Chapter Title: Trade Policies and Consequences

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# 6          Trade Policies and Consequences

Trade performance is central to Brazilian adjustment to the debt problem. With or without debt relief, net export earnings must be larger than past earnings to pay interest, let alone principal. Such interest claims, even under favorable projections, come to more than one-third of export receipts over the next several years.

Brazil is exceptional among the Latin American countries in its successful combination of import substitution and growth, as well as diversification of exports from the late 1960s on. Three factors have been responsible. One is the size and efficiency of the industrial sector initially established behind protectionist barriers and its continuing extension to intermediate and capital goods. Second is a crawling peg exchange rate policy that since 1968 has led to repeated small devaluations as a response to differential internal and external inflation, thus avoiding long periods of overvaluation. Third is an active promotion of manufactured exports through subsidies that offset the negative effects of import tariffs and controls.

Together, these circumstances explain the growth of Brazilian merchandise exports from 1965 to 1980 of 9.4 percent a year, placing the country ahead of Singapore and narrowly behind Hong Kong. Such a performance permitted Brazil to follow a strategy of indebtedness in adjusting to the oil shock of 1973. The continuation of this performance, although attenuated since 1980 after the reemergence of the oil shock, has been central to coping with the debt. At the same time, Brazil has been able to restrain imports as a result of continuing expansion of alternative domestic supply sources. The 1980–84 level of real imports, excluding wheat and oil, is lower than in 1970–74, despite an increase in output of almost 80 percent.

Taken together, this combination of export growth and import substitution have produced large export surpluses in recent years. Table 6.1 provides the numbers for the trade balance and figure 6.1, an illustration. The trade surpluses of the 1980s have underwritten interest payments of $10 billion a year, along with domestic recovery since 1984. These interest payments and recovery, however, have not been without the attendant and cumulative internal problems that we have stressed in previous chapters.

In this chapter we examine more closely the policies that have made such an outcome possible. We begin with a discussion of the import-substitution industrialization of the 1950s and the liberalization of the 1960s. We then examine in more detail exchange rate policy since 1964 and import and export responsiveness. We conclude with some thoughts on future prospects.

Table 6.1                    Trade Balance (annual averages, in millions of U.S. dollars)

| Period | Exports | Imports | Trade Balance |
|---|---|---|---|
| 1950–59 | 1,447 | 1,276 | 171 |
| 1960–69 | 1,590 | 1,380 | 210 |
| 1970–73 | 3,958 | 4,045 | − 87 |
| 1974–76 | 8,917 | 12,376 | − 3,459 |
| 1977–78 | 12,390 | 12,853 | − 464 |
| 1979–80 | 17,688 | 20,520 | − 2,832 |
| 1981–82 | 21,734 | 20,743 | 991 |
| 1983–85 | 24,848 | 14,171 | 10,677 |
| 1986 | 22,393 | 12,866 | 9,527 |

*Source: Boletim do Banco Central.*

## 6.1     From Import-substitution Industrialization to Trade Liberalization

Brazilian trade policies after the Second World War were profoundly shaped by the experience of the Great Depression of the 1930s. The significant decline in import capacity after 1929 as a result of falling prices of coffee and disruption of international capital markets created an immediate balance of payments problem. Brazil's response was to cease debt service, limit imports, and expand internal demand. Expansionary fiscal and monetary policies coupled with real devaluation and exchange licensing created favorable conditions for industrial development in the 1930s. Although one can trace the beginnings of industrialization from an earlier period, the impetus of the Depression was decisive in emphasizing how reduced reliance on international trade was not only compatible with, but also favorable to, domestic growth. By 1939 imports of consumer nondurables accounted for less than one-tenth of total supply. Production of many other goods was making rapid headway.

The continuing constraints on imports from the supply side during World War II reinforced the impulse to industrialization from the Depression decade. There was a difference. Brazil emerged from the war with a trade surplus as a result of expanded exports. The accumulation of reserves and favorable commodity prices, especially the surge during the Korean War, provided enhanced import capacity. But liberation was temporary. After 1947, exchange rate overvaluation and import licensing were used to support domestic industrialization and discriminate against primary exports.

More sophisticated rationing devices were progressively introduced. In 1953 an auction system replaced the earlier quantitative controls. The auctions functioned as a variable tariff system whose level for different categories depended upon the amount of exchange made available. At one extreme stood wheat, petroleum, and certain essential capital goods whose imports were facilitated at a special, below-auction rate; at the other extreme were finished consumer goods on which a premium rate of more than 500
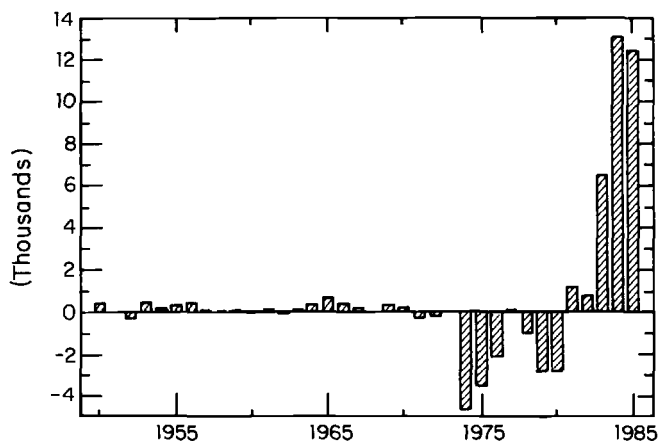
**Fig. 6.1    Trade balance (in millions of U.S. dollars)**

percent was charged at the time the system was abolished in 1957. Such a system enabled the government to expropriate the surplus derived from quantitative controls and to turn some of it to subsidizing nontraditional exports.

In 1957 the multiple exchange rate system was simplified as a result of a tariff reform. Three basic tariff levels were established: 0–10 percent, 10–60 percent, and 60–150 percent. In order to establish surcharges, the purchase of many items required exchange procured at special auctions and at a large premium relative to the general rate. A new administrative structure was set up to grant discretionary adjustments to the stipulated tariffs, and the Law of Similars was reactivated, limiting importation of products already or potentially domestically produced.

Until the end of the 1950s, the policy of favoring domestic industry worked reasonably well. Overvalucd exchange rates taxed primary exporters and converted the gains to the direct advantage of priority importers. It was a second-best policy for reallocating resources when the government itself could not tax directly. As long as exports were inelastic in their supply (or their international prices enjoyed a boom), such a strategy was feasible. Over time, however, as export elasticity increased, the balance of trade deteriorated as export volume stagnated. Foreign direct investment, lured by protected access to the Brazilian market and granted favorable exchange rates, partially compensated for the deterioration of the trade balance and kept the balance of payments from similar erosion. But that source, too, became smaller after the initial investment in new sectors was undertaken.

As the balance of payments became more problematic, so too did the fiscal position of the government. As long as import substitution could be subsidized by indirect taxes, deficits were avoided. Increasingly, as exchange rates had to be revalued and bonuses provided for nontraditional exports,

that source disappeared. At the same time, as industrialization proceeded, demands upon the government for investment in infrastructure simultaneously increased. The inflation tax had to substitute for other sources of revenue, as well as meet rising expenditures. It could do so only at the cost of accelerating inflation rates that reached annual levels of 30 percent and threatened to go out of control.

A classic devaluation with stabilization was attempted in 1961 during the short-lived presidency of Janio Quadros. Its failure was followed by accelerating deterioration in both of the external accounts, and internal growth and inflation. The coup in March 1964 brought a military government with a new, more market-oriented agenda and greater authority with which it could be implemented.

The 1964–67 period saw a more thorough effort at liberalization than had been attempted earlier. Serious attention was paid to the exchange rate and incentives for exports. Import liberalization was much less profound. While tariffs were lowered in 1967 and real prices of imports fell, an equal determinant of the price decline was real appreciation of the cruzeiro after its initial devaluation in 1964. Unadjusted measures of nominal and effective protection that fail to allow for the redundancy of much of the legal provisions—because no imports were realized and domestic competition determined price—exaggerate the changes after 1964. Perhaps the best measure of that redundancy is the limited impact of the large tariff reform in 1967 on domestic industry or on the composition of imports. Brazilian industry was more efficient than simple calculations of effective protection suggest. Some of those estimates are presented in the statistical appendix, but must be interpreted with caution.

On the export side, however, more decisive changes were introduced after the change in government. Export incentives for manufactures began in 1964 with measures reducing the anti-export bias of value-added taxes. Gradually these policies shifted emphasis to credit subsidies that became important in the 1970s. Cardoso (1980) computes a time series estimate of the combined effect of fiscal and tax incentives on prices received by exporters. Musalem (1981) broadens the estimates by the inclusion of financial subsidies.[1] The major incentives and when they were introduced were:

1. June 1964: Effective implementation of the drawback system (import duty exemptions for inputs used in manufactured exports).
2. April 1965: Exemption of the IPI, value-added tax paid into manufactured exports and export sales.
3. February 1967: Exemption of the ICM, value-added tax paid on manufactured exports and export sales.
4. February 1967: Introduction of an income tax credit. A tax refund was granted to exporters of manufactured products proportional to the share of total output exported.

5. July 1968: Creation of an IPI credit consisting of a subsidy for manufactured exports based on the product's IPI rate.
6. September 1971: Creation of an ICM subsidy similar to that for the IPI.

This system of subsidies was a source of increasing conflict with the United States in the 1970s. At the end of the decade it was agreed to phase out the tax subsidy—as opposed to exemption—components, and initial steps were taken. The seriousness of the debt crisis in the early 1980s led to the reinstatement of subsidy payments.

A second major decision was the adoption of the crawling peg exchange rate regime in August 1968. It was designed to avoid the discontinuity of the large readjustments to nominal rates necessitated by higher rates of Brazilian inflation. Discrete devaluations permitted an intervening appreciation of the real rate that discouraged exports and encouraged self-fulfilling speculation. Small and frequent mini-devaluations were linked to domestic and external inflation, particularly of the United States, and significantly reduced the variance of the real exchange rate. This system, analyzed more closely in the next section, underlies the better Brazilian export performance in the 1970s and 1980s.

## 6.2   Nominal and Real Exchange Rates

As noted above, the adoption of a crawling peg in 1968 offered an escape from the problem of overvaluation resulting from the higher rates of price increase in Brazil compared to its trade partners. The existence of an exchange rate policy designed to stabilize real exchange rates is evident from the comparison between inflation, nominal devaluations, and the real exchange rate behavior shown in figure 6.2.

Real exchange rates measure competitiveness, and they behave quite differently than nominal exchange rates. The analysis of trade issues, such as the performance of the export sector and import growth, requires measures of the domestic and international competitiveness of the traded goods sector. In this section we look at different measures of competitiveness in Brazil. What matters for competitiveness is prices relative to costs, and prices relative to the prices offered by an alternative competing supplier.

Before proceeding further, a word about terminology is warranted. All cruzado prices are denoted by $P$ and $p$ (the former are foreign, the latter are domestic), all foreign currency prices by ($*$). The cruzado price of foreign exchange is represented by $E$. As a convention we conduct all price comparisons in cruzados and thus translate all foreign currency prices into cruzados at the relevant exchange rate. The different measures of the real exchange rate are denoted by $e$ and a subscript. An increase in the real exchange rate denotes a real appreciation. Conversely, its reduction denotes a real depreciation and an increase in competitiveness.
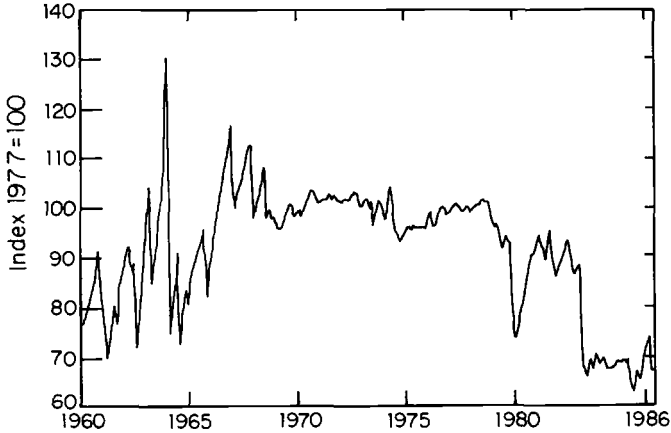
Fig. 6.2    Real exchange rate (appreciation up)

The first measure to consider is a broad measure of cost levels in Brazil compared with costs in the rest of the world. As measures of costs we utilize economywide wholesale prices. Brazilian competitiveness is enhanced if foreign wholesale prices, in cruzados, rise relative to Brazilian wholesale prices. Denoting home and foreign wholesale prices by $P$ and $EP^*$, respectively, we have:

(1)                          $e_c = P/EP^*$

In order to examine the performance of the manufactures export sector, we need to develop price measures that indicate whether that sector is gaining competitiveness. It is natural to think in terms of demand and supply. We first look at the foreign demand side for Brazilian exports by comparing prices of Brazilian exports with those of manufactures of foreign competitors. The relevant price comparison is the price of Brazilian manufactured exports, $P_x$, compared with the export price of manufactures of competitors, $EP^*_x$:

(2)                          $e_d = P_x/EP^*_x$

On the supply side, an increase in competitiveness or profitability occurs if export prices rise relative to the prices of manufactures in the home market. If so, we would expect increasing amounts of manufactures production to be diverted toward exports and away from home sales. A natural measure of competitiveness on the supply side, then, is the ratio of domestic manufactures price, $P_x$, to the export prices of Brazilian manufactures:

(3)                          $e_s = p_x/P_x$

Since there are advantages to sales in the export market relative to the domestic market because of the subsidy programs, we include another index taking into account the fiscal and credit subsidies:

(3')                                   $e_{ss} = p_x / P_{xs}$

Further information about real exchange rates comes from the relative price of home goods and traded goods. This measures the incentive to reallocate resources to the production of tradables. We calculate the ratio of the index of construction costs, $p_n$, which we take as a proxy for the behavior of prices of home goods, to the domestic price of industrial goods, $p_x$.

(4)                                   $e_{nt} = p_n / p_x$

There exists one more index which is readily available and helps clarify further the change in trade performance. That is the index of terms of trade, which is simply the ratio of the price index of total imports, $P_{tm}$, to the price index of total exports, $P_{tx}$ ;

(5)                                   $q = P_{tm} / P_{tx}$

Table 6.2 and figure 6.3 show the different measures of the real exchange rate we have introduced above and the terms of trade between 1970 and 1986.

The ratio of economywide wholesale prices, $e_c$, shows relative stability from 1970 until 1977. Thereafter, because of depreciation of the dollar, Brazil gained against other currencies. The devaluation in 1979 extended this pattern, but it was reversed in 1981 as a result of the limited devaluation of the cruzeiro during the course of 1980. The appreciation of the dollar undermined the Brazilian competitive position, a deterioration that was finally remedied by the maxi-devaluation in early 1983.

The ratio of home to traded goods, $e_{nt}$, confirms a generally similar pattern, with a strong tendency in favor of tradables after 1979. A principal conclusion, then, is that Brazil's aggregate real exchange rate showed modest depreciation, but in the face of the decline in the terms of trade, $q$, after 1977, that may not have been adequate to maintain a strong balance of payments. Debt, to some extent, served as a substitute source of foreign exchange.

A more favorable picture emerges when manufacturing competitiveness is considered. Brazilian export prices fell relative to those of competitors throughout the period. Such a movement, at the beginning of the period and again after 1982, possibly reflects the impact of Brazilian subsidies. Exporters could gain larger market share by passing along some of the benefits in the form of final prices.

**Table 6.2**          **Different Measures of the Real Exchange Rate and the Terms of Trade in Brazil, 1970–86 (1977 = 1)**

| Year | $e_c$ | $e_d$ | $e_s$ | $e_{ss}$ | $e_{nt}$ | $q$ |
|------|-------|-------|-------|----------|----------|-----|
| 1970 | 1.059 | 1.218 | 1.620 | 1.951 | 0.936 | 0.89 |
| 1971 | 1.059 | 1.168 | 1.479 | 1.732 | 0.932 | 0.82 |
| 1972 | 1.027 | 1.126 | 1.380 | 1.610 | 0.942 | 0.87 |
| 1973 | 0.952 | 1.092 | 1.085 | 1.244 | 0.977 | 0.95 |
| 1974 | 0.929 | 1.067 | 0.901 | 1.024 | 0.978 | 0.78 |
| 1975 | 0.925 | 1.034 | 0.986 | 1.049 | 0.955 | 0.76 |
| 1976 | 0.969 | 1.025 | 1.056 | 1.049 | 1.101 | 0.85 |
| 1977 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.00 |
| 1978 | 0.896 | 0.916 | 1.056 | 1.049 | 1.105 | 0.86 |
| 1979 | 0.819 | 0.815 | 0.986 | 1.024 | 1.153 | 0.79 |
| 1980 | 0.766 | 0.714 | 0.944 | 1.024 | 0.951 | 0.65 |
| 1981 | 0.929 | 0.866 | 1.127 | 1.195 | 0.909 | 0.55 |
| 1982 | 0.981 | 0.941 | 1.296 | 1.341 | 0.896 | 0.54 |
| 1983 | 0.812 | 0.723 | 1.056 | 1.122 | 0.811 | 0.53 |
| 1984 | 0.849 | 0.723 | 1.056 | n.a | 0.738 | 0.58 |
| 1985 | 0.837 | 0.714 | 1.040 | n.a | 0.803 | 0.58 |

*Source:* The statistical appendix, tables A.14 and A.18.

*Note:* A description of the procedures used in the calculations of the real exchange rates is found in the statistical appendix.

$e_c$ = ratio of wholesale prices of Brazil and U.S., both in cruzados.

$e_d$ = effective real exchange rate published by Morgan Guaranty.

$e_s$ = ratio of domestic manufactures price and export price of manufactures.

$e_{ss}$ = same as above, including fiscal and credit subsidies to exporters.

$e_{nt}$ = ratio of construction costs and domestic price of industrial goods.

$q$ = terms of trade.

Such a pattern on the demand side is echoed on the supply side, especially when the effect of subsidies is included. Domestic industrial prices did not rise as rapidly as prices of manufactured exports up to 1977. Thereafter, however, the incentive to export was attenuated and began to reverse. By 1982 there was a significantly greater attraction to domestic sales rather than exports, as measured by prices. A fall in the real volume of industrial exports between 1981 and 1982 triggered the devaluation in 1983.

Real depreciation became inevitable as the interest rate shock was added to the rise in oil prices, as well as to the slowdown in the growth of the industrial economies. It added to the real income losses associated with the continuing decline in the terms of trade and loss of purchasing power over imports. One needs only to look at the measures of gross product in dollars presented in table A.2 of the statistical appendix to grasp the extent of the loss. On a per capita basis, income in 1985 (again, taking into account the terms of trade loss of 5 percent) was less than in 1977! The brunt of the fall occurs after 1982 and is also registered in the decline of real industrial wages by more than 20 percent between 1982 and 1984.
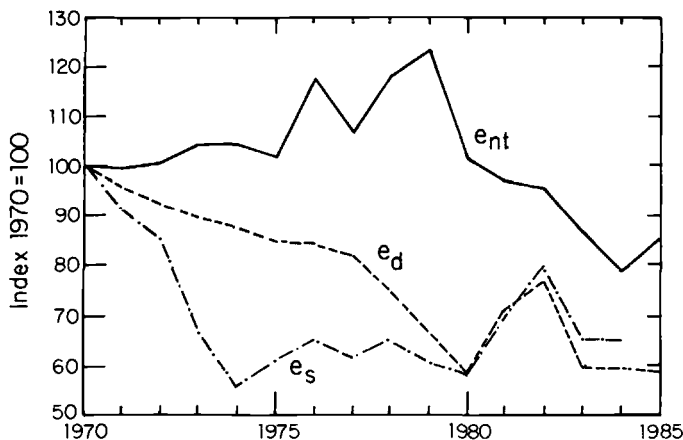
**Fig. 6.3  Different measures of the real exchange rate**

## 6.3  Import Performance

As noted earlier, liberalization efforts after 1964 yielded some advance in reducing the relative costs of imports. In conjunction with export subsidies, the strong bias in favor of import substitution was reduced. Although tariffs rose modestly in 1969, they were reduced again in 1972. Between 1964 and 1973 the import ratio actually rose, reversing a long downward tendency. It reached its high point in 1974 with large increases in oil imports as well as of other speculative purchases. Thereafter, under the pressure of persistent imbalance in the external accounts, imports have been limited. The ratio of imports to product in 1985, at less than 7 percent, is back to its levels of the mid-1960s.

It did not take long for protection to increase after the oil shock. In June 1974 all forms of import financing for products subject to nominal tariffs of 55 percent or higher were suspended; tariff rates for nearly 900 products were doubled, and import duty reductions on capital goods were suspended. In 1975 tariffs on intermediate goods were raised. Imports subjected to tariff rates equal to or higher than 37 percent were made subject to prior payment. At a time when inflation was 30 percent, import legislation imposed a 100 percent prior deposit rate, without interest, refundable six months after the transaction. In 1976 the economic authorities imposed a complete ban on automobiles, pleasure crafts, toys, and other goods judged to be luxuries.

Thereafter, levels of protection have not been modified much. Donald Coes (1986) has recently constructed an index of Brazilian trade liberalization that is graphed in figure 6.4. It traces the dismantling of earlier liberalization after 1973. By the early 1980s the degree of restriction was comparable to the last severe balance of payments crisis of the early 1960s.
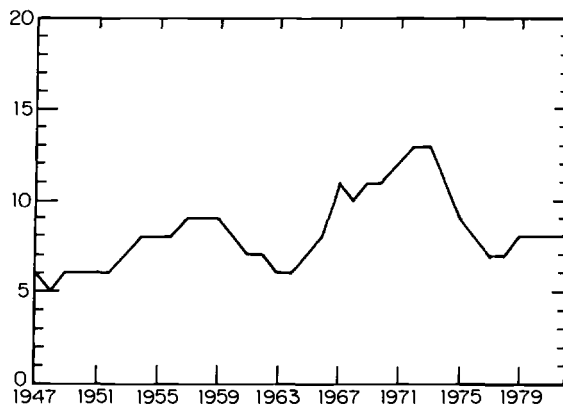
**Fig. 6.4   Index of trade liberalization in Brazil, 1947–82**

Again, import protection depends for its effectiveness on utilization of nontariff barriers. Table 6.3 shows the legal and implemented average tariff rates by broad categories for 1982. The former are considerable, averaging 47 percent excluding the nondutiable fuel and wheat imports. The reason is straightforward: if imports are permitted at all, they are almost always exempt from tariffs or receive large reductions. It is the license that has again become the binding constraint rather than the price.

In table 6.4 these 1982 data are classified in another way that further illuminates this point. Only 11.3 percent of imports pay the legally stipulated rate. Others enter as privileged products, such as wheat, or by virtue of special regional trade agreements involving preferential access, and still others enter by virtue of their priority in connection with exports or domestic development projects. There is a large degree of administrative discretion.

Import reduction, as we have seen, was a central part of the Brazilian balance of payments adjustment after 1980. The relative success of the policy depended not merely upon import restriction but also on an active policy of investment directed to import substitution. Despite its limitations, discussed in chapter 3, the Brazilian strategy of subsidizing the intermediate and capital goods sectors in the 1970s did make possible a decline in imported inputs without disrupting domestic production. Table 6.5 provides evidence on the sectoral import coefficients. Paper and paper products are an example of not only a more than proportional decline in imports, but even of conversion to exports. Similar transitions have occurred in machinery, metals, vehicles, and electrical products. But it is also important to point out the role played by the increase in domestic production of crude oil. It is the largest source of import saving after 1979.

These supply adjustments did not permit the Brazilian economy to escape unscathed. A severe recession was also necessary in 1982–83 to help restrict demand for imports. Declines in investment reduced imports of intermediate

Table 6.3          Nominal and Actual Tariff Rates in Brazil, 1982 (weighted averages, in
                   percentages)

| Category | Nominal | Actual |
|---|---|---|
| Durable consumer goods | 139.4 | 18.0 |
| Nondurable consumer goods | 57.5 | 9.2 |
| Construction materials | 54.5 | 4.0 |
| Capital goods for industrial use | 55.6 | 15.7 |
| Capital goods for agricultural use | 32.6 | 22.5 |
| Transport equipment | 51.8 | 4.3 |
| Inputs for industrial use | 40.9 | 13.5 |
| Inputs for agricultural use | 9.4 | 1.5 |
| Fuels | 0.7 | 0.0 |
| Other imports | 2.8 | 1.2 |
| Total imports except fuels and wheat | 47.5 | 13.7 |
| Total imports | 22.4 | 5.9 |

*Source:* Moreira and Araujo (1984).

Table 6.4          Nominal and Actual Tariff Rates for Imports Classified by Tax Regime in
                   Brazil, 1982 (weighted averages, in percentages)

| Tax Regime | Share in Total Imports | Nominal Rate | Actual Rate |
|---|---|---|---|
| Oil | 46.7 | 0.0 | 0.0 |
| Wheat | 4.0 | 45.0 | 0.0 |
| Related to exports | 9.4 | 57.4 | 0.3 |
| Development programs | 5.1 | 62.3 | 0.8 |
| International agreements | 5.3 | 42.4 | 7.0 |
| Products without fiscal exemption | 11.3 | 44.5 | 44.6 |
| Others | 18.3 | 27.1 | 0.4 |
| Total | 100.0 | 22.4 | 5.9 |

*Source:* Moreira and Araujo (1984).

and capital goods more than proportionally. A review of recent research on
import demand confirms its sensitivity to economic conditions.

In table 6.6 we present the findings of three recent studies. All the
equations show large income elasticities ranging at the low end from 2.3 in
Abreu (1987) to 2.8 in Moraes (1985), and finally to 3.4 in Dib (1981). It is
no accident, moreover, given the continuing low level of imports in recent
years, that the most contemporary study yields a lower income elasticity.
Price elasticities tend to be less statistically significant and uniformly lower
than unity in the most recent studies.

Moraes takes into account the possibility of bias due to the existence of
quantitative restrictions. He assumes that the government looks at the ratio
between reserves and debt, $X$. It restricts imports whenever the ratio is low
and liberates imports whenever this ratio grows above a desired target. The
coefficient of $X$ appears with the expected sign and is significant, but its
inclusion does not affect the other estimated elasticities.

**Table 6.5**          **Import Coefficients: Share of Imported Inputs in the Total Sales of Different Industrial Sectors in Brazil, 1974–75 and 1982–83 (in percentages)**

| Sector | 1974–75 | 1982–83 |
|---|---|---|
| Nonmetallic minerals | 3.0 | 0.7 |
| Metals | 7.8 | 3.0 |
| Mechanical instruments | 9.9 | 3.6 |
| Items for electrical use | 16.6 | 7.7 |
| Material for transport | 6.8 | 4.0 |
| Paper and cardboard | 7.3 | 1.3 |
| Rubber | 6.4 | 2.7 |
| Chemical products | 15.9 | 9.0 |
| Artificial plastics | 7.1 | 1.7 |
| Total | 7.5 | 3.8 |

*Source:* Kume 1985.

**Table 6.6**          **Import Equations**

Dib (1981): period 1960–79; total imports except oil and wheat; real import price includes tariffs; OLS.

| | Income | Relative Price | Time Trend |
|---|---|---|---|
| Coefficients | 3.42 | −1.11 | −0.16 |
| *t*-statistics | (5.83) | (−3.5) | (−3.49) |

$R^2 = 0.97$     D.W. = 1.85     SER = 0.117

Moraes (1985): period 1976–84; quarterly data; imports of manufactured goods; tariffs not included in import prices; OLS.

| | Income | Relative Price | Lagged Imports | Time Trend |
|---|---|---|---|---|
| Coefficients | 1.39 | −0.30 | 0.52 | −0.02 |
| *t*-statistics | (5.68) | (−2.34) | (5.59) | (−5.59) |

$R^2 = 0.94$     Q(18) = 10.55     SER = 0.08     $h = 0.284$

Abreu (1987): period 1976–85; quarterly data; total imports except oil and wheat; MQC.

| | Income | Relative Price | Capacity Utilization | Time Trend | Lagged Imports |
|---|---|---|---|---|---|
| Coefficients | 1.58 | −0.33 | 1.03 | −0.018 | 0.32 |
| *t*-statistics | (7.49) | (−2.93) | (3.55) | (−6.01) | (4.03) |

$R^2 = 0.96$     SER = 0.06     $h = -0.296$

Abreu introduces capacity utilization as a causal variable as well. The response of imports is positive as utilization increases. That may measure not only lack of domestic supply response but also the strictness of nontariff limitations. Licenses are more readily conceded when domestic activity is close to full employment.

Import substitution, as measured by the trend variable, is significant in all three versions and has almost identical estimates in the quarterly Moraes and Abreu equations. Interestingly, it is highest in the Dib's study for 1960–79

rather than for the more recent period. Thus the emphasis given to the structural change in import substitution in the early 1980s, which was a result of the previous investment in the 1970s, must be qualified. Abreu's explicit tests for change in the income elasticities in the recent period yielded mixed results. In the annual data there was no evidence of a shift. For the quarterly data, however, one could accept the hypothesis of a difference in 1984 and 1985 for capital goods and competitive industrial imports.

## 6.4    Export Performance

Brazilian export performance was central to establishing creditworthiness in the 1970s and remains critical for satisfactory debt service in the 1990s. Brazil was an attractive debtor not only because of record industrial growth from 1968 to 1974 but also because of improved export results during the same period. After stagnation in the 1950s and early 1960s, export receipts experienced large increases in the beginning of the 1970s. Despite borrowings from the Eurocurrency market, the current account deficit and the debt/export ratio remained moderate, confirming Brazil's creditworthiness.

Throughout the 1970s Brazilian exports continued to expand, encouraged again by favorable prices after 1975. They were the basis for the import-substitution adjustment strategy of that decade. Unlike the surge of indus-trialization in the 1950s, exports were given close attention, and the subsidies for exports of manufactures (described above) substantially countered the effects of greater protection and exchange rate overvaluation. A World Bank (1983) study found that for the manufacturing sector as a whole in 1980, the anti-export bias was only 2 percent. Some sectors, however, most prominently transport equipment, actually received greater rewards from exports.

Favorable prices for agricultural commodities, along with a shift in the composition of exports toward fast-growing industrial products, were important factors in the improved export performance of the 1970s. From 1970 to 1979, total receipts increased from $2.7 billion to $15.2 billion. Price increases in primary exports accounted for almost 40 percent of this rise in value; real growth in industrial exports accounted for almost another 20 percent. Table 6.7 shows this change in the structure of exports from 1965 to 1985.

Coffee alone accounted for almost half of export earnings in 1965, while manufactured goods accounted for less than 10 percent. Twenty years later the proportions were reversed. Within the category of manufactured exports, as table 6.8 shows, the transformation was of three kinds. First, there was a large increase in more traditional exports, footwear in particular. This was especially true after 1975. Second, there was an emergence of new sectors after 1975, such as paper and chemical products, that had previously been exclusively import substituting. Third, and not made explicit in the table,

Table 6.7          Composition of Exports (as a percentage of total exports)

|  | 1965 | 1970 | 1975 | 1980 | 1985 |
|---|---|---|---|---|---|
| Coffee beans | 44.3 | 34.3 | 9.9 | 12.4 | 9.1 |
| Other primary goods | 37.3 | 40.8 | 48.1 | 29.8 | 24.2 |
| Semimanufactured goods | 9.6 | 9.1 | 9.8 | 11.7 | 10.8 |
| Manufactured goods | 8.1 | 14.9 | 29.8 | 44.8 | 54.9 |
| Special transactions | 0.7 | 0.9 | 2.4 | 1.3 | 1.0 |

*Source: Boletim do Banco Central.*

Table 6.8          Composition of Manufactured Exports (as a percentage of total manufactured exports)

|  | 1965 | 1970 | 1975 | 1980 | 1985 |
|---|---|---|---|---|---|
| Footwear and textiles | 6.7 | 7.8 | 17.9 | 11.1 | 11.7 |
| Industrialized agricultural products | 23.0 | 24.1 | 17.0 | 15.5 | 13.6 |
| Chemical products | 0.0 | 2.9 | 2.6 | 7.8 | 11.9 |
| Metal and mechanical products | 27.6 | 32.4 | 26.2 | 29.0 | 26.3 |
| Paper and cardboard | 0.1 | 0.1 | 1.1 | 2.1 | 2.3 |
| Other | 42.6 | 32.7 | 35.2 | 34.5 | 34.2 |

*Source: Boletim do Banco Central.*

there was a shift over time within categories to more sophisticated industrial exports. For example, the export of entire vehicles replaced auto parts, and the export of steel replaced pig iron. In addition, entirely new products emerged in the export market, such as airplanes.

Despite the relatively strong performance of exports throughout the 1970s, especially considering the emphasis given to import substitution from 1975 on, there is a significant change in the rhythm of export performance after the middle of the decade. A recent decomposition of the sources of Brazilian export growth brings out the difference. The results are presented in table 6.9. Note that in the 1974–78 period, Brazilian exports are more influenced by world trade growth than by increased market share. The participation of total Brazilian exports in world trade (excluding fuels), after rising sharply from the late 1960s to 1977, falls off thereafter; the 1979 level is lower than

Table 6.9          Source of Growth of Exports (as a percentage of total change)

|  | Total (excluding fuel) | | | Manufactured | | |
|---|---|---|---|---|---|---|
|  | 1971/78 | 1971/74 | 1974/78 | 1971/78 | 1971/74 | 1974/78 |
| Growth-of-world-trade effect | 71.4 | 64.8 | 100.9 | 30.2 | 33.7 | 57.2 |
| Composition-of-exports effect | −9.0 | −0.1 | −20.0 | −0.1 | −0.2 | −0.1 |
| Destination-of-exports effect | −1.5 | −13.6 | 1.0 | −3.9 | −4.5 | −0.2 |
| Competitiveness effect | 39.1 | 48.9 | 18.1 | 73.8 | 70.6 | 42.7 |

*Source: Horta 1985.*

in 1973. Gains in manufactured products continued, but at a slower rate. The consequence is a notable slowing in the real growth of exports after 1974, both the total and that of manufactured products alone.

In the 1980s, after the second oil shock, the deterioration of primary product prices, along with slowing world trade growth, hit Brazil hard. Export receipts followed a more irregular pattern than before, falling from 1981 to 1982, and after a sharp rise in 1984, again declining. In 1987 exports were only 10 percent greater than in 1980. The value of world nonoil trade grew by more than 30 percent in the same interval, hence the Brazilian share fell, but only after 1984.

The volume of Brazilian exports grew at a rate of about 5.6 percent a year from 1980 to 1986, while prices have declined by 3.5 percent. Brazil's performance is inferior to that of nonfuel developing country exporters, whose volume has expanded at a rate of 6.5 percent. In addition Brazil has experienced a larger decline in export prices, almost 1 percent a year. The most dramatic difference, however, emerges in a comparison with the performance of the principal developing country exporters of manufactures, whose volume expanded by more than 8 percent a year and whose terms of trade actually improved over this period.

Just when the close of capital markets forced the debt service burden more substantially upon export receipts, Brazilian performance became more erratic and less competitive despite real devaluation. Part of the reason for this is the continued, although diminished, importance of primary exports subject to a pronounced fall in prices. Another part is the strong recovery in internal demand after 1984.

Table 6.10 presents some estimates of the response of Brazilian manufactured exports to relative prices and domestic capacity utilization. Although it is clear that Brazilian exports do adjust to relative prices with elasticities considerably larger than unity, and hence are sensitive to exchange rate and subsidy policies, it is also the case that strong internal demand typically subtracts from export supply in a significant way. The decline after 1984 in the volume of industrialized exports owes itself to this factor. Brazilian exports of manufactured products are still relatively small compared to the size of the internal market. Overall, the ratio is approximately 10 percent compared with values of roughly 50 percent for Korea and Taiwan. This difference explains much about post-1984 export performance in these countries. For the Asian nations, exports and production are virtually synonymous; trade penetration and industrialization are interlinked.

## 6.5   Conclusions

A central element in the Brazilian capacity to service its debt is its trade performance. Large trade surpluses since 1984 have been achieved primarily as a result of continued import compression rather than regular growth of

**Table 6.10**                    **Export Equations**

Coes (1986): period 1959–77; OLS; all variables in logs; $t$-statistics in parentheses.

$x$ = ratio of manufactured exports to total industrial production.
$p$ = world price of manufactures adjusted by the Musalem incentive series and home industrial prices.
$b$ = measure of excess capacity.

$$x = -3.78 + 1.67p - 0.018b$$
$$(-2.82)\ \ (6.17)\ (-2.88)$$

$R^2 = .74$    D.W. = 1.92

Braga and Markwald (1983): period 1959–81; 3SLS; all variables in logs: $t$-statistics in parentheses.

$X$  = quantum of manufactured exports.
$e$  = world price of Brazilian manufactured exports adjusted by the Cardoso incentive series and home industrial prices.
$B$  = measure of excess capacity.
$P_x$ = world price of Brazilian manufactures.
$Y^*$ = world income.
$P^*$ = price of competing manufactures.

$$X = -7.9 + 2.5e - 1.5B$$
$$(11.7)\ (-2.1)$$
$$P_x = -1.4 - 0.1X + 0.5Y^* + P^*$$

$R^2 = 0.97$    MSE = 1.7

exports accompanied by expanding import capacity. This makes an important difference in developmental consequences, as we elaborate in the next chapter.

The initial conditions of a large trade surplus tend to create an illusory optimism about the ease with which large external transfers of resources can be realized. Applying even differential compound rates of growth to exports and imports leaves a scope for larger trade surpluses in the future. Such exercises are applications of arithmetic rather than economic analysis.

That analysis suggests a more cautious view. One question is the degree of Brazilian competitiveness required for large and regular growth of manufactured exports. To the extent that competitiveness can only be achieved in the short term through real devaluation and hence declining real wages, political feasibility also becomes a major factor. At recent low rates of investment and imports, Brazilian technological capacity is handicapped vis-à-vis strengthened Asian NIC competitors.

A second question deals with the prices of primary exports. An end to the abrupt decline experienced since 1979, the most serious such decline during the postwar period, would be an important boost to Brazilian prospects. Despite dollar devaluation, primary export prices have not risen steadily, while those of manufactured products have done so. Current projections forecast some modest relief in the next few years, but they have been consistently wrong in the last several.

Third, the continued imbalance in the payments of the industrial countries threatens expansion of world trade in two ways. One is a recession induced by restrictive macroeconomic policies in the United States unmatched by expansion in Germany and Japan; the other is rising protectionism and increased attention to bilateral trade balance that limit the scope for debtor country import penetration.

Fourth, on the import side, there may be an overestimate of the structural reduction in Brazilian income elasticities owing to the large program of import substitution. Artificially low investment, despite income recovery in 1985 and 1986, has helped to keep import demand in check. But such a pattern cannot be projected, nor is it consistent with sustained development. Export growth itself becomes dependent upon access to imports. Brazilian ability to generate large trade surpluses due to previous investment should not be exaggerated.

Taken together with recent experience, these considerations suggest that Brazilian trade performance and policy are not settled issues. It will require a sustained effort to assure that export growth occurs in a more regular fashion. It will also require careful attention to assure that import limitations and emphasis upon the internal market do not, in the end, worsen rather than improve the balance of payments. In the last analysis, meaningful trade projections cannot be made within the context of debt service requirements alone. A broader perspective, incorporating the debt as an integral part of the Brazilian development problem, is necessary.

# 7      Epilogue: Debt and Development

Thus far we have stressed the problems of macroeconomic adjustment to the large Brazilian external debt. Debt service has imposed new demands upon trade performance and upon the public sector. The former has responded better than the latter. Since 1984, record export surpluses have been attained. Fiscal deficits and inflationary pressures have persisted, however, and the Cruzado Plan, despite its promising start, has failed. Once again, while trade surpluses have recovered to the $10 billion level, inflation exceeded 400 percent in 1987. Instead of external and internal equilibrium being joint, the strong balance of trade has been gained, to some extent, at the cost of domestic imbalance.

But the debt problem goes even deeper. It is rapidly evolving into the central problem of economic development in the 1990s. After almost a decade of slower growth to facilitate adjustment through limited imports, future prospects are dimmed by low rates of investment since 1982.