the Chilean economy was more open to trade then, the reduction in the monthly rate of devaluation had as a counterpart a reduction in the rate of inflation.

In December 1978, the government decided to extend this devaluation scheme with daily devaluations at a decreasing rate. The compounded rate of devaluation was going to be 14.7% for the whole year. The inflation rate did not decrease as expected and even increased above the previous year level. As shown in Corbo (1982), the rate of inflation was also a function of the evolution of wages and the dollar price of tradables. The rate of change of both variables was increasing at the time. In June 1979, the government decided to jump up to the value of the dollar programmed for December in the "tablita", and announced that this rate would be kept fixed until the end of February 1980.

The fifth period (June 1979 to June 1982) corresponds to a period with a fixed nominal exchange rate. In February 1980 it was decided to keep the exchange rate at the same value.

The last period (June 1982 to the present) corresponds to a period where three different exchange rate systems were implemented. The fixed exchange rate was abandoned

on June 14 with an 18% maxi-devaluation. At the same time, the exchange rate for the following 12 months was announced to follow a new tablita with a 0.8% rate of monthly devaluation with respect to a basket of currencies.

After a substantial loss of reserves (around 460 millions) the "tablita" was broken on August 6th in favor of a floating-rate system. Finally, after another loss of around 450 millions on September 20th, a new tablita was announced starting at 66 pesos to the dollar with a monthly devaluation equal to the previous month inflation minus one percent (an estimate of previous month external inflation). At the same time, substantial restrictions to the access of the exchange rate market have been introduced.

3.3. Policies with Respect to Capital flows⁷

In this subsection we describe the main policy changes that affected the treatment of international capital flows.

Although after its first year in power the new government had a clear policy with respect to the liberalization

⁷On this point see Rosende (1981) and Gutierrez (1982).

of commodity trade, this was not so for capital inflows. It was not until 1979-1980, that some important restrictions to capital inflows were lifted.

With respect to the openness of the capital account, we can distinguish three periods. The first one, from 1973 up to September 1977. The second, from September 1977 to June 1979, and the third, from that date to the present. The first period corresponds to one in which the capital account was virtually closed. At the end of this period (September 1977), restrictions were still tighter than they were at the end of the Allende regime.

In June 1973 commercial banks were allowed to borrow abroad up to 200% of their capital and reserves. This regulation existed until January 1975, when it was reduced to 100%, and then increased again to 150% in June 1976. These restrictions existed until September 1977. The second period starts in September 1977, when a major change in policy occurred. From then on, commercial banks were authorized to utilize Article 14 of the law of exchange for their capital inflows⁸. Up to that

⁸The inflow of capital under this provision was guaranteed the access to the exchange rate market for the service of the debt. This article had a minimum stay requirement. The loan had to be made for a minimum period of 2 years.

time, banks were involved primarily in the financing of trade operations, while most medium term capital inflows were intermediated by the public sector and large private enterprises. At the same time, a quantitative restriction on individual banks was imposed, limiting the maximum monthly inflow to 5% of the capital and reserves of each bank. On January 1978, the Central Bank restricted the stock of capital inflows under Article 14, by establishing a global quota equal to 25% of capital plus reserves for each commercial bank. Later, in March 1978, the limit on overall borrowing was increased to 160% of capital plus reserves. In April of that year, the limit for borrowing under Article 14 is lifted to 45% of capital and reserves. However, showing a great concern about the profile of the external debt, the 25% limit was kept for debt with a maturity below 36 months. At the same time, the limit on total external borrowing was further increased to 180% of capital plus reserves for overall external borrowing while keeping the 160% limit for periods equal to or less than 36 months.

In November 1978, the monthly limit on borrowing through Article 14 was changed to 5% of capital and reserves or 2 millions dollars, whichever was larger.

Then, in December 1978, the limit to external borrowing through Article 14, for loans with a period to maturity beyond 36 months, was increased to 60%. Furthermore, the overall limit for commercial bank borrowing was increased to 215%, while total borrowing for periods equal to or less than 3 years was increased to 180%. Then, in April 1979, the limit to borrowing for a period longer than 3 years under Article 14 was increased to 70% of capital and reserves. Moreover, the limit on overall borrowing was increased to 225% of capital and reserves, while the 180% overall limit for short term borrowing was maintained. An important innovation is introduced that month in the form of a price restriction which varies with the period of the loan. This takes the form of a reserve requirement that decreases with the length to maturity. These reserve requirements were 25% for loans with maturities from 24 to 36 months, 15% for those between 35 and 48 months, 10% for periods between 48 and 66 months, and no reserve requirements for loans with maturities beyond 66 months.

The third period starts in June 1979. On June 26, a profound liberalization of capital flows is accomplished, when the global limits to external borrowing are eliminated. As of this date, the only restriction to external borrowing is the overall

(internal and external) borrowing limit of 20 times capital and reserves faced by Commercial banks. At the same time, the amount of monthly borrowing under Article 14 was reduced to 5% of capital and reserves and/or one million dollars, whichever is lower. This period is one where the Central Bank is caught in a policy dilemma. On the one hand, they faced a strong criticism from the private sector and other government quarters, attributing high interest rates in Chile to Central Bank restrictions on capital inflows. On the other hand, the Central Bank authorities were concerned about the sustainability of external borrowing and the adjustment problems posed by a sudden decrease in net external borrowing.

On July 1979, commercial banks are allowed to pass over to other banks funds entered under Article 14.

On January 1980, the monthly limit to external borrowing under Article 14 is increased again to 5% of capital and reserves and/or 2 million dollars, whichever was lower. On April 1980, all quantitative restrictions on external borrowing under Article 14 are eliminated. The only remaining restrictions are the limit on overall borrowing (20 times capital plus reserves) and the reserve requirement on external borrowing depending on the maturity of the loan. On July 1980, the

reserve requirements for borrowing with periods from 24 to 36 months were reduced from 25% to 15%.

In another important policy change, on June 1980 commercial banks are allowed to lend abroad using their own resources. Furthermore, in September of that year, commercial banks are allowed to invest in external documents with variable interest rates.

In 1981, only marginal changes were introduced in the legislation dealing with external borrowing. The only exception is a measure taken on December 1981 which allowed commercial banks for the first time to lend short term (up to 180 days) for purposes other than the financing of foreign trade out of resources they had borrowed abroad. The rationale for such a policy shift was the drastic reduction in import levels observed at the end of 1981, and the reduction in the maximum period allowed to finance imports with commercial bank credit, which resulted in a large reduction in the demand for short term external credit. Concurrently, medium and long term capital inflows were also decreasing. Thus, the Central Bank reduced its restrictions on short term capital flows in order to face such a drastic reduction in capital inflows. Initially, under Article 1418, commercial banks were allowed to use their

resources in foreign currencies to lend internally for up to 180 days. This lending was subject to a 20% reserve requirement. At the same time, quantitative limits for individual banks are established. Then, in May 1982, commercial banks were also allowed to borrow abroad for period of less than two years, subject to a 20% reserve requirement. In July 1982, commercial banks are allowed for the first time to take exchange rate risk, when they are allowed to use part of their short term external borrowing to lend in pesos. This, however, could not exceed the equivalent of 50% of their capital and reserves. On July 14th, all reserve requirements are eliminated for new capital inflows. But on July 22, this measure is overruled by another which states that all capital inflows with a length to maturity below 71 months are subject to a 5% reserve requirement.

From the above description of the evolution of the main regulations of the capital market we conclude that the Central Bank practiced a great deal of fine tuning in this field. It is also apparent that they were always concerned about the absorption of capital inflows. We saw that as late as early 1980, we still had monthly quotas for the amount of borrowing that each bank was allowed to bring in.

4. The Effects of External Sector Policies: A Suggested Interpretation⁹

In this section we analyze the macro effects of the external sector policies described in the previous section, concentrating on the last four years. We start with a brief look at trade and capital flow figures.

First we will take a look at the composition of trade during the seventies (tables 5 and 6), comparing them with the situation in the sixties (tables 3 and 4 of section 2). With respect to the origin of imports, we have that after experiencing a major increase in their share of Chilean imports, the countries from LAFTA ended up practically at the same point where they were in the late sixties. The share of USA dropped substantially, from 34.2% for the period 1969-1970, to 24,6% for the period 1979-1981. The share of Europe, after a large increase in the early 70s, which reflected the trade with Eastern Europe, dropped to 22% towards the end of the decade.

Finally, the share of the group "others" almost doubled during the whole period. The most important countries in this group are Japan, Taiwan and Korea.

⁹This section is based on Corbo (1982c).

TABLE 5
Direction of Trade

Origin of Imports 1970-1981
Porcentajes

| Time Periods | LAFTA | USA | EUROPE | OTHER | TOTAL |
|--|-------|-------|--------|-------|--------|
| 1970 - 1972 | 24.71 | 25.78 | 35.34 | 14.17 | 100.00 |
| 1973 - 1975 | 29.62 | 21.88 | 28.63 | 19.87 | 100.00 |
| 1976 - 1978 | 30.07 | 24.93 | 20.86 | 24.13 | 100.00 |
| 1979 - 1981 | 24.98 | 24.57 | 22.34 | 28.12 | 100.00 |
| Average Anual Growth Rate: 1970 - 1981 | 17.1 | 17.35 | 11.29 | 31.65 | 17.57 |

Destination of Exports : 1970-1981
Porcentajes

| Time Periods | LAFTA | USA | EUROPE | OTHER | TOTAL |
|--|-------|-------|--------|-------|--------|
| 1970 - 1972 | 12.28 | 10.86 | 57.46 | 19.40 | 100.00 |
| 1973 - 1975 | 17.42 | 9.95 | 48.08 | 24.55 | 100.00 |
| 1976 - 1978 | 27.06 | 12.63 | 40.60 | 19.70 | 100.00 |
| 1979 - 1981 | 22.88 | 12.90 | 41.79 | 22.44 | 100.00 |
| Average Anual Growth Rate: 1970 - 1981 | 25.08 | 19.59 | 11.70 | 12.75 | 16.07 |

Source: Series de Comercio Exterior: 1970-1981. Central Bank of Chile,
July 1982.

TABLE 6
Composition of Imports: 1970-1981
Percentages

| Time Periods | Consumer Goods | Investment Goods | Intermediate Products | Total | |
|-------------------------------|-------------------|---------------------|--------------------------|--------|--------------------------------------|
| | | | | % | Millions of US\$ (Annual Average) |
| 1970-1972 | 19.0 | 22.0 | 59.0 | 100.00 | 1174.43 |
| 1973-1975 | 9.0 | 22.0 | 69.0 | 100.00 | 1810.83 |
| 1976-1978 | 19.0 | 21.0 | 60.0 | 100.00 | 2397.50 |
| 1979-1981 | 25.0 | 22.0 | 53.0 | 100.00 | 5472.20 |
| Average Annual Growth Rate | | | | | |
| 1970-1981 | 23.37 | 17.35 | 15.03 | | 17.4 |

SOURCE: Series Comercio Exterior: 1970-1981. Central Bank of Chile,
July 1982.

Important changes in the direction of trade took place also for the destination of exports. During the whole decade, LAFTA countries were a more important market for Chilean exports than during any other time in the sixties. Thus, in the period 1976-1978 LAFTA absorbed 27% of Chilean exports. With respect to USA, the decline observed during the sixties continued, stabilizing towards the end of the present period with a share around 13%.

Europe is the most important market for Chilean products. Its share of Chilean exports was 57.46% during the period 1970-1972 but decreased to only 41.79 in the period 1979-1981. The composition of imports (Table 6) suffered important changes during this period. Thus, the share of consumption goods dropped from 19% in the early 1970's to 9.0% in the period 1973-1975. This reflects in part the very stiff foreign sector constraint of this second period. In contrast, between the third and fourth period, and as a consequence of the dismantling of tariffs and other trade restrictions, the share of consumer goods increased substantially (from 19.0% to 25%). The share of investment goods was almost constant during the whole period. The behavior of the share of intermediate goods is just the reverse of consumer goods. It has a large increase from the

first to the second period and then a drop from there on, as the heavy protection to the production of consumer goods was being eliminated.

With respect to capital flows, from columns 1 and 2 of Table 8 it is readily seen that after the liberalization of June 1979, a large increase in capital inflows takes place.

The first two years of the present government were very much dominated by the initial conditions as of September 1973, as well as by the unfavorable external shocks of 1974-1975. In effect, on September 1973 a large part of the productive capacity was in total disarray, and most of the productive units had lost a substantial fraction of its working capital.

Furthermore, in late 1974 and up to the first half of 1975, there was a substantial drop in the price of copper (an exportable commodity) together with an even larger increase in the price of oil products (an importable). At the same time, international capital markets were substantially closed for Chile, and therefore most of the adjustment in the current account had to be made through a cut in absorption and a change in relative commodity prices, in favor of tradable goods. Table 5 indicates that the real exchange rate (PM/PN and PX/PN)

achieved in 1975 its highest value over the last 7 years. Moreover, these levels are probably also the highest in history. Absorption, on the other hand, fell by 20.8% in 1975 (Col 4, Table 9).

Concurrently, another set of measures were being implemented with the aim of reducing inflation, decontrol commodity markets, and liberalize the domestic financial market. Furthermore, a substantial improvement in the allocation of government expenditures was achieved through an extensive application of project evaluation techniques.

The recovery of the Chilean economy starts in 1977 and was associated with an expansion of exports, together with important increases in the level of capital inflows (see Table 8, Col.2). From there on, the real exchange rate experienced a substantial drop, slowing the growth of exports, while the largely foreign financed growth in absorption pulled the non-tradable sector of the economy (See Table 9, Col.4).

Up to 1979, the Chilean economy was growing at an annual rate above of 8%. Most of the problems faced by the Chilean economy in 1981 and 1982 originated with the fixing of the nominal exchange rate in June 1979 and the effects on com-

petitiveness and capital inflows that derived from it.

4.1. Fixed Exchange Rate, Wage Indexation and the Real Interest Rate.

At the time of the pegging of the exchange rate, the monthly inflation rate -although substantially lower than in previous years- was still of the order of 2.5% per month and thus, substantially above international levels. Furthermore, a wage indexation scheme based upon at least full compensation for past changes in the CPI was introduced by law late in 1979, even though full compensation had existed in practice since early 1976. Moreover, the prices of many non-tradables had backward indexation for quite a long time (housing rent, school fees, etc.). Thus, the fixed exchange rate, together with the backward indexation of wages and the prices of many non-tradables, conditioned the short and medium term evolution of the real exchange rate (defined as the domestic currency price of tradables divided by the price of non-tradables). Indeed, under backward indexation the deceleration of inflation that followed the fixing of the exchange rate gave rise to an effective appreciation of the domestic currency. This can be seen in

Table 7 and Figure 1, and has been analyzed in Corbo (1982a). Table 7 shows an increase in the value of the real exchange rate (i.e. a depreciation of the domestic currency) in the third quarter of 1979 and a continuous decrease thereafter (see especially PT/PN1 and PT/PN12). This depreciation of the domestic currency during the third quarter of 1979 was a direct consequence of the devaluation that preceeded the pegging of the exchange rate. A similar picture emerges when we observe the evolution of PM/PN1 and PX/PN1 in Figure 1.

However, due to the favorable evolution of Chile's terms of trade (see col 8 in Table 7), the real exchange rate for exportables of late 1979 and the first three quarters of 1980 was still above the real exchange rate that prevailed during the first two quarters of 1979. In contrast, the real exchange rate for importables dropped continuously from the second quarter of 1979 on. Thus, the loss in competitiveness of exportables vis-a-vis non-tradable activities took place much later than for importable producing sectors.

The fixing of the exchange rate, at a time when domestic inflation was substantially above international levels, also had an effect on the real interest rate and on aggregate demand. Indeed, the ex-post peso real interest rate of dollar-denomi-

TABLE 7
REAL EXCHANGE RATES(*)
1979.II = 1.0

| | PM/PN1 (1) | PX/PN1 (2) | PT/PN1 (3) | PM/PN12 (4) | PX/PN12 (5) | PT/PN12 (6) | PT/W (7) | PX/PM (8) |
|------|---------------|---------------|---------------|----------------|----------------|----------------|-------------|--------------|
| 1975 | | | | | | | | |
| I | 1.639 | 1.664 | 1.650 | 1.541 | 1.565 | 1.553 | 2.165 | 1.014 |
| II | 1.662 | 1.689 | 1.675 | 1.545 | 1.571 | 1.559 | 2.487 | 1.015 |
| III | 1.702 | 1.707 | 1.703 | 1.579 | 1.585 | 1.582 | 2.201 | 1.003 |
| IV | 1.751 | 1.779 | 1.762 | 1.629 | 1.654 | 1.641 | 2.203 | 1.015 |
| 1976 | | | | | | | | |
| I | 1.731 | 1.775 | 1.751 | 1.595 | 1.637 | 1.616 | 2.214 | 1.025 |
| II | 1.528 | 1.524 | 1.525 | 1.407 | 1.404 | 1.405 | 1.922 | 0.996 |
| III | 1.339 | 1.371 | 1.355 | 1.280 | 1.311 | 1.297 | 1.628 | 1.022 |
| IV | 1.177 | 1.278 | 1.226 | 1.173 | 1.272 | 1.222 | 1.422 | 1.084 |
| 1977 | | | | | | | | |
| I | 1.095 | 1.151 | 1.122 | 1.103 | 1.161 | 1.132 | 1.249 | 1.051 |
| II | 0.903 | 0.992 | 0.946 | 0.940 | 1.031 | 0.984 | 1.117 | 1.095 |
| III | 0.910 | 0.940 | 0.924 | 0.961 | 0.994 | 0.977 | 1.048 | 1.032 |
| IV | 0.952 | 0.968 | 0.960 | 1.014 | 1.030 | 1.022 | 1.169 | 1.015 |
| 1978 | | | | | | | | |
| I | 1.016 | 0.967 | 0.990 | 1.057 | 1.008 | 1.033 | 1.104 | 0.951 |
| II | 1.015 | 0.907 | 0.959 | 1.048 | 0.937 | 0.991 | 1.076 | 0.892 |
| III | 0.998 | 0.875 | 0.934 | 1.042 | 0.914 | 0.975 | 1.045 | 0.876 |
| IV | 0.998 | 0.899 | 0.946 | 1.032 | 0.930 | 0.980 | 1.063 | 0.899 |
| 1979 | | | | | | | | |
| I | 0.987 | 0.925 | 0.954 | 1.012 | 0.950 | 0.981 | 1.002 | 0.937 |
| II | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
| III | 1.082 | 1.186 | 1.132 | 1.025 | 1.124 | 1.073 | 1.050 | 1.095 |
| IV | 0.984 | 1.103 | 1.041 | 0.946 | 1.063 | 1.003 | 1.030 | 1.121 |
| 1980 | | | | | | | | |
| I | 0.939 | 1.118 | 1.025 | 0.897 | 1.070 | 0.980 | 0.920 | 1.191 |
| II | 0.925 | 1.092 | 1.003 | 0.880 | 1.039 | 0.957 | 0.864 | 1.178 |
| III | 0.916 | 1.018 | 0.965 | 0.872 | 0.969 | 0.919 | 0.831 | 1.110 |
| IV | 0.874 | 0.917 | 0.894 | 0.831 | 0.873 | 0.851 | 0.736 | 1.049 |
| 1981 | | | | | | | | |
| I | 0.846 | 0.844 | 0.843 | 0.812 | 0.812 | 0.812 | 0.686 | 0.998 |
| II | 0.784 | 0.775 | 0.779 | 0.767 | 0.761 | 0.764 | 0.630 | 0.989 |
| III | 0.725 | 0.709 | 0.716 | 0.724 | 0.709 | 0.716 | 0.571 | 0.978 |
| IV | 0.703 | 0.679 | 0.691 | 0.716 | 0.693 | 0.705 | 0.561 | 0.966 |

Source: V. Corbo (1982a), PX excludes Copper.

(*) The nominal exchange rate is defined as the number of units of domestic currency required to purchase one unit of foreign exchange rates.

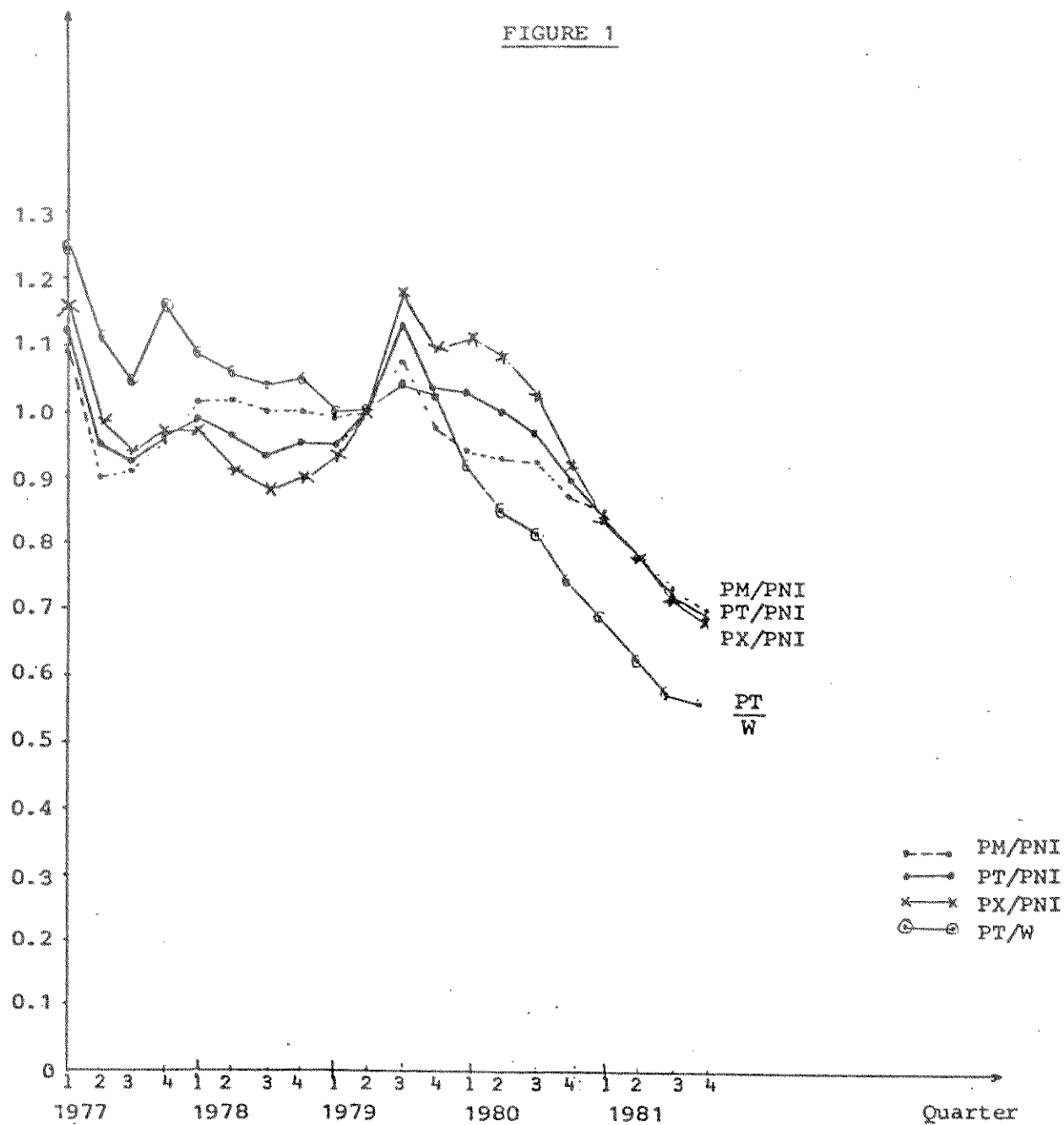
NOTES TO TABLE 7

- PN1 = Price index for nontradables obtained from the Cortazar-Marshall CPI based on the equation estimated in Corbo (1982a).
- PN12= Aggregate of PN1 and price of differentiated tradables (Corbo, 1982a).
- PX = Export price index in pesos, measured as a Divisia index of the major chilean exports.
- PM = Import price index in pesos, obtained as Divisia index of the exchange rate adjusted industrial components of the wholesale price index for Argentina, Brazil, United States, Japan and Germany, using the structure of imports from each of those countries as a weighting base. The index is also adjusted for average customs duties.
- W = Nominal Manufacturing Wage Rate.
- PT = Geometric average of PX and PM with weights of 0.50 for each.

nated loans became negative in the period following the pegging of the rate. In fact, as can be seen in Table 8, the ex-post real interest rate of dollar-denominated loans became negative from the third quarter of 1979 up to the last quarter of 1980. Also the ex-post real interest rate on peso-denominated loans was on average substantially lower in 1980 than in any of the previous 6 years. As explained below, this last development is a natural consequence of the substitution, although imperfect, between traded and non-traded assets.

Thus, the initial peso appreciation and the increase in expenditures that resulted from the decrease in both peso and dollar-denominated real interest rates, created a substantial increase in both the demand for non tradables, and in the current account deficit of the balance of payments. The peso appreciation and the increase in expenditures was extended beyond the third quarter of 1979 thanks to a substantial increase in capital inflows (see Table 8 and Figure 2), which doubled between 1979 and 1980 and then more than doubled between 1980 and 1981. Such levels of capital inflows more than financed the current account deficit of 1979 and 1980 and as a result, the Central Bank accumulated reserves during both years (see Table 8). These capital inflows were partially sterilized in

FIGURE 1



EVALUATION OF REAL WAGE RATE AND EXCHANGE RATES

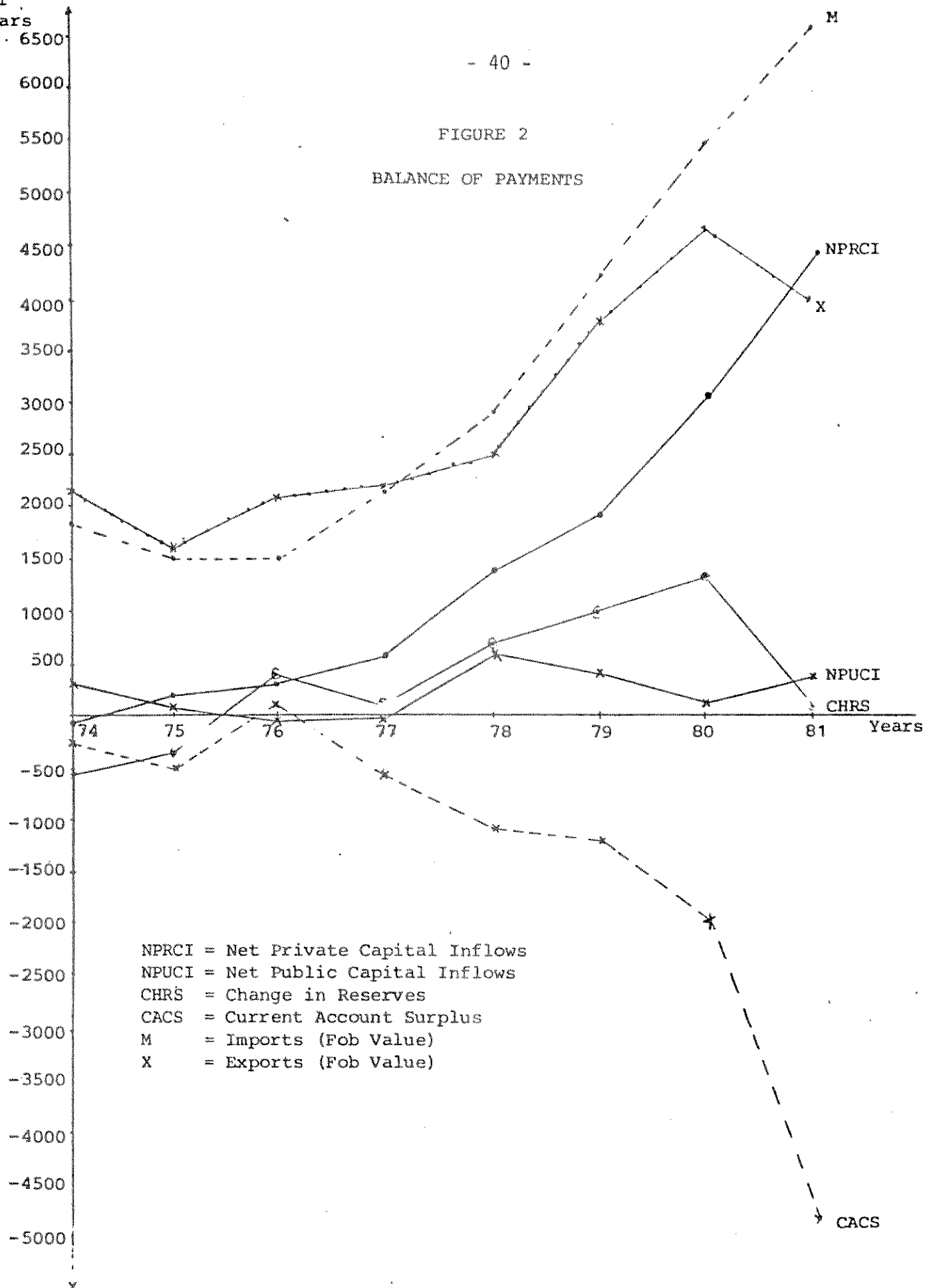
W = Wage rate; PM = Price of importables; PX = Price of exportables
 PNI = Price of non-tradables.

All these indexes are equal to 1 in the second quarter of 1979.

Millions
Of
Dollars

- 40 -

FIGURE 2
BALANCE OF PAYMENTS



NPRCI = Net Private Capital Inflows
 NPUCI = Net Public Capital Inflows
 CHRS = Change in Reserves
 CACS = Current Account Surplus
 M = Imports (Fob Value)
 X = Exports (Fob Value)

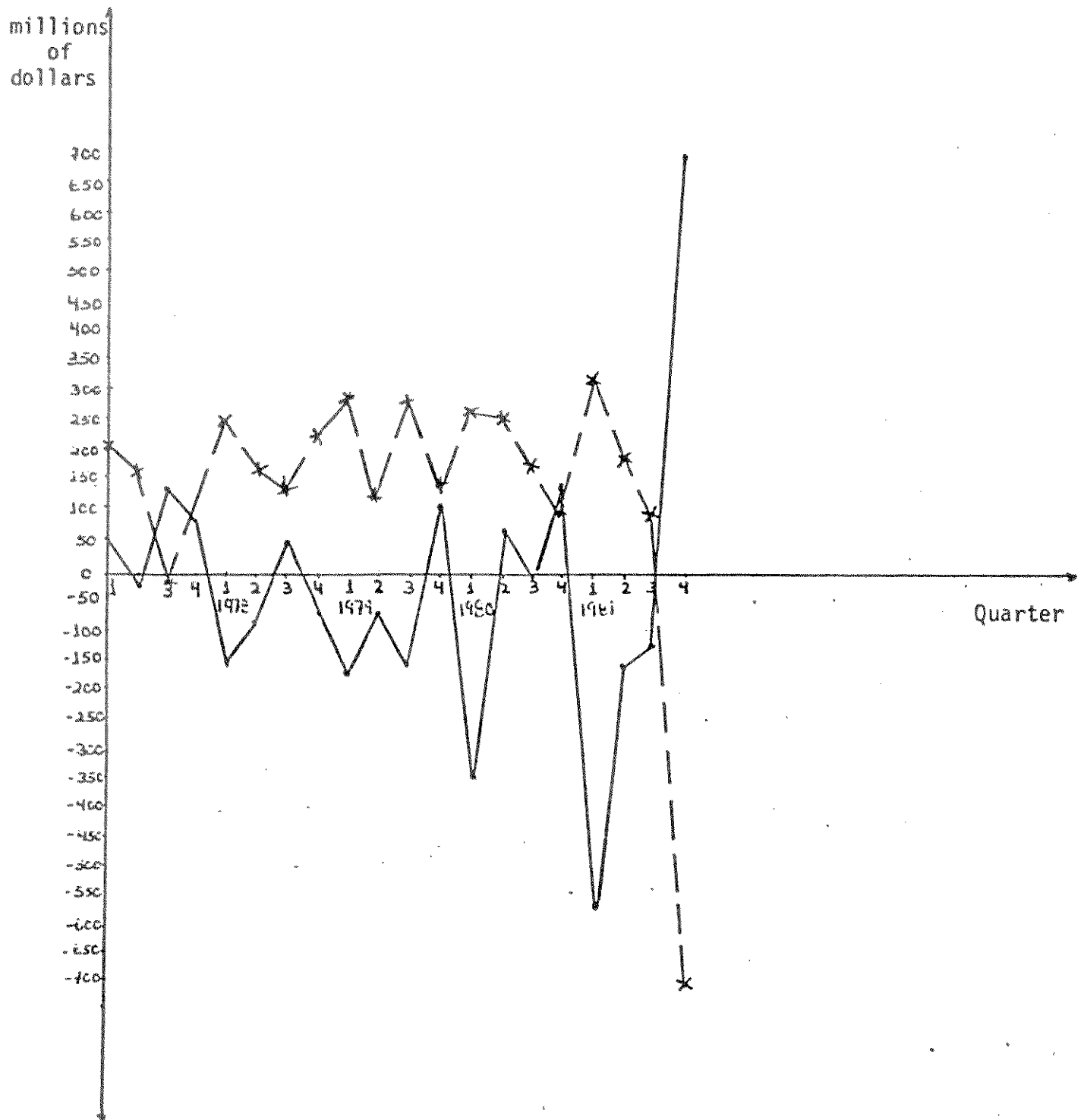


FIGURE 3: SOURCES OF CHANGE IN MONEY BASE

Foreign Assets - - -

Domestic Credit —

FIGURE 4

Change in Money Supply

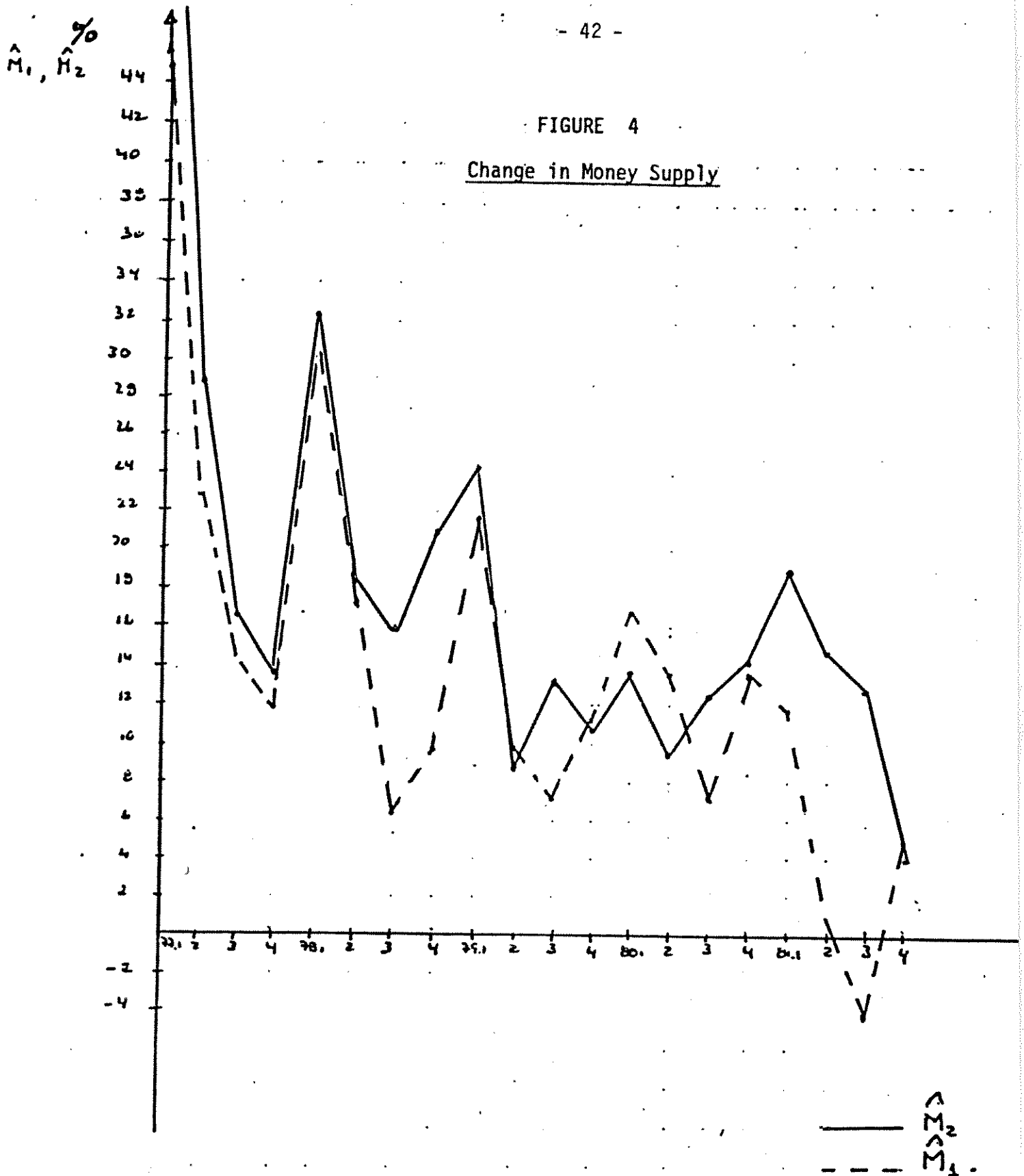


TABLE 8
MACROECONOMIC INDICATORS

| | Net Capital Inflow | Total Net Cap.Inflow | Surplus in Commercial Account | Surplus in Current Account | Changes in Reserves | Changes in Monetary Base (at end of month) | Domestic Credit | Exchange Operations | Change in Money Supply M1 (Percentage) | M2 (9) | Real Interest Rate (Peso Loans) | Real Interest Rate ² (Dollar Loans) |
|---------------------|-----------------------|-------------------------|-------------------------------------|----------------------------------|------------------------|--|--------------------|------------------------|---|-----------|---------------------------------------|--|
| (Article 14) (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | | |
| 1975 | 57.9 | 240 | 70.0 | -491.0 | -344.0 | 472.10 | 148.07 | 79.31 | 232.88 | - | 18.24 | 22.50 |
| 1976 | 238.0 | 199 | 643.0 | 148.0 | 414.0 | 765.67 | 79.31 | 765.67 | 212.58 | 289.77 | 55.15 | -19.85 |
| 1977 | 240.2 | 572 | 34.0 | -551.4 | 113.0 | 388.60 | 275.12 | 164.97 | 164.97 | 225.40 | 57.97 | 9.10 |
| 1978 | 678.7 | 1946 | -426.0 | -1088.0 | 712.0 | 781.72 | -258.26 | 88.41 | 88.41 | 114.08 | 43.65 | 8.70 |
| 1979 | 921.8 | 2247 | -355.0 | -1189.0 | 1,255.8 | 832.43 | -276.67 | 59.84 | 59.84 | 85.82 | 16.98 | 0.22 |
| 1980 | 1809.0 | 3165 | -764.0 | -1971.0 | 1,759.9 | 791.67 | -158.03 | 58.19 | 58.19 | 57.91 | 13.24 | -10.12 |
| 1981 | 2917.9 | 4769 | -2557.1 | -4814.0 | -295.7 | -68.59 | -143.49 | 32.81 | 32.81 | 89.48 | 39.72 | 11.13 |
| 1979.I | 253.8 | | -194.7 | | 342.1 | 287.01 | -181.84 | 287.01 | 21.67 | 24.19 | 22.59 | 6.15 |
| 1979.II | 148.5 | | 158.4 | | 216.4 | 115.42 | -52.18 | 115.42 | 9.9 | 8.98 | 19.41 | 33.59 |
| 1979.III | 272.6 | | -140.6 | | 393.6 | 292.95 | -168.21 | 292.95 | 7.22 | 13.35 | 6.07 | -27.43 |
| 1979.IV | 246.9 | | -177.7 | | 303.7 | 139.28 | 114.36 | 139.28 | 11.31 | 11.15 | 20.00 | -8.26 |
| 1980.I | 218.2 | na | -16.6 | na | 584.0 | 271.26 | -352.05 | 271.26 | 16.56 | 13.92 | 22.83 | -8.77 |
| 1980.II | 506.7 | | -26.4 | | 576.6 | 265.72 | 72.92 | 265.72 | 13.88 | 9.79 | 10.35 | -13.93 |
| 1980.III | 508.3 | | -233.5 | | 264.9 | 178.03 | -36.26 | 178.03 | 7.21 | 12.45 | 10.85 | -11.83 |
| 1980.IV | 576.0 | | -487.0 | | 334.4 | 76.67 | 157.36 | 76.67 | 13.74 | 14.27 | 8.55 | -12.52 |
| 1981.I | 508.7 | | -542.7 | | 53.6 | 346.03 | -569.69 | 346.03 | 11.92 | 19.18 | 36.45 | 2.61 |
| 1981.II | 829.9 | | -614.4 | | -192.6 | 188.05 | -156.95 | 188.05 | 1.31 | 14.53 | 37.22 | 7.03 |
| 1981.III | 999.3 | | -812.2 | | 129.7 | 98.74 | -125.82 | 98.74 | -4.15 | 13.26 | 37.53 | 10.39 |
| 1981.IV | 580.0 | | -587.8 | | -286.4 | -699.41 | 709.46 | -699.41 | 5.39 | 3.95 | 48.36 | 9.93 |
| 1982.I | 398.9 | | -195.6 | | -200.4 | -163.15 | -1.26 | -163.15 | 0.04 | 3.86 | 54.58 | 21.22 |
| 1982.II | | | 101.4 | | -177.6 | -1210.61 | 885.52 | -1210.61 | -5.15 | -0.71 | 47.73 | 16.86 |

IfOB Value, na = not available.

The annual rates were obtained adjusting the nominal rates by the CPI of the year. The quarter rates were obtained adjusting the nominal rates by the variation of the CPI for that quarter expressed on an annual base.

Sources: Col(1) Annual Report, Central Bank, Col(2) to Col(5) Exposición sobre el Estado de la Hacienda Pública, Ministerio de Hacienda, Octubre 1982, págs. 38 y 39, Col(6) to (9), Monetary Synthesis, Central Bank, Col(10) and (11) Research Department, Central Bank.

1979 and 1980 through a decrease in the domestic credit component of the money base (see Figure 3). However, the sterilization was only partial and the nominal money base grew at a rate of 44.8% during 1979, and 34.4% during 1980¹⁰. In contrast, in 1981 the Central Bank performed a substantial sterilization and the money base decreased 9% in nominal terms. This was a consequence of a large amortization of debt from the Treasury to the Central Bank.¹¹

The increase in capital inflows reflected both demand and supply changes. On the demand side, the increase in the difference between the peso-denominated real interest rate and the dollar denominated real interest rate generated a portfolio substitution towards dollar-denominated loans as would be predicted by a model of imperfect substitution between tradable and non-tradable assets¹². On the other hand, on the supply side,

¹⁰In Corbo (1982d) it is shown that contrary to what was thought at the time, the Central Bank could sterilize the monetary effect of reserve accumulation.

¹¹Actually, early in 1981, and as part of the policy of reducing the size of the Public Sector, the Treasury used part of its surplus to reduce its debt with the Central Bank. The Central Bank did not sterilize this payment.

¹²In both measures of real interest rate the deflator used is the domestic CPI.

important restrictions to medium-term and long-term capital inflows were softened at a time when an abundance of international liquidity developed, while the international banking community was taking a much more favorable attitude towards Chile. This allowed Chile to increase its share of total international debt holding.

In 1981, in part because of the increase in international interest rates and in part because of a de-facto restrictive monetary policy by the Central Bank, the nominal interest rate of both peso and dollar-denominated loans increased substantially. The impact on the real interest rate was further magnified by the substantial unexpected decrease in the domestic rate of inflation. This decrease resulted mainly from the large appreciation of the dollar in international markets in conjunction with a dollar-pegged fixed exchange rate.

Thus, from the first half of 1981 on, Chile achieved an astounding success. The rate of inflation was reduced and through an externally financed increase in expenditures, the boom in the non-tradable producing sector carried with it the rest of the economy. The recession associated to the drastic reduction in inflation experienced after the exchange rate was fixed, started to develop only when the loss in competitiveness

of the tradable producing sectors became incompatible with the level of capital inflows.

Towards the third quarter of 1981, net capital inflows began to decrease drastically (see Table 8). This reduction reflected both supply and demand changes. On the supply side, the international banking community showed concern over the high ratio of current account deficit to GDP in conjunction with an almost constant investment GDP ratio¹³. On the demand side, most of the portfolio adjustment called for by the large interest rate differential of 1979-1980 had been already completed. Because of the neutral monetary policy followed, the monetary implications of the decrease in capital inflows were a reduction in the money base and an increase in the rate of interest. In the context of an unexpected decrease in the inflation rate, this created a large increase in real interest rates.

The increase in interest rates was also associated with an increase in the spread between peso-denominated and dollar-denominated rates, perhaps due to an increase in the

¹³Domestic savings did not finance the depreciation of the capital stock in 1981.

expected rate of devaluation, but also related to developments in the market for peso-denominated loans (i.e. restrictive monetary policy of the Central Bank). The possible increase in the expected rate of devaluation could also be associated with the financial crisis that developed in the second half of 1981 when, as a consequence of bad banking practices and in part due to the recession that was developing, eight financial institutions had to be rescued by the Central Bank. The ensuing increase in domestic credit could have been judged to be incompatible with the preservation of a fixed exchange rate.

4.2. Capital Flows, Aggregate Expenditures and the Current Account

As indicated in Table 9, the decrease in real interest rates of late 1979 and 1980 created a substantial increase in domestic expenditures (9.3% between 1979 and 1980 against a 7.5% increase for GDP), which in turn generated demand pressures in the market for both tradables and non-tradable goods. Furthermore, this reduction in real interest rates originated a boom in both the real estate and the stock market, as the community perceived a permanent increase in wealth, which was probably due to a combination of an interest rate-induced

TABLE 9

| 1/ GDP Tradables (1) | 2/ GDP Non-Tradables (2) | 3/ GDP Total (3) | Absorption (4) | GDP Deflator (5) | CPI (6) | 4/ Unemployment Rate (7) | Price of Copper cents per pound (8) |
|-------------------------------|-----------------------------------|---------------------------|----------------------|------------------------|------------|-----------------------------------|---|
| | | | (Percentage changes) | | | | |
| 1975 | -16.6 | -12.9 | -20.81 | 342 | 379.2 | 16.2 | 55.9 |
| 1976 | 5.3 | 3.5 | 0.18 | 250.6 | 234.5 | 16.8 | 63.6 |
| 1977 | 7.8 | 9.9 | 14.21 | 103.6 | 113.8 | 13.2 | 59.3 |
| 1978 | 4.5 | 8.2 | 9.67 | 56.5 | 49.8 | 14.0 | 61.9 |
| 1979 | 7.0 | 8.3 | 10.47 | 46.3 | 36.6 | 13.6 | 89.8 |
| 1980 | 5.2 | 7.5 | 9.38 | 29.0 | 35.1 | 11.8 | 99.2 |
| 1981 | 2.9 | 5.3 | 10.85 | 13.7 | 19.7 | 11.08 | 79.0 |
| 1979I | 7.0 | 7.2 | 6.9 | 7.4 | 6.64 | 16.5 | 85.5 |
| 1979II | -5.7 | -2.7 | -8.2 | 9.4 | 7.72 | 12.5 | 89.2 |
| 1979III | -8.1 | -2.2 | 2.4 | 14.9 | 10.99 | 12.5 | 89.0 |
| 1979IV | 11.3 | 5.9 | 4.7 | 7.8 | 9.00 | 12.7 | 96.4 |
| 1980I | 9.0 | 6.0 | 6.5 | 7.7 | 6.67 | 12.8 | 118.4 |
| 1980II | 0.8 | 0.03 | -1.6 | 7.7 | 7.46 | 11.7 | 93.1 |
| 1980III | -11.8 | -3.9 | -2.1 | 6.0 | 6.35 | 11.8 | 95.5 |
| 1980IV | 9.2 | 9.3 | 11.9 | 7.9 | 7.70 | 10.7 | 89.7 |
| 1981I | 6.7 | 1.2 | 2.0 | 3.3 | 3.74 | 11.3 | 83.0 |
| 1981II | 2.4 | 0.6 | -0.8 | 1.5 | 2.79 | 9.0 | 79.6 |
| 1981III | -9.9 | 0.2 | 9.8 | 1.0 | 2.30 | 10.5 | 78.3 |
| 1981IV | -2.8 | -5.2 | -10.6 | 0.4 | 1.64 | 13.5 | 75.2 |
| 1982I | -0.6 | -5.2 | -13.1 | 0.6 | 0.70 | 19.1 | 71.3 |
| 1982II | 1.8 | -3.5 | -8.9 | - | - | - | 66.0 |

Notes: Rate of change for cols (1) to (4) computed from raw data at 1977 prices.

1/ Includes Agriculture, Fishing, Mining and Manufacturing,

2/ Includes Construction and Services,

3/ Includes private consumption, public consumption and total investment,

4/ Greater Santiago, U. de Chile.

increase of permanent income and a substantial rise in real wages (10% per year for CPI-deflated wages from 1979-1981).

This increase in expenditures in turn gave rise to a boom in the non-tradable sector, which required a market clearing appreciation of the domestic currency (a drop in PT/PN). Thus, the appreciation of the domestic currency resulting from the fixing of the exchange rate did not result in a major disequilibrium in terms of unemployment and output losses, but was validated through a decrease in the real interest rate and the associated increase in expenditures, made possible by the capital inflows.

The increase in expenditures of 1980 was carried over to the first half of 1981. A substantial bubble developed in real estate and stock markets in 1980. As mentioned above, this was associated with a perceived increase in real wealth, which gave rise to a considerable increase in expenditures in 1981, far above the increase in GDP (10.8% for expenditure against 5.3% for GDP).

On top of the internal developments of the Chilean economy that we just described, we have to consider the impact of the international recession. In 1981, Chile suffered an important loss of income as a result of a deterioration of the

commodity terms of trade and a substantial increase in the international interest rate. This loss in the terms of trade of commodities and services was of the order of 1,200 million dollars or 3.4% of GDP in 1981. Thus, for a given increase in domestic expenditures, this loss of income generated a larger current account deficit than the one that would have obtained with constant terms of trade. As a result, the deficit rose to 4,814 million dollars in 1981 (13.7% of GDP), close to 3,000 million higher than the 1980 deficit. This large current account deficit had as a counterpart a large deterioration in the relative price of tradables and the expansion in expenditures that resulted from the substantial increase in capital inflows. Furthermore, due to the appreciation of the dollar in international markets, this expenditure expansion took place at a very low inflation rates (9.5% during 1981 against 31,2% in 1980).

If capital inflows had instead been lower (perhaps through direct controls on foreign borrowing), ceteris paribus, interest rates would have been higher in 1980, domestic expenditure lower, and thus demand pressures upon the market for non tradables would have been correspondingly lower, and a smaller current account deficit would have resulted. This, in turn,

would have been followed by a smaller appreciation of the peso than the one observed. On the other hand, unemployment would have probably been higher in both sectors.

The loss in competitiveness (peso appreciation) between the middle of 1979 and the end of 1981 was of the order of 28%. The overall profitability of the tradable sector was further weakened by the evolution of the real interest rate, which started to increase substantially from the beginning of 1981 onwards.

The increase in ex-post real interest rates during the second half of 1981 to annual levels of almost 40% for peso-denominated loans and 15.0% for dollar-denominated loans generated a drastic fall in domestic expenditures and a recession towards the end of 1981, which carried over to 1982.

The decrease in expenditures caused a decrease in demand for both tradables and non-tradable goods. The first effect had as a counterpart an improvement of the commercial account of the balance of payments. The second created an excess supply in the market for non-tradables and required an increase in the real exchange rate in order to restore equilibrium with a lower level of domestic expenditures. With international prices decreasing in nominal terms and a fixed

exchange rate, the improvement in the relative price of tradables called for a substantial decrease in the nominal price of non-tradables to restore the real exchange rate to its equilibrium value. If the price of non-tradables had been flexible downward in the short-run, the adjustment to the lower level of expenditure could have taken place with much less unemployment.

Unfortunately, the downward adjustment in the price of non-tradables did not occur or was insufficient, and substantial unemployment developed (June 1982 unemployment in Santiago was 23%, close to four points higher than the 19.1% figure of March 1982. (The latter figure was already 8 percentage points higher than the March 1981 level)).

5. The Adjustment Mechanism: An Analytic Framework

In this section we will use the Swan-Salter-Pearce-Corden-Dornbusch two sector Australian model as an analytical framework to interpret the adjustment of the Chilean economy between 1976 and 1981. For this purpose we work with a tradable and a non-tradable sector. Production characteristics are represented by a concave production possibility frontier derived for

a given unemployment rate. Demand conditions are represented by a Meade (1951) pattern where a two step decision process is used. First we determine total expenditures and then the demand for tradables and non-tradables is derived from the maximization of a quasi-concave utility function subject to an expenditure constraint.

The demand functions are homogeneous of degree zero in nominal prices and nominal expenditures. From here we obtain demand functions where the quantity demanded of each commodity is a function of relative prices and real expenditures. (Dornbusch (1980, chapter 6), Corbo (1982)).

Such a representation of the adjustment of the Chilean economy is described in Figure 5. Let OA be the consumption expansion path, D_T and D_N the quantities demanded of tradables and non-tradable goods respectively, and Q_T and Q_N the production of both types of goods. The production possibility frontiers are BB, CC and DD for 1976, 1980 and 1981 respectively. We assume that in 1976 the economy was in equilibrium, that is, both the market for tradables and the market for non-tradables are in equilibrium. (The clearing of the market for tradables is for a given level of capital inflow). The equilibrium situation for 1976 is described by the pair P_{76} ,

C_{76} and the equilibrium situation for 1980 is described by points P_{80} for production and C_{80} for consumption. For this year, the current account deficit in units of non-tradables is HP_{80} . From 1980 to 1981 there is a substantial increase in expenditures. At the relative prices of 1980, an excess demand for non-tradables developed (not shown in the diagram). The relative price of tradables decreased to clear the non-tradable goods market. The mechanism of adjustment was an expenditure induced excess demand for non-tradables which increased the price for this type of goods. On the other hand, the price of tradables was almost constant, with international inflation compensated by the appreciation of the dollar in international markets. Thus, the relative price adjustment was accomplished with domestic inflation substantially above the evolution of the peso-value of tradables. In figure 5, we describe the equilibrium situation for 1981 with consumption at C_{81} and production at P_{81} . The current account deficit in units of non-tradables is equal to the vertical distance JP_{81} .

Thus, between 1980 and 1981 the real exchange rate moved downward to clear the market for non-tradables with a deficit in current account financed by the capital inflow.

THE ADJUSTMENT IN THE CHILEAN ECONOMY: 1976-1981*

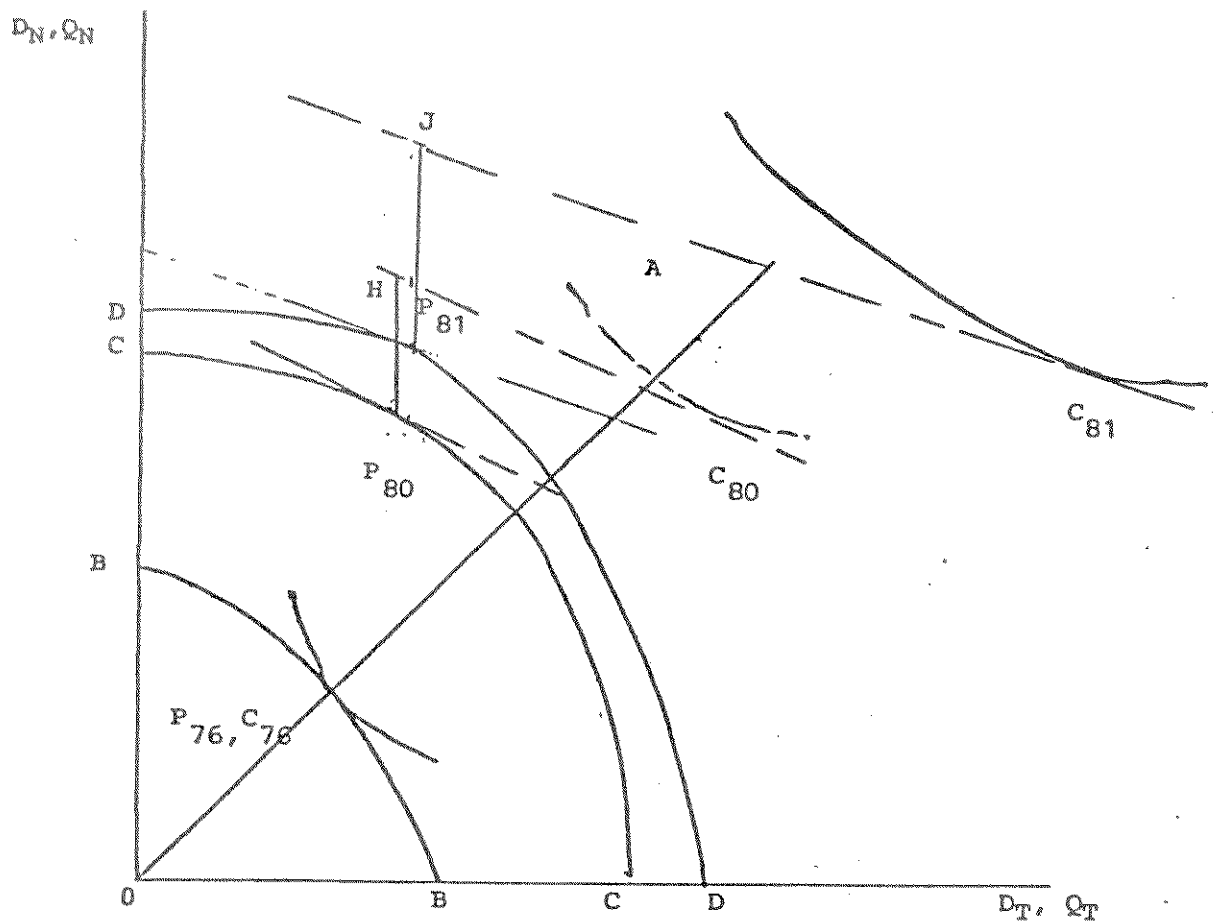


Figure 5

* For simplicity we assume that there is no capital inflow in 1976.

The required adjustment between 1981 and 1982 is described in figure 6. The initial equilibrium situation is described by production at P_{81} and consumption at C_{81} .

After the decrease in capital inflows, the reduction in expenditures -at 1981 relative prices- moves the consumption point to F. At F we have a reduction in the deficit in current account (the vertical distance between the line tangent at F and the line tangent at P_{81}) and an excess supply of non-tradables equal to $P_{81}S$. If prices of non-tradables are flexible downward then the final equilibrium will be an improvement in the real exchange rate on a production point like P_{82} and a consumption point like C_{82} ¹⁴. On the other hand, if prices are inflexible downwards, substantial unemployment would result. (Corbo and Edwards (1981)).

¹⁴For simplicity we have assumed no shift in the production possibility frontier between 1981 and 1982.

THE ADJUSTMENT OF THE CHILEAN ECONOMY
1981-1982

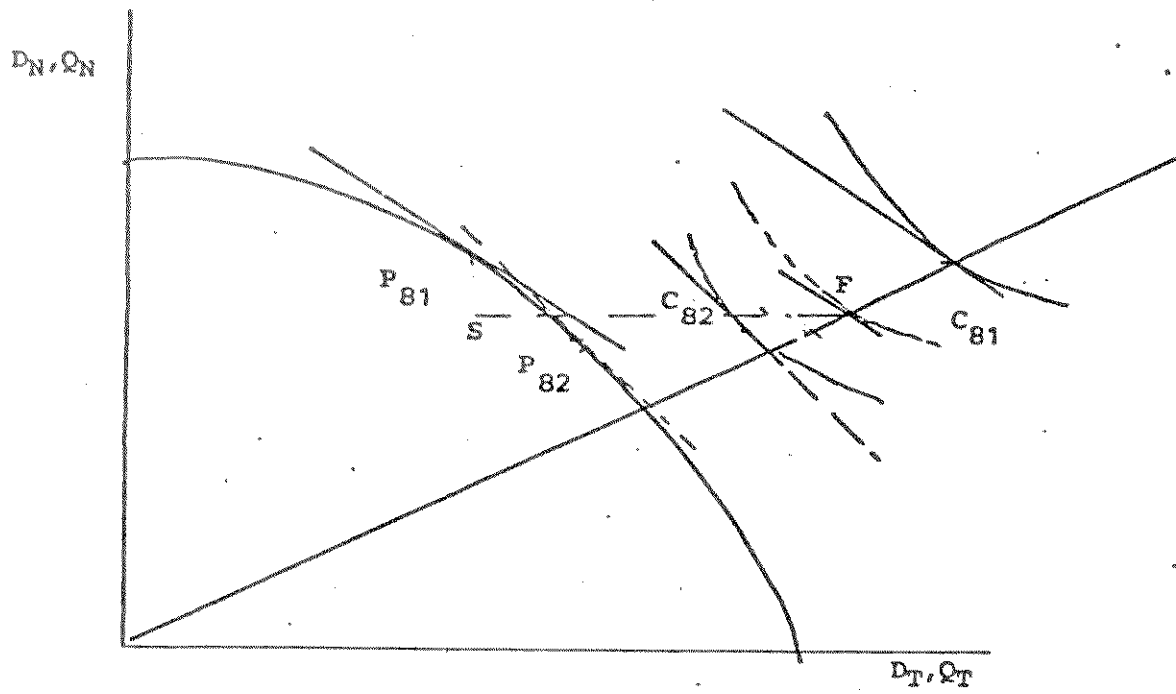


Figure 6

6. The Situation in 1982 and Future Prospects.

The improvement in the real exchange rate (P_T/P_N) called for by the macro adjustment was becoming slow and costly in terms of output and employment losses due to the downward inflexibility of the prices of many non-tradables. In this case, a devaluation would be an appropriate instrument to achieve the required depreciation and thus, move the relative price of tradables back to its equilibrium level.

In Corbo (1982a), using an expanded version of the Scandinavian model of inflation (Lindbeck (1979), Bruno and Sussman (1979)), it is shown that a devaluation did not affect the equilibrium real exchange rate in the Chilean economy of early 1981¹⁵. However, with the 23% unemployment of June 1982 and the suspension of the 100% plus wage indexation rules, a devaluation would contribute to an improvement in the real exchange rate.

The complication that arises is the possible perverse effect of a devaluation upon expectations of future devaluations and inflation. If people do not believe that the new value of

¹⁵This result is for a constant level of aggregate demand.

the nominal exchange rate is sustainable, then a run on the domestic currency may develop, giving rise to a fall in the money base with its further recessive effects.

On June 14 the government decided to help the adjustment in relative prices with a devaluation. On that date, the peso was devalued against the dollar by 18%. At the same time, the exchange rate system was changed to a new system where the peso was pegged to a basket of currencies¹⁶. This was done with the purpose of reducing short-term fluctuations in the real exchange rate due to fluctuations in the value of the dollar in international markets.

Furthermore, a monthly devaluation of 8/10 of 1% with respect to the basket of currencies was announced for the next 12 months. Then, on June 18, the government announced a set of measures to accompany the devaluation including the suspension of wage indexation. These measures had two purposes: (i) to neutralize the possible effect of the devaluation on the price of non-tradables and (ii) to reduce the level of the potential fiscal deficit.

¹⁶ The basket has value weights of 60% for the Dollar, 15% for the Yen, 15% for the Deutschmark and 5% each for British Pounds and French-Francs. The quantity weights of the basket were obtained using the price of the respective currencies in the London Market on June 14, 1982.

The post-devaluation adjustment of the Chilean economy proved to be more difficult than had been anticipated by the policy-makers. A devaluation that took place after the public had been repeatedly assured for the last three years that the exchange rate policy was going to be maintained, not surprisingly created destabilizing effects and a run on the peso. The Central Bank lost around 460 million dollars of its international reserves (13.2% of the June 14 level) between June 14 and August 6th. On this date, the recently created crawling peg system was abandoned in favor of a flexible exchange rate. At the same time, all restrictions on foreign exchange transactions were eliminated. Nevertheless, the crisis of confidence showed no signs of improvement, and the run on the peso continued. Initially, the value of the exchange rate increased substantially, which prompted the Central Bank to intervene, in trying to implement a dirty float. As a result, it lost another 450 millions between August 6th and September 20th, when restrictions on foreign exchange transactions were reintroduced.

In the meantime, the exchange rate fluctuated widely around an upward trend. With capital inflows substantially reduced, it became very difficult to implement a floating rate system, and thus on September 19th the Central Bank decided to

stabilize the exchange rate. For this purpose, the Central Bank announced its intention of supporting an exchange rate band, which allowed for $\pm 2\%$ fluctuations around an upward trend, for the next 120 days. This trend started at 66 pesos to the dollar and follows a passive crawling peg system, with the rate of crawl equal to CPI inflation minus 10% (an estimate for world inflation). This exchange rate-band policy has been subsequently extended to 180 days.

The future evolution of the Chilean economy will be determined to a great extent by the speed by which people recover their confidence in the consistency of internal policies. This may be a slow process. On the other hand, a basic ingredient for recovering such confidence is the actual consistency of such policies and some signs of recuperation of the economy.

The most crucial consistency test required at this moment is the one between the exchange rate policy, the external financing policy and the international reserves policy. Of course, all these policies must be consistent with the monetary policy to be followed.

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