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Debt-Equity Swaps and the Heavily Indebted Countries

by Wolfgang Spieles, Hamburg*

In search of solutions to the international debt crisis, attention has recently been focused on a new financing technique, so-called debt-equity swaps. An essential difference between these and the usual swapping of debt into equity is that the former allow a wider range of applications. The following article seeks to elucidate the possible contribution of debt-equity swaps towards easing the debt burden and to estimate the potential for a reduction in external debt and its effect on the balance of payments of the debtor nation.

Since its outbreak in August 1982, the debt crisis has continued to be of current importance and no short-term solutions are in sight. Consequently, private creditors are showing an increasing willingness to sell off their claims on highly indebted countries at a discount. A foreign investor may purchase a debt paper at 70 % of its face value, for example, and present it to the debtor country for exchange into national currency at its nominal value. The local currency equivalent may be utilized to repay domestic debt or to finance an equity participation or an investment project.

In practice, debt-equity schemes have been established in several countries and vary from country to country in their essence. Debt-equity swaps may be limited to certain debt papers, the Central Bank itself may calculate a discount when exchanging foreign for national currency and nationals may also be allowed to engage in swapping.¹

Chile was the first country to establish a wide-ranging debt-equity conversion scheme in May 1985. Chapter 18 of the foreign exchange regulations allows nationals to engage in swapping to repay peso debt or to finance an investment project. In terms of this chapter, debt of about US\$ 500 million has been converted. Debt-equity conversion by foreigners is regulated in chapter 19 of the foreign exchange regulations, providing for repatriation of capital after 10 years and for

the transfer of returns and dividends after 4 years compared with 3 years for both in the case of a normally financed investment. Transactions of about US\$ 200 million have been registered under Chapter 19, directed particularly at investment in pension funds, insurance companies and local banks (cf. Table 1).

In April 1986 Mexico followed in establishing a debt-equity conversion scheme and about US\$ 650 million has been swapped thereunder. Distinct from the Chilean scheme, the Mexican Treasury calculates a discount between 0 and 25 % when changing foreign for national currency in order to channel foreign investment into particular sectors.

On the other hand, Brazil, the highest indebted nation in absolute terms, has to date only allowed direct capitalizations. Intercompany loans may be capitalized and banks may only switch their own loans into an equity participation held in their own portfolios. Since 1983, US\$ 2.1 billion has been capitalized, representing 2 % of total debt outstanding. However, a wide-ranging debt-equity conversion scheme is likely to be initiated in 1987.

Several other countries, such as Ecuador and the Philippines, have recently established debt-equity conversion schemes and others (such as Venezuela,

¹ Detailed information about valid debt-equity swap regulations in Latin America is given in: W. Spieles: Möglichkeiten zur Umwandlung von Forderungen in Beteiligungskapital in Lateinamerika, in: Deutsch-Südamerikanische Bank AG, Kurzbericht über Lateinamerika, No. 1, 1987.

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Costa Rica and Argentina) are seriously considering an introduction. Apart from alleviating external debt and debt service, the debtor countries hope to attract foreign investments, contributing to the country's export potential and to promote employment and the transfer of technology and know-how. If nationals are allowed to conduct swaps, a repatriation of flight capital may be induced. Local industries may be recapitalized and higher investment may boost economic growth.

Reduction of External Debt

The effect of debt-equity swaps on the amount of external debt outstanding is mainly based on three factors: supply and demand relating to debt papers on the secondary market and swap regulations applicable in the debtor country.

An estimate of the demand for debt-equity swaps is hardly possible. Demand is primarily dependent on the secondary market price and applications allowed by the debtor country. The higher the discount and the wider the range of applications such as the repayment of internal debt, equity participation or financing of investment projects, and the wider the circle of users, the greater the demand for debt papers.

The debt-equity swap instrument may be efficient in bringing back flight capital. However, a moral hazard problem would arise as investors in national currency would be discriminated against. Moreover, the abuse of a renewed exchange for foreign currency and outflow have to be avoided.

The interest of foreign investors will be determined by the economic prospects of the debtor nation and regulations pertaining to foreign investments. Market-oriented economic policies and clearly defined rules for foreign investors are of essential importance. Such

rules have to provide exact information on the transfer of return and dividends as well as the transfer of capital, taxation etc. In this connection, it has to be mentioned that the "equal treatment" clause for all foreign creditors included in the rescheduling arrangements forces investors into a commitment for at least the same period of time as provided for in these agreements. The climate for foreign investors will improve with the development of a domestic capital market, allowing for trading in equity participation. In this regard, a change in attitude towards foreign investors has been registered from hostile to more realistic, especially in the Latin American region.

Since new money has been scarcely forthcoming in the post-Mexican shock era, direct investment has gained immense importance. The psychological effect of boosting foreign investment contributes to polishing up international standing and therefore eases rescheduling negotiations. However, countries with a very negative international standing² such as most Central American and African countries will not be able to attract significant foreign investment in any event (cf. Table 2).

For illustration purposes, we have selected the five highest indebted Latin American countries in absolute terms. As mentioned above, Chile and Mexico introduced wide-ranging debt-equity swap regulations, while Brazil and Venezuela allow for swaps on a more restrictive basis and in Argentina the introduction of a scheme is under discussion. To approximate the demand for debt-equity swaps by foreign investors, we need to examine recent figures (Table 1). On average, net direct investment makes up 0.6 % of total foreign

² A widely used indicator for international standing is published bi-annually by the "Institutional Investor".

Table 1
Indicators for Secondary Market Supply and Demand

Country	Total Debt Outstanding ¹ 1985 (US \$ billion)	Of Which Private Source (US \$ billion)	Exposure of 15 top US Banks ² 1985 (US \$ billion)	Estimate of Secondary Market Supply ³ (Percentage of Total Debt)	Net Direct Investment ⁴		Capitalization of Debt, including Direct Capitalization, from 1983 to end 1986	
					US \$ bn 1984	Percentage of Total Debt	US \$ bn	Percentage of Total Debt
Brazil	107.3	90.3	21.2	22.3	1.56	1.4	2.1	2.0
Mexico	99.0	88.2	17.5	24.1	0.39	0.7	1.4	1.4
Argentina	50.8	44.1	7.2	24.0	0.27	0.5	0.5 ⁵	1.0
Venezuela	33.6	33.4	7.9	26.5	0.04	0.1	0.01	0.03
Chile	21.0	18.3	4.1	26.2	0.07	0.3	0.9	4.3

¹ World Debt Tables 1985/86, figures include use of IMF credit; ² Financial Times, February 25th, 1987; ³ It is assumed that top US banks are willing to sell 15 % and other banks 30 % of their exposure; ⁴ World Development Report 1986; ⁵ From 09/84 to 08/85 a conversion of loans with an exchange guarantee was allowed. Establishment of a new conversion scheme is now under discussion.

Table 2
Heavily Indebted Countries

	Debt Outstanding ¹ 1985		Institutional Investor's March 1987 Credit rating ²	Secondary Market Value of Foreign Debt in % of face value, March 1987
	US\$ billion	in % of GDP		
Brazil	107.3	49.7	35.5	61-64
Mexico	99.0	60.9	28.7	55-60
Argentina	50.8	71.9	24.8	61-64
Venezuela	33.6	73.3	36.9	72-74
Philippines	24.8	76.1	22.1	71-74
Chile	21.0	126.9	26.0	65-70
Yugoslavia	19.6	44.1	31.7	77-81
Nigeria	19.3	22.9	22.0	30-40
Morocco	14.0	111.4	23.3	67-71
Peru	13.4	97.9	15.0	15-17
Colombia	11.3	36.8	39.8	83-87
Ecuador	8.5	91.5	26.2	58-60
Ivory Coast	8.0	135.4	27.4	78-80
Costa Rica	4.2	136.3	16.9	34-37
Bolivia	4.0	121.1	7.7	9-11
Uruguay	3.6	72.7	27.5	65-69
Jamaica	3.4	238.5	15.4	45-50
	445.9	58.8	25.1	

¹ World Debt Tables 1985/86.

² The credit rating is based on a 100 point scale. On average, for 109 countries a value of 40.0 is calculated in comparison with 25.1 for the seventeen highly indebted countries shown here. A lower than average credit rating may be regarded as unattractive for foreign investors.

debt in these countries. Even assuming a boost in investment, a reduction of external debt by a range of only 15 to 20 % in comparison with a non-debt equity situation would appear to be manageable.

Supply of Debt Papers

The supply of debt papers is dependent on the secondary market price and the exposure of private creditors, particularly commercial banks. According to their main objectives, bilateral and multilateral

organizations are supposed not to be willing to sell their claims on debtor nations. US bank regulations provide for credits to be booked at their traditional cost unless the regulating authorities require a write-down of the loans. Bankers fear that selling from their own portfolio may induce an adjustment of the loans retained. As a consequence, major US banks are very reluctant to sell from their portfolios. US regional and smaller European banks are trying to get rid of their Third World exposure to clean their portfolios and to escape from new money arrangements. A change in US banking regulations allowing for a write-down to market values within a multi-year period would give impetus to a real secondary market. A Citibanker remarked that his bank would swap US\$ 500 million if the accounting problem could be solved (still less than 5 % of Citibank's exposure in the five Latin American countries).³ Bankers Trust took the lead in swapping 4 % of its Latin American exposure and announced its willingness to swap up to 40 % in the future.⁴ In Table 1, the secondary market supply is estimated for the five Latin American countries, assuming a willingness on the part of the top US banks to sell 15 % of their exposure and 30 % for all others. Although estimates are rudimentary and assumptions are very vague, these nevertheless indicate a maximum level for debt-equity swapping. On average, the supply of debt papers does not seem to be higher than a quarter of the countries' total debt outstanding. A pessimistic assumption of 10 % for top US banks and 20 % for all others would limit the secondary market supply to 16 % of total external debt. Bank regulators in the industrial nations are required to act if they are prepared to strengthen trends of a developing secondary market for Third World debt. Moreover, a

³ A. Marton: The Debate over Debt-equity Swaps, in: Institutional Investor, February 1987, p. 116.

⁴ R. A. Marin: Debt to Equity Conversion: A Practitioner's Perspective, Presentation to Getulio Vargas Foundation on December 4th, 1986.

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growth in supply would increase the discount on the nominal value and make debt-equity swaps a much more interesting financing instrument.

Swap Regulations

With regard to the regulations dismissed by the debtor countries, further constraints may be forthcoming. In addition to providing the ramifications for debt-equity swaps, these regulations are directed at eliminating negative consequences which may arise from this new financing technique:

□ It is argued that foreigners are gaining influence on the use of national resources, offending national sovereignty. On the other hand, this does not appear to constitute a problem of the financing technique per se but a principal question of foreign direct investment policy which may be regulated in a foreign investment statute.

□ Debt papers are to be exchanged for national currency. In the debtor nations, a proliferation of domestic resources brought about by the fiscal authorities is out of the question, as a reduction of public-sector deficits is the primary objective within the adjustment process. As a result, the central bank has to provide the national currency needed, expanding the money supply. In order to avoid a marked inflationary effect, the central bank is obliged to take restrictive measures in other monetary fields or to fix a limit for the swapping of debt into equity. For example, foreign claims may be exchanged for interest-bearing national currency bonds which may be traded on the stock exchange. This mechanism would ensure an optimal re-allocation of liquidity, with a limited increase in the money supply.

In Table 3, the effect of a US \$ exchange for national currency on monetary aggregate M1 and on inflation is approximated without the absorption of liquidity by other monetary instruments being taken into consideration. For all countries except Venezuela, the correlation

between monetary expansion and inflation is evident. Based on 1986 inflation rates, and assuming that the four countries' governments (i.e. excluding Venezuela) would tolerate only a 15 % increase in inflation, on average, only a 1 % reduction of external debt per annum would appear to be manageable. This indicates a level of a 15 to 20 % reduction of external debt in the long term; if monetary policies turn out to be adequate, the result may even be higher.

It appears to be very difficult to foresee the contribution to be made by debt-equity swaps towards easing the debt situation of highly indebted countries. Compared to a non-debt equity situation, a reduction of external debt seems to be restricted to a level of 20 %, while a juxtaposition of the above-mentioned annual reduction effect of 1 % p.a. (or even a very optimistic 2 %) and the 5.9 % annual increase of total external debt (2.4 % in real terms) in the years 1983 through 1986 reveals that debt-equity swaps do not seem able to induce a reduction of external debt in absolute terms.

However, as swaps are undertaken with private creditor claims, official creditors are gaining more importance in relative terms.

Balance of Payments Effect

Debt-equity swaps affect the balance of payments not only by reducing a country's debt service but also via their impact on the balance of trade. In exchanging a debt paper for national currency, the country reduces its external debt and needs no further funds to repay the principal and interest on the original claims. However, amortizations are normally rescheduled and, consequently, the benefit cannot be valued at 100 %. Neither would a valuation at zero be adequate in the case of fully rescheduled private claims since repayment is supposed to occur at a later date. Assuming that the secondary market value for debt papers reflects the capital value of debt outstanding, equal treatment will also be applicable to amortizations foregone.

Table 3
Effects on Money Supply and Inflation

Country	Average Exchange Rate per US \$, 1986	Monetary Expansion of M1 caused by a US \$ 1 million Inflow, in percentage points	Correlation between Growth of M1 and Inflation ²	Inflationary Effect caused by a US \$ 100 million Inflow, in percentage points	Inflationary Effect by a US \$ Inflow equal to 1 % of Total External Debt
Brazil	12.3 Cz	0.014	0.84	1.2	12.9
Mexico	650.0 Pe	0.013	0.44	0.6	5.9
Argentina	1.0 A	0.032	0.85	2.7	13.7
Venezuela	14.5 B ¹	0.016	0.20	0.3	1.0
Chile	194.0 Pe	0.105	0.68	7.1	14.9

¹ Tertiary rate, since relevant for foreign direct investment; ² All coefficients are significantly different from zero on a 96 % basis, except Venezuela.

Table 4
Balance of Payments Effect

Country	Balance of Payments Effect of a US \$ 1 Debt-Equity Swap	Debt Service Ratio, 1985 ¹ (in percent)
Brazil	1.97	26.6
Mexico	1.77	36.9
Argentina	1.86	41.7
Venezuela	1.95	12.9
Chile	1.89	26.2

¹ World Debt Tables 1986/87.

In addition, new foreign investment guided by adequate macro-economic and foreign investment policies may promote exports. The trade balance of goods and services may improve by some percentage points in comparison with a non-investment situation.

In mathematical terms, the balance of payments effect may be determined as follows:

$$BoP = A \cdot SMV + \sum_{t=1}^t \frac{(TB + i) A}{(1 + d)^t}$$

where

BoP = balance of payments effect
A = amortizations foregone (investment)
SMV = secondary market value in % of face value
t = time horizon
TB = trade balance improvement
i = interest rate
d = discount rate.

The balance of payments effect of a US \$ 1 debt-equity swap is shown in Table 4, assuming TB = 0.1, t = 10 and i = d = 0.09. This formula indicates the different balance of payments effects of a normally financed foreign direct investment and one financed by a debt-equity swap. In the normal case, the country would not benefit from an interest reduction (i = 0). However, the financial inflow must be valued at 100 % (SMV = 1). For illustration purposes, let us take the case of Brazil. A US \$ 1 normal foreign investment would bring US \$ 1.64 to the country, while a debt-equity financing would amount to US \$ 1.97. Only if the secondary market quotation were less than 42 % would a normally financed investment be preferable to a swap financing with regard to the balance of payments situation. Given this case, the central bank of the debtor country would still have the option of charging a discount which would have to be added to the secondary market value. This argumentation dispels fears of a subsidy

granted by the debtor nations in the amount of the secondary market discount (1 - SMV) as it exchanges foreign for national currency at face value since the benefit from the improvement in the balance of payments may outweigh this subsidy in national currency in a situation of scarce external resources.

Apart from the quantitative effects, the structure of the balance of payments improves as a shift towards long-term financing occurs, with returns linked to the profitability of projects. This may also raise international standing and help the country on its way back to creditworthiness. Nevertheless, problems may arise in the short run as banks, having sold their country exposure, are no longer willing to participate in new money arrangements.

An amelioration of the balance of payments is also reflected in the debt service ratio. Debt service is reduced in line with total external debt reduction and exports of goods and services tend to increase. The variation of the debt service ratio may be calculated by the following formula:

$$DSR = \frac{(1-r)}{(1-\epsilon)}$$

where

DSR = debt service ratio⁵
r = reduction in external debt in %
ε = elasticity of export of goods and services in relation to external debt.

A one per cent reduction in external debt would reduce the debt service ratio by 1.5 % and a 20 % reduction in external debt would reduce debt service by 27.3 %, assuming ε = -0.5.

Conclusion

As shown above, debt-equity swaps will only reduce foreign debt to a certain extent. Consequently, it cannot be called a panacea to solve the international debt problem. However, debt-equity swaps alleviate the pressure of foreign debt and have a positive effect on the balance of payments. To maximize positive effects, the debtor nation should study in detail the monetary effects of debt-equity swaps. In addition to a clear regulatory mechanism, the foreign investment statute should be revised where necessary.

⁵ The debt service ratio is calculated as follows: $DSR0 = ((a + i) TD) / XGS$, where a = amortizations in % of total debt, TD = total debt outstanding, XGS = exports of goods and services. The impact of a debt-equity swap would change our calculation to $DSR1 = ((a + i) TD (1 - r)) / (XGS (1 - \epsilon))$, thus leading to a growth rate as shown above. As $0 > \epsilon > -1$ the term $-\epsilon$ is positive.