THE LATIN AMERICAN DEBT BURDEN : CONSEQUENCES FOR INTERNATIONAL ADJUSTMENT AND AGRICULTURAL TRADE

S. Elaine Grigsby and Emilio Pagoulatos

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The authors are agricultural economist at the International Economics Division, Economic Research Service, U.S. Department of Agriculture, and professor, Department of Agricultural Economics, University of Nebraska, respectively.

Abstract

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This paper attributes the origins of the Latin American external debt problem to the oil price and real interest rate increases and debtor country and international bank policies. Next, it briefly examines the implications of economic adjustments to service the debt. Finally, in order to facilitate research on the linkages between debt and agricultural trade, the paper suggests some factors to consider in modeling import behavior and international borrowing.

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In 1982 Mexico announced that it was unable to meet interest payments on its foreign debt. Since then, the debt crisis affecting the international economy has been particularly hard on Latin America. Of the 15 major debtors, owing $430 billion of the outstanding country debt of $900 billion, ten are Latin American countries. (Others are 3 African countries, Yugoslavia, and the Philippines.) The four largest debtor developing countries are in Latin America: Brazil ($107 billion), Mexico ($99 billion), Argentina ($50 billion), and Venezuela ($33 billion)[1]. Several of them have had at times to defer repayment of principal and to reschedule their loans.

The economies of the Latin American countries have been under considerable hardship because of their debt burden. Unlike the 1930's, however, when many of them defaulted on their debt payments, most of these Latin American countries, with the assistance of the IMF, have recently made efforts to service their debt. Debt service, however, has forced adjustments externally and internally. Both types of adjustments have implications for economic growth and agricultural trade.

While considerable progress has been made towards the understanding and management of the problem, the debt crisis is far from over, and its resolution will require sustained efforts over a substantial period of time. Furthermore, it is already apparent that the Latin American debt difficulties represent a problem not just for the international banks, but for the entire world economy.

This paper first considers the origins of the Latin American external debt problem. Next, it briefly examines the implications for international

adjustment and agricultural trade. Adjustments made in the balance of payments of debtor countries to resolve the debt crisis have meant reductions in agricultural imports. But agricultural imports have not dropped as much as total imports. A more serious consequence for agricultural imports in the long run may result from domestic economic adjustments necessitated by changes in the external accounts. Finally, the paper suggests some ways to model import behavior and international borrowing in order to facilitate research on the linkages between debt and agricultural trade.

Origins of the Debt Crisis

One of the most significant developments of the last two decades has been the world-wide expansion of international banking activities and the resulting integration in world financial markets. Particularly important during the 1970s was the drastic increase in the participation of developing countries in world capital markets after being excluded from them for nearly forty years. This access to private foreign capital allowed a number of developing countries to sustain very high growth rates during the early 1970s. At the same time, because integrated markets also transmit economic disturbances internationally, world capital markets became a vehicle for the transmission of several external shocks during the late 1970s and early 1980s that helped create the current debt crisis.

The external debt difficulties for Latin American countries have been attributed to the convergence of four external and domestic factors [Cline (1985a, b), Dornbusch (1984), Dornbusch and Fischer (1985), Enders and Mattione (1984), Krueger (1986), Wiesner (1985)]. First, following the second oil price increase in 1979-80, the world fell into a prolonged recession. The result was a sharp decline in the world demand for developing countries' exports, increased protectionism in developed countries, and a drop in the

real prices of commodities that many developing countries export. This result contrasts with developments following the first oil shock of 1973-74 when the world economy recovered strongly due to easy world monetary conditions, low real interest rates, and the erosion of the debt burden because of inflation.

Second, real interest rates jumped to historical heights in the developed countries during the early 1980s. Eurodollar loan rates deflated by the U.S. GNP deflator, rose from a little over one percent in the early 1970s to nine percent in 1981. Such high real interest rates increased the debt burden from developing countries and caused many of them to increasingly rely on short-term, variable rate loans that made them especially vulnerable to changing international financial conditions.

Third, a domestic factor of particular importance to the Latin American region has been the economic policies followed by many high debt countries [Dornbusch (1984), Wiesner (1985)]. Some countries, for example, have maintained overvalued exchange rates that discouraged exports and provided an incentive for increased imports and speculative capital outflows. Capital flight abroad was also stimulated by monetary policies aimed at lowering interest rates in domestic financial markets. In addition, budget deficits designed to accommodate the deterioration in the terms of trade caused debt to grow more rapidly and aggravated the financial condition of several Latin American countries.

Finally, some responsibility for the debt crisis lies with the commercial banks in developed countries. Some of the excessive borrowing by the developing countries in the 1970s appears to have been abetted by the banks' competition for loans, while the international debt problem has been aggravated by the withdrawal of banks since 1982 from international lending.

Adjustments to the Foreign Debt Burden in Latin America

The response of the international community to the debt problems in Latin America has been to reschedule government and government-guaranteed debt owed to commercial banks. In order to ensure an adequate supply of international credit in the short run, the debtor countries have had to implement adjustment programs designed at improving the current account of the balance of payments, as a part of IMF loan conditions. A number of economic policies have been adopted by Latin American countries since mid-1982 including real currency devaluations, wage controls, import restrictions, and contractionary monetary and fiscal policies.

The Latin American debtors have had some success in making the external adjustments. Current account deficits have been reduced by improving the trade balance and deferring interest payments. The trade balance was improved by reducing imports. Imports contracted sharply from a combination of greater import restrictions, the realignment of exchange rates, the reduction in foreign exchange availability, and the decline in domestic demand from changes in macroeconomic policies. Improvements in the trade balance were also made by increasing exports in some Latin American countries. Interest payments have been reduced by rolling over short term debt coming due or converting shorter-term debt to medium-term debt.

Reductions in imports, efforts to increase exports, debt service pressures, and reductions in capital inflows all have put more pressure on domestic resources, reducing levels of domestic saving available for investment. Reduction in food and capital goods imports has an adverse effect on the domestic economy by either lowering the standard of living or by decreasing production capacity. In addition, in most Latin American countries, internally generated savings did not increase enough to offset the

decrease in foreign borrowing since 1982, resulting in lower investment rates. Fiscal austerity measures combined with other stabilization policies and the decrease in savings have also put pressure on domestic economies in Latin America by reducing the growth of real output and impairing their growth prospects.

These developments underscore the fragility of the adjustment process in Latin America. The remarkable improvement of Latin American countries' trade balances is good news for their ability to service their debts in the short run. However, if domestic investment is reduced, this may prevent reduction of the debt-service ratio in the future. It may, therefore, be contradictory to expect economic growth domestically while Latin American countries are expected to cut imports (often capital goods), increase exports, cut fiscal deficits, and make interest payments at the same time. The recent decline in oil prices has served as a reminder of the continued weak financial position of several Latin American countries and their vulnerability to adverse external conditions.[2]

Some Implications for Agricultural Trade

The previous section concluded that the adjustment of Latin America to reduced external financing in the early 1980s occurred to a large extent through the reduction of imports and the increase in exports. What are the implications for agricultural trade of this adjustment? In general, a heavy debt burden will affect agricultural production, consumption, and trade by imposing constraints on resource allocation in the debtor country. The degree to which this occurs depends on how agriculture competes for resources with other sectors in the economy. Linkages between borrowing and domestic and international economic performance are well understood theoretically, but there is controversy surrounding their relative quantitative importance.

In spite of the difficulty of identifying specific effects of the debt burden on agriculture, some tentative conclusions can be reached by examining the available evidence from the early 1980s. The most direct impact has taken place from adjustments in the trade balance. The Latin American countries have been a rapidly growing export market to U.S. agriculture during the 1970s, but casual observation of Table 2 suggests that this trend has been reversed since 1982. The total value of U.S. agricultural exports to Latin America was 33 percent lower in fiscal year 1985 as compared to 1981. The value of U.S. agricultural exports to the four large debtors (Mexico, Chile, Peru, and Brazil) fell by 47 percent, while exports to the remaining countries fell by only 10 percent over the same period. Good production years in Mexico and Brazil could account for part of this, but the debt problems may also have contributed to the decline.

Two additional points need to be made. First, agricultural imports of Latin American countries did not decrease as much as total imports over the 1981-84 period (Table 1). (Columbia and Peru were exceptions.) Even Mexico that cut total imports by 53 percent managed to cut agricultural imports by a little more than half of that, or 27 percent. Bolivia and Ecuador even increased imports over the period. This suggests that nonagricultural imports (including capital goods) received lower priority than food imports in most countries since 1981. If this trend were to continue, it would result in slower growth and lower import demand. The second point is that 1980 and 1981 were peak years for Latin American imports attributed in part to strong growth associated with foreign borrowing. It can, therefore, be misleading to consider import levels in these years as the norm.

On the export side, arguments have often been made that because of their heavy debt burden, many Latin American countries have been pressed to produce

and export more, particularly agricultural commodities, thus contributing to world commodity price declines. While Argentina and Brazil have been successful in recent years in expanding their exports of grains and soybeans, the overall experience in Latin America indicates only modest increases in agricultural exports since 1981. The countries experiencing these increases were Brazil, Columbia, Chile, and Venezuela. Only Argentina and Chile, however, experienced an increase in the share of agricultural exports in total exports.

Even though the trade balance link is an obvious and immediate one, there are other adjustments to the debt burden to consider that may have more of an impact on agriculture in the long run. The previous section alluded to this when it concluded that domestic adjustments were also necessary to accommodate balance of payments adjustments.

An additional way the debt burden affects the agricultural sector and agricultural trade is through its impact on the general price level, exchange rates, levels of saving, investment, output and demand. This highlights additional linkages between borrowing and domestic economic activity operating through domestic saving and investment and through the domestic fiscal sector. The reduction in domestic savings in recent years (coupled with lower capital goods imports) could affect the agricultural sector in Latin American countries by altering private and government investment plans for growth and productivity in the sector. Changes toward more competitive exchange rates could also have important implications for Latin American agriculture and trade. Finally, domestic fiscal problems could provide an incentive to remove policies that have subsidized consumer prices and kept prices down to agricultural producers. However, they also could be an incentive to eliminate programs that have assisted domestic commodity producers.

In general, the available evidence since 1981 indicates a reduction in agricultural imports in Latin American markets and an effort to increase exports. However, it is less clear how directly related are these changes to the borrowing crisis. Agricultural markets are commodity specific where long term production decisions affect the market outcome. Effects on investment in agriculture and on government programs for agriculture will surely be important factors in the long run. Additional research is needed to clarify the relationship between external borrowing and agricultural trade. In the following section, we suggest a direction for this research based on recent models of imports and borrowing behavior.

Modeling Import Behavior and Borrowing

While theoretical linkages between external debt, the domestic economy and trade are generally known, there are several difficulties in addressing these questions empirically. Usually, import demand is related to traditional variables such as income, relative price, trade policy instruments, and exchange rates. Introducing external debt in aggregate import models presents some conceptual and methodological probelms associated with the intertemporal nature of the import decision and the measurement of wealth in the presence of international borrowing and lending.

One way to incorporate borrowing in models of aggregate import behavior [Hemphill (1974)] involves allocating a given amount of foreign exchange receipts, F_t, between expenditures on imports, M_t, and net additions to reserves, ΔR_t. the three variables must satisfy the balance of payments identity:

$$M_t + \Delta R_t \equiv F_t \qquad (1)$$

The implication of Hemphill's general approach for developing countries is that importing and borrowing decisions (including changes in foreign exchange reserves) are made jointly. Hemphill assumes that authorities allocate the exogenously given flow of foreign exchange earnings so as to minimize the cost (assumed to be quadratic) of deviations of actual imports and reserves from their desired levels. A linear allocation scheme between the two conflicting goals results from the above optimization problem. After appropriate substitutions, Hemphill arrives at the following reduced form expression for the estimable import demand equation:[4]

$$M_t = a_0 + a_1 R'_t + a_2 F_t + a_3 \Delta F_t, \quad a_1 > 0 \qquad (2)$$

where R'_t is the stock of foreign reserves at the beginning of year t, and is computed as follows:

$$R'_t = \sum_{i=0}^{t-1} R_i = \sum_{i=0}^{t-1} (F_i - M_i) \qquad (3)$$

A limitation of this approach, as pointed out by Winters (1985), is that only financial variables explain imports in the Hemphill model to the exclusion of traditional variables like exchange rates, relative prices, income, and trade policy instruments. This limitation has been removed in recent applications of this model by Chu, Hwa, and Krishnamurty (1983), and Sundararajan (1986).

A second limitation of the Hemphill approach is due to the constancy in the parameters of the government cost function over time. Given the recent reversals in net borrowing for many developing countries, this limitation may be overly restrictive.

A major limitation of this approach, however, is that it ignores factors related to intertemporal consumption allocation inherent in external borrowing decisions. Availability of credit essentially means that consumption in one period can be greater than income in that period. The intertemporal theoretical framework suggests that current account deficits can be explained by the relationship between domestic savings and investment, decisions about how these variables influence wealth (including the present value of all future income), and the rate of transformation of present into future consumption. In turn, these factors are affected by the rate of interest and expectations about future prices. Sachs (1981) has pointed out that the net present value of future trade deficits equals the current net foreign exchange, or that trade deficits can be unbalanced to the extent that we have the assets to finance them. Consumption can be financed from returns to wealth. Dornbusch (1983) relates this to the case of traded and non-traded goods. In his model, imports increase if their current price falls relative to either current domestic prices or future prices. Moving, though, from these theoretical models to an empirical analysis that explicitly recognizes the intertemporal nature of import decisions is a difficult undertaking. Such an effort has recently been made by Winters (1985) who arrived at an estimable function for imports from the above theoretical framework:

$$M_t = (1 - \delta^{\sigma} \eta_t^{1-\sigma})(W_{it} + \beta \tilde{W}_{(i+1)t}) \qquad (4)$$

where M_t is the value of imports, δ is the (unknown) rate of time discounting, η_t is the rate of growth of discounted future import prices, $\tilde{W}_{it}$ is the ith component of wealth, and $W_{it} = \sum_{j=1}^{i} \tilde{W}_{it}$ Winters experimented with four components of wealth: foreign assets, the net present value of exports, debt repayments, and the net present value of grants and grant elements.

His empirical results lend support to the usefulness of his modeling approach.

The Hemphill and Winters models discussed here offer some suggestions on how to introduce external debt variables in models of aggregate import demand. The additional challenge facing researchers wishing to apply this to agricultural trade involves how to account for the substitution between agricultural and nonagricultural imports in an economy constrained by external debt problems.

Summary

This paper attributes the origins of the Latin American external debt problem to the oil price and real interest rate increases, and debtor country and international bank policies. Next, it briefly examines the implications of economic adjustments to service the debt. Finally, in order to facilitate research on the linkages between debt and agricultural trade, the paper suggests some factors to consider in modeling import behavior and international borrowing.

Footnotes

1. The other six Latin American countries among the fifteen largest debtor developing countries are Chile ($21 billion), Peru ($13 billion), Columbia ($11 billion), Ecuador ($8.5 billion), Costa Rica ($4.2 billion), and Bolivia ($4 billion). Uruguay, Jamaica, and Panama also have large debts.
2. One cause of concern has been the possibility of an outright repudiation or default of outstanding international debt that would reduce both international lending and trade. Both the concern and the potential damage seem to be exaggerated at this point. First, the countries that were able to borrow heavily in the past are very closely integrated in the world economy and would be reluctant to forgo the gains associated with

this integration. Second, authorities in the major industrial countries and international organizations can act promptly to avert defaults in their role as lenders of last resort. Even if repudiation appears unlikely to occur, however, the mere threat of repudiation may still pose limits to international capital mobility.

3. For an excellent recent survey of these type of models see Winters (1985).

4. One could also arrive at an estimable equation for net borrowing (including changes in foreign exchange reserves) from the cost minimization problem. This equation can be estimated simultaneously with imports if errors and omissions are an important component of the balance of payments especially for countries experiencing capital flight problems.

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Table 1. Agricultural Trade in Selected Latin American Countries

Countries	1970	1975	1980	1981	1982	1983	1984
	Agricultural Imports as a Percent of Total Imports						
Argentina	7.5	6.0	6.5	5.8	5.3	5.5	6.6
Brazil	10.6	6.4	9.9	9.1	8.5	8.7	11.0
Chile	17.7	17.3	15.9	12.6	14.4	17.2	13.8
Columbia	10.8	10.2	11.5	9.5	10.2	10.9	8.3
Ecuador	9.9	8.5	8.1	7.8	9.1	14.9	12.1
Mexico	9.6	14.2	16.1	13.5	12.8	26.3	20.8
Peru	20.2	16.4	20.4	20.4	18.0	17.5	15.7
Venezuela	12.1	12.0	16.2	17.0	15.2	11.6	20.7
Tot. S. America	12.2	9.6	11.6	11.1	11.0	11.0	12.2
	Agricultural Exports as a Percent of Total Exports						
	1970	1975	1980	1981	1982	1983	1984
Argentina	84.5	73.6	68.8	69.8	64.0	75.3	72.7
Brazil	71.8	56.5	46.8	41.8	40.3	41.5	38.9
Chile	3.3	9.3	8.5	10.5	10.3	9.3	12.0
Columbia	81.2	74.4	77.2	71.1	69.6	68.0	66.4
Ecuador	79.5	33.1	25.1	22.1	24.1	17.1	19.8
Mexico	54.2	34.0	11.2	8.1	6.6	7.3	7.2
Peru	16.9	33.0	9.7	9.3	9.4	6.0	8.9
Venezuela	1.4	.7	0.4	0.4	0.6	0.8	0.6
Tot. S. America	41.2	35.7	31.6	31.9	29.7	32.3	32.0

Table 2. U.S. Agricultural Exports to Latin America by Country and Region

(million dollars)

Country	Fiscal Years							
	1971	1975	1978	1981	1982	1983	1984	1985
Mexico	130	851	735	2,723	1,493	1,777	1,967	1,566
Caribbean	118	258	457	808	764	773	827	771
Central America	129	322	236	373	343	356	396	358
Andean Countries	253	793	854	2,014	1,698	1,500	1,600	1,277
Bolivia	5	18	24	13	19	38	34	17
Chile	36	119	145	346	248	215	199	78
Columbia	47	106	130	202	273	256	220	238
Ecuador	16	54	78	125	102	116	143	117
Peru	37	200	122	430	310	258	227	106
Venezuela	112	296	355	898	746	617	777	721
Brazil	87	137	412	843	577	400	437	557
Other[1]	25	41	61	109	58	52	52	36
Total	742	2,402	2,755	6,870	4,933	4,858	5,279	4,565
L.A. as % of tot. exports	9.6	11.1	10.1	15.7	12.6	14.0	13.9	14.6

Source: U.S.D.A., ERS, Foreign Agric. Trade of the U.S. (various issues)

1. Includes Guyana, Suriname, French Guiana, Paraguay, Uruguay, and Argentina.