

Debt Conversion in Principle and Practice

1. Introduction

This paper examines both the principles underlying debt conversion and the experience with such schemes as they have been operated by a number of countries over recent years. Section 2 looks at the theory and mechanics of debt conversion and capitalisation (DCC), with Section 3 assessing some of the advantages and problems. Section 4 briefly discusses the way in which DCC has been used, and Section 5 offers a few concluding remarks.

2. The mechanics and theory of conversion and capitalisation

The basic mechanisms by which debt may be converted or capitalised are relatively straightforward although the technical details of the schemes become complex.

The idea behind all schemes is to convert or swop debt which is denominated in foreign currency (usually US dollars) into debt which is denominated in domestic currency. Any such swop involves a buyer and a seller. The buyer purchases the debt at a discount — say 70 cents on the dollar — with the original holder of the debt thereby effectively cashing in the loan, but only up to a proportion of its face value. The buyer then sells the debt back to the government of the country of issue, receiving in exchange assets denominated in domestic currency. These assets may reflect either public or private debt or equity. However, the buyer will not be able to swop the debt effectively at the official exchange rate, but rather at a less advantageous one, receiving fewer units of domestic currency for each unit of foreign currency.

The demand to buy a country's external debt may come either from its own nationals in possession of, or with access to, foreign exchange but anxious to invest in the domestic economy, or from foreigners similarly anxious to invest in a specific national economy. Significantly the common feature is the desire to invest in the country whose debt is acquired. Although the strength of this desire may be influenced by the size of the discount and by the effective exchange rate, the underlying assessment of the country's economic prospects is likely to be a more important factor.¹

The supply of external debt on to the secondary market will clearly be provided by current holders of this debt, although it will only be those holders whose own internal risk adjusted discount rate is at least equivalent to that on offer in the market that will put up their loans for conversion. In principle the intermediation of a third party in a debt swap is unnecessary. The original holders of the debt could simply and directly convert their dollar denominated claims on the country into claims denominated in the domestic currency. Their desire to do this will depend on their currency preferences which will, in turn, be influenced by the current effective exchange rate and expected exchange rate movements.

The purpose of the market in debt conversion is clearly to meet the latent demand for transactions arising from different preferences and perceptions of creditworthiness as well as to identify the equilibrium or market clearing price. However, it may be somewhat misleading to refer to "the" price. One needs to distinguish between the price of the debt, which will be inversely related to the size of the discount, and the price of debt conversion. As far as the "conversion price" is concerned, buyers and sellers face different prices. From the sellers' point of view, and ignoring transactions costs, the price of the conversion is indeed measured by the discount on the debt. From the buyers' point of view, however, the conversion is measured by the discount adjusted for the differential between the official and effective exchange rate. Holding the exchange rate element constant, it may be anticipated that "normal" demand and supply relationships will apply. The demand for debt to convert will be positively related to the size of the discount, (negatively related to the price of the debt) and the supply of debt to convert will be negatively related to the size of the discount, (positively related to the price of the debt).

¹ For a discussion of the ways in which lenders may attempt to evaluate creditworthiness see, for example, GRAHAM BIRD, "New Approaches to Country Risk", *Lloyds Bank Review*, October 1986.

The government of a country may influence the market in debt swaps in a number of ways. First, by affecting the country's contemporaneous and expected economic performance it may influence both the demand for debt conversion and the supply of debt for conversion. As economic performance and prospects improve the demand for debt conversion will tend to rise and the supply of debt for conversion will fall, the price of debt will therefore rise and the discount on it will fall. Indeed, to the extent that conversion is itself seen to strengthen the domestic economy it may narrow the discount and eliminate the incentive to convert. Second, by administering the differential between the official and effective exchange rate it may influence the demand for debt conversion. Widening the differential will reduce the demand. However, as noted earlier, the exchange rate differential could also influence the desire of initial holders of debt to convert it directly into domestic currency denominated debt which would reduce the supply coming on to the market in discounted debt.

The importance of the exchange rate differential may be illustrated as follows. As established above, the gross return to a debt purchaser (r) will depend on the discounted price of the debt (dp) and the exchange rate differential between the official rate (e^o) and the actual rate used (e^a) such that:

$$(1) \quad r = [(1/dp) (e^o/e^a)] - 1$$

With $e^o/e^a < 1$

and $dp = e^o/e^a$

the exchange rate differential completely neutralises the discount on the price of the debt and the return to conversion will be zero. For there to be a positive return to conversion it is necessary that

$$dp < e^o/e^a.$$

Indeed the size of the discount will have to compensate for the exchange rate differential by more than the size of any additional transactions costs in order to generate a demand for debt to convert.

If a country's authorities consider debt conversion to be a useful exercise they will wish to keep r positive, but will not want it to rise above the level necessary to generate the amount of conversion which they see as being optimal. In other words, they will wish to minimise the domestic currency cost of converting a given amount of foreign

currency denominated debt; or, what comes to the same thing, will wish to maximise the amount of foreign currency denominated debt converted for a specific domestic currency cost.

The authorities are able to alter r by altering e^o/e^a . Assuming that they will not wish to offer debt swoppers a rate of exchange preferable to the official rate, it follows that the maximum return on debt conversion will be achieved by ensuring that $e^o/e^a = 1$. Again, however, it is necessary to bear in mind the dynamics of conversion for the exchange rate. Significant conversion activity will force up the price of the domestic currency in the parallel market, and this will reduce the incentive to convert. At the same time it may exert pressure on the official rate.

The above analysis may be expanded by noting that a country's authorities may also influence the effective exchange rate applied to debt conversion through use of the tax and subsidy system. The earlier formula showing the return on conversion may be modified as follows:

$$(2) \quad r = [(1/dp) (e^o/e^a)] - (1 + T)$$

where T is the percentage tax or commission on the face value of the conversion. Of course the tax could, in principle, be applied to the return on conversion (r) in which case the formula becomes:

$$(3) \quad r = \frac{[(1/dp) (e^o/e^a)] - 1}{1 - t}$$

where t is the tax rate.

While either tax rate scheme may be used to offer subsidies as well as taxes, the scheme shown by formula 3 will, for a given rate of tax, generate less tax revenue, and will automatically convert into a subsidy where returns are negative.

It may be helpful at this stage to introduce some illustrative calculations.

Assume that:

$$\begin{aligned} dp &= .70 \\ e^o/e^a &= .95 \\ \text{and } T &= .10 \\ \text{or } t &= .10 \end{aligned}$$

These figures may not be too inaccurate. Table 1, for example, provides one estimate of the discounted price of the debt of some of the major developing country borrowers.

TABLE 1

THE DISCOUNTED PRICE OF
DEVELOPING COUNTRY DEBT
(July 1986)

Argentina	66
Brazil	76
Chile	67
Colombia	83
Equador	65
Mexico	56
Venezuela	75

Source: Shearson Lehman Brothers International.

Using formula (2):

$$\begin{aligned} r &= [1.43 \times .95] - 1.10 \\ &= .26 \end{aligned}$$

Using formula (3):

$$\begin{aligned} r &= \frac{[1.43 \times .95] - 1.10}{.9} \\ &= .32 \end{aligned}$$

Both formulae confirm that r will fall as the discount on the debt narrows and dp rises, and e^o/e^a falls, *i.e.* as fewer units of domestic currency are exchanged for each nominal unit of foreign currency, and as T or t rises.

Rather than altering the effective exchange rate differential, by changing either e^o/e^a or taxation, an alternative way of eliminating the rent to debt swoppers, or of eliminating their "consumer surplus", is to auction the right to convert debt. Under this alternative the official exchange rate could be used for debt swaps. Auctions would essentially amount to the "tax" on debt swaps being market determined. Again assuming that transactions costs are ignored, for as long as $r > 0$ the auction price will tend to rise. It will continue to rise until the rent is eliminated.

A relevant question here, however, is why should the authorities permit the auction price to rise rather than eliminate the rent by increasing the quantity of debt conversion? With an increased quantity of conversion both dp and e^o/e^a will rise and the return to conversion will fall. The answer is that, in practice, fear of "excessive" foreign investment and of creating problems for exchange rate management and for domestic financial management have led countries to administer the process of debt conversion and capitalisation. Of course the scope for administering DCC relates not only to its total quantity but also to its sectoral or industrial distribution. By offering certain preferential terms on certain deals governments may selectively encourage investment in priority areas such as in the export industries.²

3. Potential advantages and problems

A number of advantages have been claimed for DDC schemes. First, holders of debt are no longer locked in and, if they are prepared to accept a discounted price, and if a market exists, they may off-load loans which they no longer wish to hold.³

Second, countries may reduce their stock of external debt and, at the same time, encourage foreign direct investment. Moreover debtors may be able to improve their financial position by altering the currency composition and maturity of, and the interest rate on their debt.

Third, the schemes offer a way of repatriating flight capital, by offering nationals a way of getting more units of domestic currency in exchange for their foreign currency assets than they would receive at the official exchange rate.⁴ Any basic desire of nationals to invest in their

² As will be seen, many of the aspects of debt conversion mentioned in this section are illustrated by the discussion of the way in which such schemes have been operated which is undertaken in Section 4 of this paper.

³ Over the last few years an informal secondary market in developing country debt has evolved although the quantity of business undertaken remains small in relation to the total amount of debt. Although unpopular with some bankers who do not wish to see the value of their assets marked down, the secondary market does offer an assessment of country creditworthiness and also introduces a degree of flexibility into debt management by translating debt into a marketable instrument.

⁴ The preferable effective exchange rate comprises the discount element on the debt and the differential between the official exchange rate which would be applied to normal transactions and the exchange rate applied to debt conversion.

own country may enhance the impact of DCC schemes on repatriating capital as compared with their impact on other capital flows.

Fourth, the repayment of interest and principal is replaced by the outflow associated with foreign direct investment and this will reduce the incidence of short-term liquidity crises.⁵

Finally, and for some of the above reasons, debt conversion may increase a country's creditworthiness in international financial markets.⁶

Against this apparently impressive array of advantages it is possible to raise certain counter arguments. These either take the form of critically questioning one of the assumed advantages listed above, or of suggesting that there are additional problems and issues which need to be addressed.

Into the former category comes the point that most banks will remain effectively locked in to their historical lending since they will not wish to sell debt at a discount. Instead they will prefer to keep loans on their books at 100 per cent of their face value. This will be particularly the case where there is no hope of a bank being able to sell all the loans it would like to. Such reasoning suggests that it will be only the small banks with relatively little, and relatively concentrated lending in specific developing countries, or banks that have already written down or written off the debt that will wish to participate.⁷ Furthermore, to the extent that loans are syndicated, a universal approach would be required and this would prove difficult to orchestrate.

A second set of critical remarks relates to the connection between DCC schemes and foreign direct investment. While in certain conditions, as spelt out above, debt conversion may offer investors a method of investment which gives a higher return than would be associated with more conventional methods of FDI, it still needs to be asked whether the underlying economic conditions are conducive to FDI. Where they are not, it is probably unreasonable to expect the relatively small changes implied by debt capitalisation to make a significant impact. Where they are, a DCC scheme is not needed to encourage investment.

At best DCC schemes are likely to have only a marginal effect on the volume of FDI. In order to have a significant impact on the overall volume of financial inflows, including FDI, it is necessary that economic

⁵ This is because the contractual aspects of debt servicing may be avoided.

⁶ For a further discussion of the determinants of creditworthiness see again BIRD, *op. cit.*

⁷ For this reason it has generally been suggested that debt conversion will be a less attractive option for the money centre American banks.

performance and prospects in the receiving countries, as viewed by lenders and investors, improve. This suggests that DCC schemes are tinkering at the edge of a much more fundamental problem. Although such tinkering is not without merit its importance should not be overemphasised. If investment and lending decisions are dominated by these more fundamental considerations, it follows that the elasticity of demand for debt with respect to the return on conversion is likely to be low.

Moreover, FDI, even if it were to be encouraged by DCC schemes, should not be regarded as the complete solution to the debt problems of the major borrowers.⁸ In order to get the most from it, countries will still need to earn foreign exchange in order to finance the level of imports required to sustain economic growth at the desired rate, although they will not have to earn it to service their debt. Again then many of the problems which are fundamental to easing countries' debt difficulties seem to be largely unaffected by DCC schemes.

Finally in relation to FDI, there is the question of whether governments will prefer investment to be made directly or via debt conversion and capitalisation. This basically reduces to the question of whether they prefer to see a fall in external debt or an increase in international reserves. However, it also needs to be noted that, for a given amount of investment denominated in foreign currency, investment through debt conversion will tend to lead to a rather larger fall in external debt than would be the rise in reserves associated with conventional investment because of the discount at which the debt may be purchased.

Another doubt hangs over the extent to which DCC schemes will encourage the repatriation of flight capital. There is little question that capital flight has been a major problem for many debtor countries, although the precise size of the problem is notoriously difficult to define statistically.⁹ But beyond this there is no guarantee that DCC schemes, even where they involve a country's nationals, will attract back flight capital as opposed to domestic balances or the foreign exchange proceeds from exports. From the viewpoint of the country concerned

⁸ For a good general review of the debt problem and of potential solutions see WILLIAM CLINE, *International Debt: Systemic Risk and Policy Response*, Institute for International Economics, Washington, 1984.

⁹ See *World Financial Markets*, March 1986, for a brief discussion of these difficulties and some calculations of the size of capital flight.

there is probably a higher opportunity cost associated with using foreign exchange from these latter sources. A consolation, of course, is that if domestic holdings of foreign exchange are enticed into DCC at least the schemes will militate against further capital flight. The greater familiarity with a country's economy that nationals may be expected to possess may not necessarily make them more likely to invest in their own economy. It may have the opposite effect.

Turning now to the second category of counter arguments, there are various problems associated with debt conversion and capitalisation.

First, there are the problems created for foreign exchange management. If debt conversion reaches significant levels there may be pressure on a country's exchange rate, although in principle it is not absolutely clear what the effects will be. One group of arguments suggests that the pressure will cause currency depreciation as the supply of public debt and the domestic money supply expand and as the formalised write down undermines confidence. Another group, however, suggests that, as noted in the previous section, the increased demand for domestic assets, as well as the increased confidence associated with a decline in external debt, may cause the parallel exchange rate to appreciate. This may put pressure on the government to adjust the official rate in a direction which is inappropriate to the broader needs of the economy. Of course, if DCC deals remain quantitatively small in number and size their impact on the exchange rate in whatever direction is, in turn, likely to be small and again dominated by other factors.

As noted earlier, governments could attempt to eliminate adverse effects on the exchange rate by operating a system of multiple rates. By widening the differential between the official rate and the effective rate used in debt conversions a government can, in effect, "tax" the profits of the converters. It therefore needs to calculate the optimal "tax". For this purpose it essentially needs to identify the rent element of the debt conversion, but to do this requires information on the elasticity of demand which it is unlikely to possess *ex ante*. The alternative approach to taxing the rent element on debt conversion is to auction the right to convert under the assumption that competition will eliminate all but normal profit.

Second, there is the question of whether there is a strong enough market in domestic public debt and private equity to facilitate debt conversion and capitalisation. Ideally governments will wish to convert their own relatively short-term external debt into relatively long-term

domestic debt by issuing government bonds, but they may be unable to achieve this because the domestic market is too thin. To increase short-term public debt could have undesirable implications for the domestic money supply, for inflation, and for the real exchange rate. These implications could, in turn, adversely affect the country's current account payments position, its creditworthiness and the inflow of foreign capital.

There is also the danger from the countries' point of view that DCC schemes, by lessening the need for debt restructuring, will reduce the inflows of the new monies usually associated with such agreements. The argument here is that banks are only encouraged to lend new money in order to protect their old loans. If these have been sold off, particularly at a discounted price, the banks will be under no such incentive to lend. Furthermore, of course, the nature of previous restructuring agreements may make it difficult for banks party to these agreements to sell off their loans.¹⁰

4. DCC in practice

Having identified the principles underlying debt conversion and capitalisation, it may be worthwhile briefly reviewing some of the practical experiences with such schemes.¹¹

Argentina has recently introduced a scheme for debt capitalisation under which external debt may be swapped for austrads provided these are then used for new investment in export oriented industries. However, an extra condition is that the investor also has to bring in additional foreign exchange equivalent to the face value of the debt converted. The rather restrictive terms of the debt-equity scheme, combined with the generally poor assessment of the Argentine economy, suggest that the scheme will not result in any significant amount of capitalisation.

¹⁰ This will be largely because it might be perceived that they are receiving better terms than other creditors.

¹¹ A useful review of the use of DCC schemes may be found in WILLIAM OLLARD, "The Debt Swoppers", *Euromoney*, August 1986.

As with the case of Argentina, a programme for debt capitalisation in the Philippines differentiates between high and low priority areas. Where the investment associated with the debt swap is in export industries or in agriculture, for example, a relatively low 5 per cent conversion fee is charged by the central bank and the restrictions on the repatriation of capital are fairly lax, permitting it to occur in instalments after three years, with there being no restriction on dividends. For lower priority investments, however, the conversion fee increases to 10 per cent, repatriation of capital can only begin after 5 years, no dividends may be paid during the first four years of the investment, and the investor must bring in extra foreign exchange equivalent to 10 per cent of the total equity investment.

Similar differentiation exists in the Mexican programme where the peso price paid for debt by the Mexican authorities depends on the way in which the pesos are to be used. The highest redemption prices are paid where the money is to be channelled into privatised state enterprises, export and import-substituting industries, or into investments that will be job creating.

In Brazil, for a brief period during 1984, additional tax credits were used to encourage debt equity swops. But after mid-1984 the conversion scheme became more restrictive with the equity investment being constrained to take place in the original debtor. Furthermore in 1985 the tax credit was discontinued. While about \$ 1.8 billion of Brazil's external debt has been swapped into equity since 1983 the number of swops dropped significantly as the terms for conversion became tighter.

Debt conversion and capitalisation has been most actively pursued in Chile, although, even there, the schemes developed as a response to private sector demand for transactions of this type. The initial requests were to authorise foreign exchange transactions for the purpose of buying Chilean debt which was available in the secondary market at a discount. It was concern that such deals could put pressure on the foreign exchange market which led to the introduction of regulations. These are contained in Chapters 18 and 19 of the Banco Central's foreign exchange regulations. Chapter 18, under which most transactions have occurred, relates to the purchase of the external debt of the Government, state enterprises and the private sector, and its conversion into domestic debt instruments by Chilean residents. Chapter 19 relates to the purchase of debt by foreigners and its conversion into equity investments in Chile.

The Chilean experience nicely illustrates some of the principles identified earlier in this paper. First, the market only arose after perceptions of the future prospects for the Chilean economy improved. Second, the government had a fairly positive attitude towards foreign investment. Third, there were domestic instruments in the form of long-term indexed bonds into which the external debt could be converted and there was a market for these. Fourth, there was enough interest on both the demand side (particularly from Chilean residents) and the supply side (from banks that had already provisioned or that wanted to exit completely) to allow a market to develop. Fifth, anxiety about the effects of Chapter 18 transactions on the exchange rate and the domestic money supply led the Chilean Government to control such transactions through an auction system conducted by the central bank. Basically transactors wishing to convert debt put in bids, or "cupos", to participate. The central bank then allocates a monthly quota by working downwards from the highest bid until the quota has been filled. The cupos represent a cost to the debt converter, and revenue to the central bank. They therefore redistribute the profits from debt conversion. Finally, the concern about the impact of debt conversion on restructuring has been handled by modifying restructuring agreements to exclude such swap arrangements. Such exclusion has been based on control over remittances so that one group of creditors does not possess a better chance of being repaid than another.

The Chilean experience seems to have been successful. External debt has been reduced by about \$ 1 billion and none of the potential problems appear to have loomed large. Again, although it is difficult to be precise the Chapter 18 scheme does seem to have facilitated the repatriation of flight capital. The interesting question is to what extent the success of the scheme has been because of or in spite of the controls imposed.

5. Concluding remarks

In the current environment it is important to examine any scheme which offers some hope of alleviating the debt difficulties faced by a number of countries. Debt conversion and capitalisation is one such scheme. The fact that DCC schemes have been introduced in a number

of countries suggests that they do have benefits and the analysis conducted here confirms this. They do offer a way of reducing external debt and of alleviating the foreign exchange problems associated with such debt. Furthermore they may have a beneficial effect on both domestic and foreign direct investment and offer incentives for the repatriation of capital.

But it is easy to overstate the benefits. Quantitatively these are likely to be fairly marginal. Moreover there are problems associated with debt conversion. The implications for the exchange rate, the domestic money supply and inflation need to be carefully considered, although the marginality of the schemes also implies that these problems are quantitatively small.

Although in the best known case of Chile the government involved itself in certain aspects of the administration of the DCC schemes for fear of these problems, there are reasons to believe that their operation may be left largely to market forces, since these will tend to ensure an equilibrium volume of debt conversion. Governments may need to monitor what is going on but may not need to intervene.

What is clear is that DCC schemes will not encourage investment in countries which, for other reasons, are viewed as uncreditworthy. While they may facilitate and, at the margin, encourage additional capital flows they will not transform a country's debt position. The appropriate economic circumstances have to exist for DCC schemes to be helpful, and debt conversion certainly does not offer a substitute for, but rather a complement to other measures to encourage cross border lending and foreign direct investment.

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