

Debt Swap Mechanisms Revisited: Lessons from the Chilean experience of the 1980s¹

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I. Introduction

In the aftermath of the debt crisis of the early 1980s, and after a severe recession in 1982-1983 in which aggregate output fell by about 15 percent in real terms in two consecutive years, the Chilean economy was in a critical situation. Chile was faced with a large stock of foreign debt totaling about 90 percent of the country's GDP, which continued to increase, reaching a maximum of slightly over 120 percent of GDP in 1985.

Chile's indebtedness was the result of excess borrowing by the country's private sector for several years before the crisis, coupled with lax lending policies of foreign banks, lax national banking regulations, and high liquidity in the international capital markets during the second part of the 1970s.

Faced with this severe indebtedness and the country's exclusion from the international voluntary capital markets, which translated into a severe scarcity of foreign exchange, in May of 1985 the economic authorities created special mechanisms to convert or swap foreign debt for Chilean Assets in the form of either new domestic debt or equity. By 1991 these mechanisms had helped to reduce foreign debt by about US\$6.9 billion – equivalent to 35 percent of the original debt stock outstanding in December of 1984.

This paper reviews the Chilean experience with debt swap mechanisms during the 1980s, highlighting their main features, drawbacks, and achievements, with the aim of drawing useful lessons for other highly indebted countries. The next section provides basic background information on the reasons behind the country's over-indebtedness in 1982-1983; Section III briefly describes the two mechanisms put in place by the Chilean authorities in the second half of the 1980s; Section IV discusses their economic rationale, analyzing the advantage of the two mechanisms, as opposed to others already in existence (such as debt forgiveness and rescheduling under more favorable terms), and discussing the main pros and cons put forward by supporters and opponents of the two mechanisms at the time. Section V advances some preliminary conclusions.

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II. What Led to Over-indebtedness?

Beginning in 1974, the Chilean economy underwent a significant transformation, by which the old development model of import-substitution-cum-government-intervention was to be replaced by a competitive open market economy. Stringent fiscal and monetary reforms introduced to reduce inflation and cut the fiscal deficit, at a time when the country faced severe external constraints, brought on a sharp recession in 1975, followed in 1976 by a period of rapid economic growth. Whereas in 1975 real GDP had contracted by about 13 percent, during 1977-1980 the economy grew by an average of 8.5 percent yearly. At the same time, annual CPI-inflation fell steadily from 375 percent in 1975 to 20 percent in 1981. Similarly, the fiscal balance went from a 30 percent deficit in 1973 to a small surplus just three years later. All this occurred during a period when terms of trade were significantly below the average – in fact exactly half the average – of the previous decade and fairly stable.

Although the recovery from the 1975 recession can explain some of this rapid economic growth, its principal impetus was the profound economic transformation that was under way – comprising the opening of the trade account³, a large privatization program for banks and state-owned enterprises, financial liberalization, partial liberalization of the capital account⁴ (including special legal status granted to foreign direct investment (FDI)), introduction of the value added tax (VAT), abolition of multiple exchange rates and the pegging of the nominal exchange rate to the dollar in 1979, after several years of having used a crawling peg. The crawling peg was used with the purpose, first, of attaining a depreciated real exchange rate to boost exports, and, second, of reducing domestic inflation. The reforms brought on a period of very rapid growth, led initially by the export sector and later by rapid growth of aggregate demand and imports.

But that was not the end of the story. The rapid economic growth led to high expectations, which, in turn, led firms and households to borrow heavily. In the presence of lax banking regulations and easy access to syndicated loans offered by foreign banks to their Chilean counterparts, connected lending grew unchecked, exacerbating financial fragility. As a result, total foreign debt more than tripled between 1975 and 1982, from about US\$5.3 billion to over US\$17 billion – a staggering increase from 148 percent of the country's exports in 1980 to 400 percent in 1982-1983, despite the rapid growth (more than 15 percent annually) of Chilean exports in the second half of the 1970s following the economic reforms. More important, since the government had been running a surplus starting in 1976, the share of private debt in the total increased from 19 percent that year to 65 percent in 1981, while that of the public sector (the central government, the Central Bank, and public enterprises) fell in the same period from 81 percent to 35 percent.

³ Reforms consisted of lifting all administrative restrictions on trade and abolishing import quotas, in addition to unilaterally reducing tariffs to a 10 percent flat rate (with the exception of a few luxury items such as jewelry, fur, and cars).

⁴ Restrictions were maintained for short-term flows only, but were progressively abolished for all long- and medium-term capital inflows.

Meanwhile, the current account deficit grew unchecked to a maximum of above 14 percent of GDP in 1981, the year before the crisis.

At this critical stage of mounting internal and external fragility, the tightening of monetary policy in the US (with the corresponding appreciation of the US dollar when most of Chile's foreign debt was dollar denominated)⁵, and the sharp deterioration of the country's terms of trade by about 25 percent between 1979 and 1982, were all that was needed to precipitate a major balance of payments crisis. This in turn forced the abandonment of the nominal peg, increasing the burden of servicing foreign debt, and pushing Chile into a deep recession, with real output falling by about 15 percent cumulatively in 1982-1983. The magnitude of the financial crisis is evidenced by the government's action in taking over and intervening about 60 percent of the banking industry, at the time privately owned and managed, for future liquidation or recapitalization and posterior privatization. This was done through the Central Bank (CB), which offered soft loans and took in bad bank assets as collateral. These developments brought many private corporations into bankruptcy, and the government had to provide rescue packages and offer soft loans to make them viable. Cleaning up the corporate and banking sectors took until the end of the decade – and much longer for a few emblematic cases (resolving the so-called *Subordinated Debt* of some large private banks took well beyond 1990, and in one particular case repayment is still ongoing).

A distinctive feature of the Chilean experience is that the foreign debt was originated by the private sector, but had to be guaranteed or assumed by the government at a later stage in the crisis. This occurred because, given the severity of the crisis and the fact that Chile – like most developing countries at the time – was banned from the international capital markets, the country needed to renegotiate and reschedule the payment of interest and principal. As a condition of renegotiating and offering soft new loans (“fresh money”), which would allow the country to resume normal foreign trade, foreign banks demanded that the government provide guarantees on the stock of outstanding debt.

In general, in the years after the crisis, private foreign debt began to be substituted for sovereign debt with the multilateral financial institutions or with foreign banks. And, because the country was unable to service its debt and interest payments were being capitalized, total indebtedness did not decrease. In fact, foreign debt increased by another US\$2 billion between 1983 and 1985, or from 88 percent to 121 percent of GDP, reaching 460 percent of the country's exports in 1984 and 1985. Furthermore, by 1985 the share of the private sector in total foreign debt was only 38 percent (34 percent in 1986), while the share of the public sector was up to 62 percent (66 percent in 1986) – exactly the opposite of their relative positions only four years earlier.

In sum, by 1985, with a stock of foreign debt above 120 percent of GDP, Chile was facing a severe external constraint and was unable to service its debt without seriously jeopardizing its capacity to grow at a sustainable rate. Although this situation was common to many developing countries, Chile's position appeared to be much more tenuous than that of the Latin American and Caribbean region as a whole, where the regional average debt-to-GDP ratio in 1985, at near 60 percent, was less than half that of Chile. Similarly, that year Chile's interest payments over exports stood at 44 percent, about 9 percentage points

⁵ About 85 percent of Chile's foreign debt was dollar denominated (Fontaine, 1989).

above the region's average; at 460 percent, total debt-to-exports stood 100 percentage points above the region's average. Chile's trade balance was only 26 percent of the country's interest payments, significantly lower than in many other Latin American countries.

III. Debt-swap Mechanisms in Chile

In an effort to increase government revenues⁶ and ameliorate the scarcity of foreign exchange, by 1984 the economic authorities had reinstated capital controls and increased import tariffs to 35 percent. Thus, after the debt crisis all foreign transactions had to occur through and be registered by the commercial banking system and, therefore, were settled at the official exchange rate set by the Central Bank. At the same time, however, an unofficial parallel foreign exchange market developed, comprising small Exchange Bureaus, where retail transactions occurred. Though unofficial and unregulated, the parallel market was not considered illegal at the time. In this market agents could buy or sell foreign exchange in small amounts for travel and other small scale transactions.

In May 1985, in a further effort to reduce Chile's debt overhang and regain faster access to voluntary lending in the international capital markets, the authorities introduced new mechanisms to allow domestic and foreign residents to swap foreign debt for Chilean assets in the form of newly issued local debt or equity. The two mechanisms were known by the corresponding chapters that established and regulated them in the Central Bank's Compendium of Foreign Exchange Rules: the first, Chapter XVIII, governed the debt swap operations that domestic residents were allowed to undertake; the second, Chapter XIX, governed those permitted to foreign residents. Both mechanisms were designed to attract investors who would benefit from buying Chile's foreign debt at a significant discount in the secondary market, and exchange it for new securities payable in local currency at the official exchange rate and issued at par (or near par) value.

The main difference between the two mechanisms, and the reason for putting them in separate chapters within the Compendium, was that access to the official or formal foreign exchange market – which operated through the banking system – was granted only to non-residents operating under Chapter XIX, because they were expected to repatriate capital and profits at some date in the future. Domestic residents, operating under chapter XVIII, were denied access because they were supposed to invest and stay in the country, and would not be repatriating profits and principal in the future.

Chapter XVIII

This mechanism allowed domestic residents to buy foreign Chilean debt at a discount in the secondary market, and exchange it for new debt or equity issued by the original debtor and payable in local currency. Except for the exchange rate applicable to the transaction, which was the official rate at the time of the swap, the parties involved had to agree *ex-ante* to the conversion terms of the debt swap – that is, how many US dollars' worth of new debt or

⁶ After the crisis the government balance changed swiftly into deficit because of the cost incurred by the government in the bailing out of the banking, corporate, and household sectors.

equity would be issued for each US dollar of old debt – because this was not regulated. The parties involved would approach the Central Bank to register the swap only after they had agreed on the terms of the transaction, which had to be carried out through a commercial bank. The bank would charge a fee for locating the discount instruments to be bought as part of the transaction, and for representing the interested parties with the Central Bank.

When the original debtor was the Central Bank, that is, when the original foreign debt securities used in the operation had been issued by the Central Bank, the conversion terms of the swap were pre-announced and non-negotiable: the CB would pay for its old debt with new debt instruments issued below par – initially the conversion rate was set at 91 cents per dollar, but the rate was changed several times later on – and at a floating interest rate, so investors would receive less than the nominal value of the debt they were exchanging. The discount from par value of the new debt was regulated by the Central Bank by decreasing the interest rate paid on it (setting it below market rates).

In addition to the loss for a conversion rate of the old debt below one, investors had to pay for the discounted instruments in the secondary market with their own foreign exchange, since they were not allowed to access the official foreign exchange market to carry out the debt swap. Thus, undertaking a debt swap implied incurring an additional loss given the difference or spread between the official exchange rate and the one existing in the unofficial or parallel market, which was the market where investors could have sold their holdings of foreign exchange (if they had it) to obtain local currency, or where they would have obtained foreign currency to be able to buy Chilean foreign debt abroad (if their initial capital was in local currency).

Concerned about potential adverse redistributive effects as well as effects on either the parallel exchange rate or the level of domestic interest rates, or both, if large numbers of debt swaps were to materialize, the authorities decided to put a cap on the monthly volume of Chapter XVIII operations authorized.⁷ This was done through monthly auctions, where investors would bid for Chapter XVIII quotas; the bids were as a percentage of the nominal value to be swapped and the proceeds from the auctions were kept by the Central Bank.

Thus, the gross return in Ch\$ for a domestic resident interested in investing in Chilean assets using Chapter XVIII was given by:

(1) Gross Return = $[1 / (1 - \text{Debt Discount})] \cdot [ER^{\text{Official}} / ER^{\text{Parallel}}] \cdot \tau \cdot (1 - \delta) \cdot (1 - \text{Bank Fee})$
where:

Debt Discount = discount of the Chilean foreign debt in the secondary markets, in percent;

$ER^{\text{Official}} / ER^{\text{Parallel}}$ = spread between the official and parallel foreign exchange⁸;

τ = Conversion Rate (< 1); it is the amount of new debt or equity issued for each US\$ 1 of old debt, nominal value, both expressed in foreign currency;

⁷ This was motivated by the initial uncertainty surrounding the debt swap operations: (1) it was not clear ex ante how much pressure would be exerted on the parallel exchange rate – because investors would turn to that market to obtain foreign currency to do the swap – or domestic interest rates – because foreign debt was being swapped for domestic debt denominated in local currency; and (2) there was considerable uncertainty about potential adverse effects on distribution of benefits.

⁸ Exchange rates are expressed as Ch\$ per US\$ 1.

δ = fee paid to the Central Bank during the auction, as a percentage of the nominal value of the swap;

Bank Fee = bank fees in percent of the nominal value of the swap.

Domestic debtors were not allowed to buy back their own debt at a discount and then apply for Chapter XVIII, since that would have violated the sharing clause by which a debtor cannot prepay a debt with a particular creditor unless the same offer is made to all creditors – also the reason why the operation had to be carried out through a commercial bank. Further, after the debt swap was completed, domestic investors were not required to keep their investments in the same firm whose debt had been swapped; they were allowed to sell the securities they had received to other investors or use them to capitalize other national firms or banks.

Chapter XIX

Chapter XIX functioned very similarly to Chapter XVIII, with three main differences:

- a) the investment was granted FDI status, guaranteeing the investor access to the official foreign exchange market for the repatriation of dividends (profits) and principal in the future; principal and profits resulting from the investment were subject to minimum stay periods before they could be repatriated (10 and 4 years, respectively);
- b) swap operations under Chapter XIX were approved on a case-by-case basis, to make sure that they meant actual investment and were not just the reinvestment of profits resulting from previous FDI, or simply the round-tripping of other available funds; the resources collected from the debt-swap could be used only for the authorized investment; and the Central Bank could accept, reject or impose additional requirements to approve swap applications;
- c) because of b), the investments were not subject to the auctioning of quotas, allowing investors to retain a larger share of the profitable swap operation

The Results

Debt swap operations were authorized in 1985 and abolished in 1995. During this period, a total of 359 transactions were authorized under Chapter XIX, from a pool of 600 applications, implying an approval and rejection rate of 54 and 46 percent, respectively. During the whole period, the authorized debt equity swap operations under Chapter XIX amounted to about US\$ 3.7 billion, although the bulk of the transactions took place in the first five and a half years, with 98 percent of the total volume swapped occurring between 1985 and 1990 (Table 1). A similar pattern is observed for Chapter XVIII. In fact, in both cases the last operation occurred in October of 1991.

Table 1

CHAPTER XIX: Summary up to May 1995				
Applications	Number		US\$ Millions	
		600	%	6,802
Approved	359	60	3,664	54
Rejected	241	40	3,138	46
Total authorized (cumulative) as of:				
	US\$ Millions		% of total	
1985	32.3		0.9%	
1986	245.8		6.7%	
1987	953.1		26.0%	
1988	1,839.0		50.2%	
1989	3,160.4		86.3%	
1990	3,577.9		97.7%	
1991	3,599.5		98.3%	

Source: CB of Chile

Debt swaps decreased after 1990 mainly because, as the economy recovered from the 1982-1983 recession and began growing, the discount in the secondary market of Chilean debt instruments fell significantly, making it less attractive to use Chapters XVIII and XIX as mechanisms to invest in Chile. The fall in Chapter XVIII operations was slightly faster than for those of Chapter XIX, because investors lost interest as the profits derived from buying the discounted debt abroad were arbitrated away by the quota auctioning conducted by the Central Bank. During the years when most of the transactions occurred, the discount of Chilean debt in the international capital markets fluctuated between around 30 and 40 percent of its nominal value (Table 2). By June 1991 the discount had fallen to around 10 percent, from about 35 percent only 16 months earlier (in February of 1990).⁹

Table 2

Market price of Foreign Debt Notes, by Country				
(Par Value = 100; Annual Averages)				
	1985 (*)	1986	1987	1988
Argentina	62	64.3	48.0	24.0
Brazil	78	74.2	53.4	46.9
Chile	67	66.5	62.3	58.4
Colombia	82	81.4	79.1	63.4
Ecuador	67	64.7	44.3	22.7
Mexico	81	57.9	53.5	47.8
Peru	47	20.0	11.3	5.2
Venezuela	82	75.2	63.8	49.9

(*) As of June. Source: French-Davis (1985, 1987, 1989)

During the period when the bulk of the debt-swap operations occurred, Chapter XVIII and Chapter XIX accounted for about 63 percent of all Chilean debt conversion, with a cumulative volume of US\$ 6.9 billion. This percentage increases to 67 percent if 1990 -- the last year when transactions were significant -- is taken as the cutting-off point (Table 3). Considering the stock of outstanding debt at the start of the swap program -- about US\$ 20 billion -- Chapters XVIII and XIX accounted for a debt reduction of about one third of the initial stock.

⁹ Source: *América Economía*, several issues.

Table 3

Debt Swaps in Chile: Summary 1985-1991 (US \$ millions)					
	Capitalization under FDI Law	Chapter XVIII	Chapter XIX	Direct portfolio swaps and other mechanisms	Total
1985	53.0	115.2	32.3	129.7	330.2
1986	56.3	410.6	213.5	303.1	983.5
1987	124.6	695.8	707.3	451.0	1,978.7
1988	51.5	909.3	885.9	1,093.6	2,940.3
1989	2.4	410.3	1,321.4	1,033.2	2,767.3
1990	15.9	591.6	417.5	70.7	1,095.7
1991		147.0	21.6	658.9	827.5
Total	303.7	3,279.8	3,599.5	3,740.2	10,923.2

Source: CB of Chile

IV. Debt-Swaps: Their Rationale in a Highly Indebted Country

Clearly, Chapters XVIII and XIX played a significant role in reducing or converting debt. But this does not necessarily mean that these official swap mechanisms were the most efficient ways of resolving the debt overhang problem faced by the Chilean economy in the aftermath of the debt crisis, or of improving welfare. What other alternatives were available, and what might have happened had the mechanisms not been created?

Before analyzing the potential benefits and costs derived from the debt-to-debt or debt-to-equity swaps, it should be emphasized that at the time of their inception, the country was facing a severe foreign exchange constraint and was unable to service its foreign obligations. Following the recession, the authorities were struggling to regain access to the capital markets and obtain new lending to finance the trade account and allow the economy to recover sustainable growth – which did not seem feasible at a time when both debt interest and principal were being capitalized or kept in arrears. Thus, debt swaps cannot be analyzed in isolation, but must be understood as part of a whole program aimed at resolving the over-indebtedness. Taking into account the context in which they were introduced is necessary for understanding some of the arguments raised at the time for or against such mechanisms. These arguments are presented in Table 4 below.

Table 4
Debt-Swap Mechanisms: pros and cons

Pros	Cons
1. Reduces capital flight and/or permit a faster repatriation of offshore capital held by residents abroad (increases repatriation of capital that fled the country in previous years).	1. Substitutes cheap foreign debt for more expensive domestic debt, or equity.
2. Provides benefits usually associated with FDI flows: transfer of new technologies; easier access to foreign markets for exports; upgrade in management; etc.	2. May end up substituting for “new money” if the investment channeled through Chapters XVIII or XIX was going to take place anyhow.
3. Increases the pro-cyclicality of transfers abroad, since debt related payments are stable through time and do not fluctuate with the cycle (or are less pro-cyclical than profit remittances).	3. May push the exchange rate up or, if capital controls exist, encourage the emergence of a black foreign exchange market, with all the well known undesirable consequences, such as under-invoicing of exports and/or over-invoicing of imports.
4. Increases tax revenues, since FDI profits are (were at the time) taxed at a higher rate (flat 40%) than debt interests.	4. Depending on how the swap is materialized, it may end up creating inflationary pressures (if paid by printing money) or raising domestic interest rates (if paid by issuing new domestic debt).
5. To the extent that markets are not perfect – not every risk is perfectly priced and, therefore, shown in an interest rate differential – a reduction in foreign debt through swaps reduces the country risk and therefore the country’s cost of capital.	5. Exchanging foreign debt for domestic assets in the aftermath of the crisis, when assets are undervalued and markets depressed, is a lousy business: the country is “selling its assets too cheap” (fire sale argument).

Note that all the arguments advanced in Table 4 are based on a partial equilibrium analysis and are valid only to the extent that there are some market imperfections. In other words, since Debt Swap mechanisms are nothing but the restructuring of a country’s net foreign liabilities, in an economy with complete markets, clear allocation of property rights, and without information asymmetries, there is no value added in the government creating special mechanisms to restructure a country’s liabilities: any such government intervention will be redundant because similar private solutions would arise endogenously via market forces that will arbitrage away all possible opportunities for profitable investment. For instance:

- the tax argument raised in number 4 in the Pros column of Table 4 will be incorrect in a general equilibrium setting without market imperfections, because higher taxes imply that the country will have to pay a higher dividend yield on FDI (because investors care about after-tax returns as opposed to pre-tax returns);
- in a complete markets setting, the greater or lower pro-cyclicality of remittances, mentioned in argument 3 under the Pros column, will be priced through a lower or higher discount rate, so the country will end up paying a price for it;

- the higher cost of the new debt (or equity) (number 1 in the Cons column) compensates for the benefit obtained when buying the old debt at a discount (and in the case of equity, the higher cost goes hand in hand with the greater risk-sharing component vis-à-vis debt);
- the reduction in country risk (number 5 in the Pros column) will occur in tandem with an increase in the price of debt in the secondary market (i.e., a lower discount from face value), so that on a net basis the country will not benefit from it;
- the fire sale argument (number 5 in the Cons column) is valid only to the extent that one believes that the true intrinsic value of assets is higher than what the market is willing to pay for them (thus, due to some market imperfection, market prices do not fully reflect the true value of assets)¹⁰.

If the arguments in Table 4 are valid only to the extent that there are some market imperfections, what then is the value added in government intervention to create special debt restructuring mechanisms? Alternatively, what imperfections exist that prevent market forces from providing such restructuring mechanisms privately, so that a government intervention is justified? Three market imperfections that may justify intervention are: problems of coordination, incomplete markets, and information asymmetries.

Coordination Problems

Government intervention may be justified if it resolves a market coordination problem; that is, if it allows for an orderly workout, such as bankruptcy proceedings (Chapter 11 in the US) or deposit insurance (to avoid bank runs arising from a crisis of confidence). Debt swap mechanisms of the type used in Chile may add value to resolving the debt overhang problem, if they allow for a coordinated solution to the problem of allocating losses (which is a zero sum game in which a better solution for one creditor is necessarily detrimental to others and thus leads to unstable equilibriums).

Market Completion

The intervention may be justified if it creates a market that would not arise on its own, such as a private long-term debt market, on the argument that long-term private debt will not be issued until the government or a public entity, such as the Central Bank, starts issuing its own long-term debt, so that a deep enough market for such securities exists. The rationale is that before private transactions can start a benchmark is needed. But the argument may be extended to include cases where official intervention is required because of the lack of a proper institutional or regulatory framework (for example, unclear property rights), or because pre-existing artificial restrictions exist that need to be removed by the authorities.

Information Asymmetries

Government action may also be justified on the grounds that the market is misinformed or misled with respect to the true value of the country's debt. Thus, if the authorities believe

¹⁰ Such market distortion occurs when policymakers, or the domestic community at large, believe that a negative externality arises if specific groups (usually foreigners) own the country's assets. Such arguments are usually advanced to limit the foreign ownership of domestic firms (in many countries foreigners are allowed only a minority participation in the stock of traded firms) or the flow of FDI to exploit natural resources.

that the country's true repayment capacity is greater than what the market estimates, foreign debt would be undervalued, and there is a gain for the country in buying its debt at a discount. This skepticism in the market may arise, for instance, if the economic authorities have a poor track record so that their announcement of a fiscal and monetary stabilization program, however genuine their commitment, is not fully credible¹¹. Thus, it only makes sense to intervene if the market discount is larger than the discount that the debtor's real creditworthiness or risk rating would indicate. This argument is similar to the "leaning against the wind" argument for intervening in the foreign exchange market when the authorities believe that the price of the currency is misaligned in relation to the country's fundamentals.

The Case of Chile

To what extent did these arguments apply in the case of Chile?

Coordination Problems: In the case of Chile it can be argued that the two mechanisms created by the CB, especially Chapter XVIII, served as an efficient coordination mechanism for allocating losses. Both mechanisms were market friendly: they relied on market prices to determine the value of the debt being exchanged, and no investor was precluded from participating in the market, whether buying or selling Chilean debt. Thus, they did not violate the sharing clause and relied on market forces to allocate losses, reducing the possibilities for arbitrary decision making favoring one participant over others.¹² The CB quota auctioning for Chapter XVIII swaps also reduced the likelihood of unfair treatment. And the same applied to the international secondary market. Indeed, as argued by Edwards and Larraín (1989, Chapter 1), for debt swaps to work investors needed a deep enough secondary debt market, so that prices (discounts) are competitive and investors and creditors are not left unprotected and subject to market squeezes or other uncompetitive practices. According to these authors, the latter condition was met in the case of the Latin American foreign debt market only after the 1985 Baker Plan.

But that is not all. In Chile, where the majority of the debt had originated in the private sector and was assumed later by the public sector, the coordination mechanism for debt resolution needed to make sure that the proceeds from the debt swap would not benefit the original borrowers. For countries where the foreign debt to a large extent originates in the public sector, this may be less of a problem.

Chapter XIX overcame this difficulty by its case-by-case approval mechanism for transactions, where the applicant's investment proposal as well as personal history and references were subject to a careful scrutiny. For Chapter XVIII operations, the problem was surmounted by precluding agents from buying their own debt, and by the CB's quota

¹¹ On the contrary, if the debtor country believes that there is a smaller chance that its debt will be serviced than creditors do, it is better not to buy-back the debt even at a discount. And if the market discount is fair — that is, if it reflects the country's true repayment capacity (this is the same as to say that prices reflect all available information and/or markets are efficient) — it is neither good nor bad to buy back the debt.

¹² This is not entirely true to the extent that the conversion rate of the debt had to be negotiated directly with the original debtor. This unresolved coordination problem may be the reason why the bulk of the debt swaps (97.1 percent) comprised debt issued or guaranteed by the Central Bank, whose conversion rate was non negotiable but instead pre-announced by the CB.

auctioning, with the added advantage that part of the debt swap benefits accrued to the Central Bank (which had assumed part of the private debt after the crisis). Finally, the compulsory undertaking of all swap operations through commercial banks (which would charge a fee) permitted the domestic banks to receive some of the benefits, allowing them to rebuild their eroded capital base. And since, during the crisis, the government had taken over those banks that were in distress and near default, forcing management and owners out, the swap related earnings would benefit the new owners (either the state, or new stockholders who bought new stock issues after privatization).

The *Market Completion* rationale is also tenable for Chile. Indeed, there is anecdotal evidence that the mechanisms were created after a Saudi Arabian banker approached a Central Bank official in 1984, expressing his interest in undertaking a debt capitalization in Chile (Garcés, 1987). Furthermore, before these formal debt conversion mechanisms were introduced in Chile and in other Latin American countries, an embryonic secondary market already existed for debt swaps (called by some observers “a Bazaar”¹³), that probably needed the encouragement of a consistent legal and regulatory framework before it could become truly effective. Apparently the lack of a proper institutional and legal setting was holding down the development of the secondary debt market and its swapping for new securities. Significantly, only 2.9 percent of the total debt swaps undertaken during 1985-1995 was private sector debt; 97.1 percent involved securities issued or guaranteed by the public sector (of which 59 percent was debt originally issued by the private sector but later guaranteed or underwritten by the public sector) – a result consistent with the view that the exchange of public or publicly guaranteed debt was supported by clearer rules and less subject to arbitrary bargaining with the debtor than private debt.¹⁴

The argument based on *Information Asymmetries* would justify government or CB intervention to the extent that the country (either the government, Central Bank, or domestic residents) captures the discount on the debt – although it may be necessary to transfer some of this benefit to foreigners in order to attract new investment, given the severe shortage of foreign exchange that does not allow the country to finance its current account or to buy back its discounted debt. This transfer can be achieved by swapping the debt at par in local currency or, more precisely, at a lower discount than it is being offered in foreign markets. In the case of Chile the economic benefits of the debt swaps were shared by the Central Bank (when auctioning swap quotas), commercial banks (that, as said, urgently needed to recapitalize), other private domestic agents undertaking Chapter XVIII operations, and foreigners undertaking Chapter XIX operations.

While the benefits from Chapter XVIII swaps were kept entirely by domestic agents¹⁵, Chapter XIX swaps benefited foreigners. Why then introduce Chapter XIX at all? One reason is the standard benefits associated with FDI mentioned in Table 4 above; a second is the need to attract foreign exchange to finance the current account. Thus, it is expected that

¹³ This observation is attributed to the Deputy Comptroller of the Currency at the time, Mr. Bench (Garcés, 1987).

¹⁴ This is also consistent with the previous (complementary) argument based on the resolution of coordination problems (see footnote 12).

¹⁵ Internal redistribution towards specific groups may be an undesirable second order effect of Chapter XVIII operations, but this problem should probably be dealt with by other policies, and not those designed to overcome a debt overhang (macro) problem.

both Chapter XVIII and Chapter XIX operations would reduce the shortage of foreign exchange. Since Chapter XVIII investors were excluded from the official foreign exchange market and not allowed to repatriate the principal and future profits, these operations were not expected to aggravate the shortage of foreign exchange; to the contrary, since foreign debt was exchanged for domestic debt or equity, there would be less net demand for foreign exchange because there would be no need to service the debt that was being swapped.

The minimum stay restrictions on Chapter XIX operations for the repatriation of principal and dividends (10 and 4 years, respectively), the case-by-case approval system, and the tight capital controls reduced the chances of round tripping and undesirable effects such as over invoicing of imports and under invoicing of exports. Further, case-by-case approval implied that often extra conditions – for instance, additional new investments – were imposed in the interests of increasing welfare.

V. Concluding Remarks

Our analysis of the Chilean experience concludes that the two Central Bank supported mechanisms used in Chile were effective and important in helping to resolve the debt overhang problem and ease the shortage of foreign exchange faced by the Chilean economy in 1984-1985. The swap mechanisms allowed for a conversion of debt that amounted to about one third of the total outstanding debt at the time of their inception. And it is unlikely that they had just substituted for other potential private arrangements, crowding out other sources of foreign exchange, because the mechanisms helped to overcome important problems – to do with difficulties of coordination, market completion, asymmetric information, and other market imperfections – that were impeding the emergence of alternative private solutions.

It is impossible to demonstrate the latter claim because the counterfactual – what would have happened if the two mechanisms had not been introduced – is not observable. Nor does our conclusion imply that the mechanisms worked perfectly and did not present some second order (undesirable) effects, especially for the distribution of their benefits and the final burden of the crisis. But we believe that for the country as a whole their benefits surpass their costs.

How applicable is the Chilean experience to other countries? Does the positive outcome for Chile imply that similar debt swap mechanisms could be implemented successfully elsewhere? Our conclusion is that the mechanisms were effective in the case of Chile only because some preconditions were in place before the two mechanisms were launched. If these prerequisites are not met by other countries, an undesirable outcome is likely. Principal among these preconditions are: a strong legal, regulatory, and supervisory framework; a strict adjustment program aimed at attaining macro stability and sustained high economic growth; a commitment to take into account any redistribution consequences; and a domestic capital market deep enough to intermediate the necessary savings to finance the program.

Rule of Law and Enforceable Regulations

Obviously, debt swap mechanisms of the type created by Chile in 1985 could be exploited to enrich some groups at the expense of the government (that is, the taxpayers). This will occur, for instance, if there is a massive under invoicing of exports or over invoicing of imports, if the proceeds from the debt swaps provide the financing for capital flight, if investors can easily do round-tripping of funds, or if investors declare their intention to undertake an investment project in the future but the latter never materializes (and the proceeds from the swap leave the country through some other channel). The larger the discount of foreign debt and the higher the value paid domestically by the government, the higher the likelihood that investors looking for private profits will embark on elusion of the capital controls applicable to debt swaps, or simple fraud. Countries must, therefore, have in place an adequate institutional setting, capable of exerting tight and effective monitoring of capital controls and other regulations, to ensure that the debt swaps will not become the source of major fraud. This is probably a critical issue for some developing countries where institutional development remains weak.

In the case of Chile this was less of a problem: historically the Central Bank has been able to exert a tight control on the banking system, effectively controlling compliance with capital controls and other regulations. Thus capital flight was not a major source of indebtedness in the years surrounding the debt crisis: at around US\$ 1 billion between 1976 and 1985, total capital flight in Chile accounted for 6.4 percent of the increase in the country's debt (Edwards and Larraín, 1989), a figure significantly smaller than that of other Latin American countries, where capital flight accounted for 60 percent or more of the country's additional debt during that period. Similarly in the 1990s, when Chile imposed a reserve requirement (“encaje”) on capital inflows, the CB was able to exert a tight control on banks and other intermediaries and there was minimal evasion. Another example of the tight control exerted by the CB is that about 90 percent of the intended investments declared under Chapter XIX operations by foreign companies were subject to in situ inspections in the years after their approval and subject to fines and legal sanctions when it was discovered that they had not taken place.

Structural Programs for Macro Stabilization and Growth

Another necessary condition for success is a consistent macro stabilization program – comprising monetary, fiscal, and exchange rate policies – that allows the country to embark on a sustainable recovery path. Without a sound and consistent macro policy framework the economy will not be able to regain a high and sustainable rate of growth, the country will not be able to attract and retain new investment, recovery will be short lived and capital flight, balance of payments crises, high inflation and all the related malaises will recur. With the consequent erosion of credibility, the cost of borrowing will continue to rise and the authorities will have an even harder road to climb the next time they try to resolve the debt overhang. Ultimately, if the country does not truly improve its repayment capacity, the benefits from buying back its debt at a discount will not materialize.

Attention to Distribution Effects

The distribution of income and wealth is a matter of concern for many countries, both developing and developed, and should be the province of proper policy tools specially designed for that purpose. Nevertheless, debt conversion programs, where there are

potentially huge gains to be realized by smart investors at the expense of taxpayers, should pay special attention to potentially undesirable redistribution effects. In particular, when designing mechanisms policymakers should ensure that swap profits do not reward those who were partly responsible for the country's over indebtedness. For Chile this was a serious concern because the bulk of the debt was originally private and assumed by the Central Bank or the government later on into the crisis. Thus, special provisions existed that prohibited some groups from benefiting from the swap program, unless of course they used the proceeds to recapitalize and pay their debts in full. Furthermore, the institutional and legal framework allowed the authorities to seize the assets of those involved in the original borrowing, with the government taking full control and ownership of all corporations and banks that went bankrupt after the crisis and whose debt was in the end assumed by the public sector. In addition, several managers and owners of banks and corporations were investigated and prosecuted.

These distributional aspects matter not only for fairness or equity reasons, but also because, if unattended, they will erode public support for the debt conversion programs, creating a politically unstable situation that could jeopardize the entire program along with the macro stabilization effort. Ideally, the benefits from the debt swaps should accrue to taxpayers, either directly or indirectly. In the case of Chile, taxpayers benefited because they were given the option of buying stocks in companies and banks that were rescued by the government, in a large scale privatization program that started a few years after the crisis. The option of buying stocks was proportional to the individual taxes paid in previous years.

Assuring Proper Financing

As in any other debt restructuring exercise (except debt forgiveness), debt swaps substitute foreign debt (which, at best is being partly serviced) for new domestic debt or equity. Thus, unless all the new securities issued after the swap are kept by foreigners, debt swaps will push up either domestic interest rates or the inflation rate (if the government is unable to cut expenditures and/or increase tax revenues to service its new obligations), or both. Thus, for a debt swap program to be successful, the volume of debt being swapped must be consistent with the financing capacity of the country, i.e. with the government balance and the savings intermediation capacity of the domestic capital market. In Chile the economy as a whole was able to swap a relatively large volume of foreign debt, because the domestic capital market was growing rapidly as a large flow of private (mandatory) savings was being channeled through it every year. This was mostly due to the 1981 Pension Reform, which replaced a pay-as-you-go (bankrupt) system with a fully funded capitalization system, which meant that a large volume of long-term savings was being intermediated by the domestic capital market every year. In addition, sound fiscal management made sure that these savings were not used up by the government to fund its deficit. Other countries aiming at implementing a debt swap program similar to Chile's should make sure that the domestic economy has the capacity to generate enough savings and government revenues to finance it. Not being able to fulfill the new debt obligations will lead to higher inflation and interest rates, with all the associated negative effects.

Final Tips

Before closing, it is worth emphasizing those aspects of debt swap programs that increase the chances of a positive outcome:

- One major objective of debt swaps is to reduce the shortage of foreign exchange. Thus, incentives must be provided for attracting new investment (more inflows) and/or delaying the payment of interest and capital (less outflows).
- If that result is not guaranteed, it may be necessary to create those conditions by, for instance, imposing restrictions on flow remittances (that is, prohibiting remittances of profits and principal until a certain number of years have elapsed) and/or requiring additional investments for approval of swaps.
- To compensate investors for committing their funds for a longer period, a larger share of the discount on the debt may be transferred to them (the transfer would be proportional to the time horizon of the investment).
- To the extent possible, use market friendly mechanisms to allocate losses and benefits, because this reduces the scope for discretionary outcomes and helps to reestablish investors' confidence.

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