The International Economic Relations of a Small Country: The Case of Paraguay*

Werner Baer
University of Illinois at Urbana-Champaign

Melissa Birch
University of Virginia

Introduction

Small countries (those with populations of less than 10 million) make up a significant portion of Latin America—they number 18 of 25 countries, and their inhabitants make up about 20% of the region's population. Whether located in Central America, the Caribbean, or South America, they are characterized by a large degree of openness and a special dependence on a small number of large neighboring economies. These factors make the study of a small economy's international economic relations of more general interest than would otherwise be expected. Paraguay, a country of some 3 million people bordered by two "giants," Brazil and Argentina, exhibits many of these characteristics, and it will be the focus of this paper.

The growth of a small country's international economic involvements can be interpreted in both a positive and negative manner. Trade can be viewed as an engine of growth as the country specializes in products in which it has a comparative advantage and exchanges these for other goods in the international market. A country so specializing could experience a higher level of growth, as it concentrates in those sectors in which it has a greater relative productivity. Similarly, foreign investments in a small country could be viewed positively as bringing additional resources to develop the economy's infrastructure and more rapidly and efficiently developing the major export sectors.

The negative view of international trade specialization would hold that it makes a country overly dependent on the economic health and the political attitude of industrial center countries; that it results in too much power being held by a small number of socioeconomic groups

0013-0079/87/3503-0054$01.00

who control the export sectors; and that it prevents the diversification of the country's resource base. The negative side of foreign investments is that they may result in the commanding heights of the economy being in the hands of foreign groups whose interest may be to maximize short-term gains at the expense of the longer-term development of the country.

Of course, a small country does not have many options, and some degree of specialization and foreign investment is important to reach some type of satisfactory growth and development. However, awareness of policymakers of the negative aspects of this specialization and reliance on foreign capital can lead to policies designed to minimize some effects while promoting those that are conducive to development. This paper will examine the increasing openness of Paraguay's economy in the 1970s. In particular, the effect of Paraguay's fixed exchange rate policies on the direction of regional trade will be analyzed. First, however, it may be convenient to describe traditional Paraguayan economic relations.

Trade in the Postwar Period

Systematic data collection began only in the late 1940s. Three commodities, cotton, timber, and quebracho extract, accounted for two-thirds of exports. Imports consisted of a wide range of goods, including food products, textiles, and different types of manufactured products. Argentina was the main outlet for Paraguay's exports in the immediate postwar years, but the United States soon became the leading market. The United States was also the main supplier of imports, followed by Argentina and the United Kingdom.[1]

These three countries—Argentina, the United Kingdom, and the United States—were also the major sources of foreign capital. In 1947, Argentine investment, primarily in tannin, agriculture, and some public services (electricity, streetcars), constituted 44.4% of total foreign investment in Paraguay. English investment in the railroad, banking, and meat-packing industries accounted for some 30% of foreign investment, and U.S. firms' investments in cattle, petroleum exploration, tannin, and other ventures constituted almost 22% of the total. The Banco do Brasil had opened an office in Asunción in 1942, and it represented the major Brazilian investment at this time. Brazilian investment accounted for approximately 1.7% of total foreign investment.[2]

The postwar political instability in Paraguay not only brought on stagnation in the country's overall economic growth (the yearly growth rate of real GDP was 3% in 1950–55 and 2.4% in 1955–60) and in its international trade, but it also resulted in high rates of inflation, as the cost of living increased by about 20 times in the 1946–55 period. The guarani was valued at 3.06 to the dollar at the end of the World War II,

but, with growing balance-of-payments difficulties, there gradually developed a complex system of exchange controls and a multiple exchange rate system, ranging from G 21 to G 65 to the dollar for various types of imports and G 21 to G 60 to the dollar for various types of exports. Most foreign currency earned from exports was exchanged for overvalued guaranies, while foreign currency demanded for imports was sold at much higher rates. This prejudiced export earnings, causing exports to decline.[3] By the end of 1955, Paraguay was out of foreign exchange reserves. The inflation and balance-of-payments crisis led to a drastic change of policies with the introduction of the stabilization plan of 1956. The latter was worked out with a team from the IMF, which also agreed to underwrite the plan. Of greatest importance to Paraguay's foreign trade, besides credit restrictions and tax reforms, was the devaluation of the guarani and the elimination of export duties. These measures were meant to stimulate exports. At first the guarani was devalued to 60 per dollar, a rate that was applied to all exports and most essential imports; the exception was luxury imports, which could only be imported at a higher rate of G 85 per dollar. In 1957, the guarani was allowed to float for all types of transactions. It reached 110 to the dollar at the end of that year; it remained at that value until January 1959, when it was devalued to 122. By that time inflation had been brought under control.[4]

The exchange rate gradually settled at G 126 to the dollar and was thereafter maintained at that level by the government. This presented no problem in the 1960s, as the government followed conservative policies that kept the rate of inflation at annual rates averaging 2%. The average yearly growth rate of real GDP in the 1960s was about 4.2%, with domestic savings and investments hovering around 12%–13% of GDP.

As will be noted in table 1, the structure of Paraguay's economy changed very little in the 1960s, with the share of agriculture declining only slightly, industry also declining a little, and only commerce and finance making some gains. Two government investment activities undertaken during the decade that would eventually have a pronounced influence on the growth of Paraguay's economy and its foreign trade were the opening of the highway linking Asunción to Brazil and the construction of the Acaray hydroelectric facility.

Paraguay's external economic performance in the first half of the 1960s showed great stability. Exports and imports were stagnant and the balance-of-trade deficits were relatively small. Both exports and imports grew substantially in the second half of the sixties, but the latter expanded more than the former. This resulted in growing trade deficits. The large expansion of imports was related, in part, to government infrastructure projects, which were financed by substantial public capital inflows (see table 2). The composition of exports changed

TABLE 1

PARAGUAY: SECTORAL COMPOSITION OF GDP (At Current Prices)(%)

	1960	1970	1975	1980	1981	1982
Agriculture	38.8	32.1	36.9	29.5	27.8	25.9
Mining	.1	.1	.2	.4	.4	.4
Industry	17.3	16.7	15.6	16.5	16.8	16.4
Construction	2.4	2.8	3.8	6.1	6.6	6.7
Electricity, gas, and water	.8	1.1	1.4	2.3	2.2	2.4
Transport and communication	4.0	3.9	4.0	4.2	4.1	4.2
Commerce and finance	18.4	24.4	22.9	25.8	26.6	26.6
Government	4.4	5.3	3.4	3.4	3.4	3.8
Miscellaneous services	13.8	13.6	11.8	11.8	12.1	13.6
Total	100.0	100.0	100.0	100.0	100.0	100.0

SOURCE.—Banco Central de Paraguay, *Cuentas nacionales* (Asunción, 1984).

slightly in the sixties (see table 3), as the share of wood, tobacco, cotton, and vegetable oils increased, while the share of livestock and quebracho declined. The commodity composition of imports also changed, with the share of food declining and primary and intermediate goods and fuels rising over the decade.

Argentina, the United States, and the EEC constituted the major export markets, with the EEC surpassing the United States in the sixties. Most imports originated from these areas as well; Argentina's share declined a few percentage points in the sixties, with most of the gains going to the EEC.

The Expansion of the 1970s

Paraguay's economy grew very rapidly in the 1970s. The average yearly real growth rate was 8%. The leading sectors were agriculture and construction. The former was the result of the expansion of the agricultural frontier and the latter of the surge of construction activities on various infrastructure projects, culminating in the building (jointly with Brazil) of Itaipu, the world's largest hydroelectric project.[5]

There can be little doubt that the expanded agricultural frontier contributed to Paraguay's economic growth. Previously idle land was brought under cultivation, and much of it produced export crops for which there was a rapidly expanding market in the 1970s. Agricultural output grew by an annual average rate of 7.8% between 1975 and 1980.

The agricultural frontier expansion consisted, in part, of efforts by the government to resettle agricultural families in the country's eastern region. The effectiveness of the program was limited because of the lack of adequate infrastructure, roads, credit, and technical assistance.[6] The other part of the agricultural expansion involved the influx

TABLE 2

PARAGUAY: BALANCE OF PAYMENTS, 1970–81 (Millions of US$)

	1970	1971	1975	1976	1977	1978	1979	1980	1981
Exports, FOB	65.3	173.0	176.4	182.3	279.4	281.5	305.3	310.2	295.5
Imports, FOB	76.6	198.3	227.3	236.3	360.1	432.0	577.1	675.3	772.4
Trade balance	−11.3	−25.3	50.9	−54.0	−80.7	−150.5	271.9	−365.1	−476.9
Current account balance	−16.4	−54.2	−89.6	−105.2	−133.4	238.7	−353.7	−87.0	−777.0
Direct investments	3.8	20.7	14.3	11.4	17.0	21.9	51.9	32.0	. . .
Long-term loans	15.0	32.0	62.0	120.0	64.0	147.0	85.0	160.0	. . .
Short-term capital	8.0	33.0	11.0	−6.0	106.0	108.0	223.0	261.0	. . .
Total external debt	. . .	368.0	473.0	545.0	654.0	932.0	1,055.0	1,042.0	1,364.0
Debt service (interest and amortization)	. . .	−28.0	−36.0	−38.0	−48.0	−61.0	−68.0	−83.0	−111.0
Foreign debt as % of GDP	. . .	20.4	22.0	26.8	24.8	26.1	21.5	19.4	16.9
Foreign debt service as % of exports	. . .	15.9	18.9	19.4	15.4	18.2	22.0	28.3	35.8

SOURCES.—Banco Central del Paraguay, *Boletin estadistico* (Asunción, various issues); Naciones Unidas, CEPAL, *Estudio economico de America Latina y el Caribe* (Santiago, 1981).

TABLE 3

PARAGUAY: COMMODITY AND GEOGRAPHIC TRADE STRUCTURE

	Percentage Distribution			
	1960	1970	1975	1981
Exports—commodity composition:				
Wood products	14.9	19.7	15.8	12.3
Livestock	35.2	26.7	19.5	2.3
Tobacco	5.9	9.0	6.8	2.2
Cotton	1.1	6.3	11.4	43.7
Soybeans	. . .	. . .	9.9	16.1
Sugar	.3	. . .	3.8	. . .
Vegetable oils	5.7	10.9	6.0	7.6
Essential oils	3.7	3.2	5.5	2.2
Quebracho extract	10.9	3.1	1.4	1.9
Other	7.4	21.1	19.9	11.7
Total	100.0	100.0	100.0	100.0
	1970	1981		
Imports—commodity composition:				
Food	8.2	6.4		
Other consumer goods	14.4	21.0		
Primary and intermediate goods	39.3	17.0		
Fuels and lubricants	16.4	18.8		
Capital goods	21.7	36.8		
Total	100.0	100.0		
	1960	1970	1981	
Exports—destination:				
Argentina	28.4	27.4	23.2	
Brazil	.2	1.6	18.3	
United States	26.8	14.2	5.2	
EEC	27.0	30.9	25.3	
Japan	. . .	1.8	8.4	
Other	17.6	24.1	19.6	
Total	100.0	100.0	100.0	
	1960	1970	1981	
Imports—origin:				
Argentina	23.1	18.5	19.8	
Brazil	.8	3.2	25.9	
United States	23.6	23.4	9.7	
EEC	23.7	29.7	17.7	
Japan	6.5	6.8	8.3	
Other	22.3	18.4	18.6	
Total	100.0	100.0	100.0	

SOURCE.—Banco Central del Paraguay, *Boletin estadistico.*

of large numbers of Brazilian and Japanese farmers, who had access to outside financing. Most of their efforts went into export crops, especially cotton and soybeans. In the period 1972–79 soybean output increased by 350% and cotton by 470% while domestic crops grew by only 23%. It will be noted in table 3 that the share of cotton in total exports rose from 1.1% in 1960 to 43.7% in 1981 and of soybeans from zero to 16.1%.[7]

The highway to Brazil and the development of the lands in the frontier region substantially reduced Paraguay's traditional dependence on Argentina as its trade route. It will be noted in table 3 that, whereas only .2% of Paraguay's exports went to Brazil in 1960 and .8% of imports came from there, by 1981 the respective percentages were 18.2 and 25.9. Even trade with the United States and Europe now had an alternative route. This regional trade diversification gave Paraguay an increasing amount of economic and political leverage in its international economic and political contacts.[8]

It is also of interest to note that available data suggest a negative linkage effect caused by the agricultural frontier development. One notes in table 3 that, while vegetable oils accounted for 11% of exports in 1970, by 1981 they had shrunk to 7.6%. In light of the previously mentioned increase in soybean output, one can only infer that an increasing portion of this product is being exported as raw materials, with little value added. In addition, journalists report that soybeans constitute a large portion of the contraband trade.

The other leading sector in the 1970s was construction, which was dominated by the building of Itaipu. The project generated a large amount of employment. More than 13,000 Paraguayans were directly employed in the undertaking at its peak in 1978. Although the original estimate of the cost of the project was around US$2 billion, this had escalated to about US$18 billion by the mid-1980s. (This is about three times the GDP of Paraguay.) The project resulted in a substantial inflow of funds. It has been estimated that in the period 1977–80 the yearly inflow was about US$250 million. This provided liquidity to the banking system and placed downward pressure on the cost of foreign exchange.

Itaipu's internal industrial linkage effects were weak due at least in part to a small and not very diversified industrial sector and to an inadequate transportation system. As a result of these two factors, a large percentage of Paraguay's industrial inputs into Itaipu had to be imported. Linkages to the service sector were notably stronger. High levels of employment in the 1970s, coupled with the availability of consumer credit and a favorable exchange rate (see the following section), led to a rapid expansion of commercial activity. Small private *financieras* opened, and some of the larger retail establishments created their own credit plans for consumers. Whereas in 1972

there were only six commercial banks in Asunción, by 1981 there were 20. Plentiful foreign exchange permitted the import of a variety of consumer goods, as many world-famous brand names found representation in Paraguay. Thus commerce and finance grew very rapidly (at annual rates of over 10% in the 1976–80 period), and by 1981 they accounted for 26% of GDP.

While Itaipu's construction created a substantial increase in effective demand, an increase in the supply of domestic consumer goods was not immediately forthcoming, and the excess demand was partially met by increased imports. This situation, in combination with increased liquidity, resulted in inflationary pressures. Between 1967 and 1970 the cost of living had increased at annual rates ranging between 3.8% and −.1%. By the late 1970s, however, Paraguay was experiencing double-digit inflation, which reached 28.3% in 1979 by official estimates (while unofficial ones ranged as high as 60%). Annual rates of inflation declined subsequently, due to a slakening of demand, to tight monetary policy, and, perhaps, to a more abundant and reliable supply of consumer goods that became available with the institutionalization of contraband.

Exchange Rate Stability and Its Consequences

The exchange rate of G 126 per U.S. dollar established in 1961 was maintained by the government at that level until the 1980s. Given the country's relative internal price stability in the 1960s, there was no threat of overvaluation vis-à-vis the world's major currencies, especially the U.S. dollar. However, the economic instability of such an important trading partner as Argentina and, from the 1970s on, Brazil had some notable impacts on Paraguay. Both countries experienced periodic high rates of inflation with lagging exchange rate adjustments vis-à-vis the dollar, and hence vis-à-vis the guarani.

Whenever a neighbor's currency became overvalued, Paraguay's imports would become more expensive, while its exports to that country would become more competitive and tourism from that country would increase. Thus, the undervaluation of the guarani relative to the neighbor's currency would act as a stimulant to exports of goods and services but would also threaten domestic financial stability as import prices would rise.

With the geographic diversification of the country's trade relations, made possible by the highway to Brazil, there was also an increased opportunity for switching. For example, if Argentina's currency was to become overvalued, there was the possibility of switching purchases to Brazil, the United States, or Europe and switching exports to Argentina.

Some evidence of trade-switching operations can be obtained from tables 4 and 5.[9] In the former, we find the yearly geographic distribution

TABLE 4

GEOGRAPHIC DISTRIBUTION OF PARAGUAY'S EXPORTS AND IMPORTS (% of Distribution)

	Argentina	Brazil	United States	United Kingdom	West Germany	Rest of World	Total
Exports:							
1960	28.1	.4	26.7	10.0	4.1	30.7	100.0
1961	28.3	.3	24.1	11.7	1.6	34.0	100.0
1962	28.6	.3	20.9	10.4	2.4	37.4	100.0
1963	21.4	1.0	22.6	11.2	3.7	40.1	100.0
1964	23.2	.2	23.6	13.4	1.6	38.0	100.0
1965	28.3	.2	27.7	10.9	2.7	29.9	100.0
1966	31.8	.4	23.3	8.5	3.4	32.6	100.0
1967	23.6	.4	25.1	16.1	2.9	31.9	100.0
1968	26.7	.4	24.4	11.1	4.0	33.4	100.0
1969	28.7	. . .	20.6	7.5	4.5	38.7	100.0
1970	27.5	1.7	14.2	7.3	5.5	43.8	100.0
1971	27.3	1.2	16.0	5.5	5.5	44.5	100.0
1972	18.2	.8	14.8	8.7	14.4	41.1	100.0
1973	12.8	2.3	12.9	6.8	18.4	46.8	100.0
1974	22.7	3.6	11.4	8.6	13.1	40.6	100.0
1975	28.1	3.5	8.8	10.3	12.4	36.9	100.0
1976	9.8	6.1	11.7	6.0	11.2	55.2	100.0
1977	12.8	5.8	14.2	4.8	10.2	52.2	100.0
1978	9.4	7.9	8.6	5.8	15.1	53.2	100.0
1979	16.7	9.5	5.8	.2	15.2	52.6	100.0
1980	23.9	12.9	5.4	.6	12.4	44.8	100.0
1981	23.2	18.3	5.2	1.0	11.1	41.2	100.0
1982	17.9	25.3	2.6	1.2	12.4	40.6	100.0
Imports:							
1960	19.6	.7	20.0	6.0	9.6	44.1	100.0
1961	20.3	.5	13.0	6.6	10.3	49.3	100.0
1962	12.6	.5	27.2	6.5	11.8	41.4	100.0
1963	19.6	1.2	24.5	6.4	8.7	39.6	100.0
1964	23.6	.7	18.0	5.8	11.0	40.9	100.0
1965	17.5	2.7	18.8	5.8	16.8	38.4	100.0
1966	17.8	2.7	17.2	4.9	16.0	41.4	100.0
1967	17.2	2.3	15.8	4.2	12.5	48.0	100.0
1968	16.6	3.0	20.7	5.2	12.2	42.3	100.0
1969	15.2	1.9	22.6	7.6	11.9	40.8	100.0
1970	15.5	2.6	19.5	7.2	12.1	43.1	100.0
1971	12.1	2.4	21.5	8.3	9.7	46.0	100.0
1972	13.1	12.5	16.6	7.0	12.1	38.7	100.0
1973	22.5	12.6	14.1	6.4	9.6	34.8	100.0
1974	24.3	14.3	7.8	5.1	7.2	41.3	100.0
1975	16.1	18.0	10.6	7.9	7.1	40.3	100.0
1976	17.1	14.2	8.4	6.2	6.9	47.2	100.0
1977	14.0	17.5	10.0	4.5	7.3	46.7	100.0
1978	12.7	16.4	9.1	8.0	6.8	47.0	100.0
1979	14.0	19.4	9.4	4.6	5.9	46.7	100.0
1980	17.3	22.9	8.3	4.7	5.4	41.4	100.0
1981	16.7	21.9	8.2	4.2	6.8	42.2	100.0
1982	16.8	23.0	7.6	5.1	5.5	42.0	100.0

SOURCE.—Calculated from data in Banco Central del Paraguay, *Boletin estadistico.*

TABLE 5

INFLATION AND EXCHANGE RATE VARIATIONS (%)

	ARGENTINA		BRAZIL		UNITED STATES	PARAGUAY
	Cost of Living	Exchange Rate	Cost of Living	Exchange Rate	Cost of Living	Cost of Living
1958	50.8	.0	14.6	54.9	1.8	5.9
1959	101.6	34.8	13.9	30.5	1.5	10.1
1960	12.1	2.7	29.3	6.0	1.5	8.2
1961	18.8	.4	33.2	57.4	.7	18.9
1962	31.7	39.5	51.5	54.7	1.2	1.2
1963	23.8	19.5	81.3	30.5	1.6	2.3
1964	18.2	1.7	86.3	198.3	1.2	1.1
1965	38.2	21.7	36.8	20.0	1.9	3.8
1966	29.9	22.0	40.8	.0	3.4	2.9
1967	27.3	59.2	24.6	22.3	3.0	1.4
1968	9.6	4.9	24.9	41.1	4.7	.6
1969	6.7	.0	20.1	13.6	6.1	2.2
1970	21.7	8.3	19.3	13.8	5.5	.1
1971	39.1	25.0	19.5	13.8	3.4	5.0
1972	64.1	60.0	15.7	10.3	3.4	9.2
1973	43.7	13.0	15.5	.0	8.8	12.8
1974	40.1	.0	34.5	19.5	12.2	25.2
1975	334.9	317.0	29.4	22.0	7.0	6.7
1976	447.8	282.0	44.8	36.1	4.8	4.4
1977	176.6	192.0	43.1	30.0	6.8	9.4
1978	175.3	95.1	38.7	30.3	9.0	10.6
1979	159.6	65.5	76.0	103.3	13.3	28.2
1980	100.8	39.5	86.3	54.0	12.4	22.4
1981	104.5	139.4	100.6	95.1	8.9	13.0
1982	164.8	488.7	101.8	97.7	3.9	5.1

SOURCE.—Calculated from International Monetary Fund, *International Financial Statistics* (Washington, D.C., various issues).

of Paraguay's exports and imports for the 1960–82 period, and in the latter, the yearly rates of inflation in Argentina and Brazil and the currency devaluation of Argentina's peso and Brazil's cruzeiro. If, for example, the Argentine rate of inflation substantially exceeds the rate of devaluation of the peso, we assume this to be evidence of an overvaluation of the peso, both vis-à-vis the dollar and the guarani (which was strictly tied to the dollar at an unchanging rate). We can check whether the overvaluation of the peso increases Argentina's share of Paraguay's exports and decreases its share of Paraguay's imports. If there is a notable change in the share, we would assume that some switching took place. Of course, such evidence would not be conclusive, since other forces were also influencing the geographic distribu-

tion of trade. For example, besides the Itaipu construction boom in the 1970s, one should also consider such factors as road construction and special trade agreements.

An examination of tables 4 and 5 leads one to the following observations: in 1964–65 the Argentine peso became notably overvalued, which might explain the growth of Argentina's share in Paraguay's exports—from 21% in 1963 to almost 32% in 1966; in the same period one observes the beginning of a decline in Argentina's share of Paraguay's imports. The drastic decline of Argentina's share in Paraguay's exports in 1966–67 could possibly be related to the peso devaluation outpacing Argentina's inflation in 1967; on the import side, however, there was no dramatic change.

The notable increase in Argentina's share of Paraguay's exports in 1973–75 might also be due to the rapid overvaluation of the peso at that time, though the 1976 decline in the share could be related to the impact of Itaipu and the eastern agricultural development on Paraguay's exports to Brazil. The decline of Argentina's share in Paraguay's imports in 1974–75 could also be due, in part, to the peso overvaluation. The absolute values of Argentina's imports from Paraguay in the 1972–75 period would tend to confirm the impact of the peso overvaluation on Paraguay's exports to that country (see table 6).

Until 1965, when the bridge on the Parana River linking Paraguay and Brazil was completed, large-scale trading with Brazil was immensely difficult. Thus, the ability to alternate trading partners between the two countries was only feasible in the post-1965 period. If we examine the share of regional (Paraguay, Brazil, Argentina) trade going to each country, we find there is substantial variation (see table 7). Exports to Argentina as a share of exports to the region do not change much initially, but imports from Brazil increase markedly. This is certainly consistent with the fact that the cruzeiro was undervalued during much of the 1965–70 period. Moreover, there is a tendency for export and import shares to move in opposite directions. That is, when exports to one country increase, imports from that country fall. This tends to confirm our hypothesis that when a partner's currency is overvalued, ceteris paribus, Paraguay will increase exports to that country but will buy imports from another country.

However, when we compare levels of overvaluation (undervaluation) with changes in percentage shares of exports or imports, the results tend to run counter to our intuition. We would expect that if the cruzeiro or peso were overvalued, Paraguayan exports to Brazil or Argentina would rise and imports from that country would fall. Conversely, if the currency were undervalued, we would expect Paraguayan exports to that country to fall and imports from there to increase.

The Argentine peso was undervalued in 1967, 1972, 1977, 1981,

TABLE 6

ALTERNATIVE ESTIMATES OF TRADE: PARAGUAYAN AND PARTNER COUNTRY REPORTS ON TRADE (Millions of US$)

	Paraguayan Exports to Argentina	Argentinian Imports from Paraguay	Paraguayan Imports from Argentina	Argentinian Exports to Paraguay
1969	14.6	15.9	12.5	15.3
1970	17.6	19.8	11.8	15.1
1971	17.8	21.1	10.1	9.7
1972	15.7	19.8	10.8	12.9
1973	16.2	20.7	27.5	29.7
1974	38.5	42.9	48.4	51.6
1975	49.7	50.2	33.2	37.3
1976	17.9	22.3	37.7	56.4
1977	35.8	35.4	43.2	84.8
1978	24.1	42.7	48.8	127.4
	Paraguayan Exports to Brazil	Brazilian Imports from Paraguay	Paraguayan Imports from Brazil	Brazilian Exports to Paraguay
1969	.1	.4	1.6	6.6
1970	1.1	1.4	2.0	11.3
1971	.8	2.5	5.0	21.5
1972	.7	6.2	10.4	31.9
1973	2.9	23.0	15.5	60.5
1974	6.0	35.5	28.8	98.0
1975	6.1	27.3	37.1	118.4
1976	11.0	27.0	31.2	132.1
1977	16.3	33.2	53.9	185.2
1978	20.4	46.5	62.7	224.3
1979	29.1	71.0	102.3	324.4
1980	40.2	91.6	140.5	409.2
1981	54.1	191.5	131.2	449.6
	Paraguayan Exports to United States	United States Imports from Paraguay	Paraguayan Imports from United States	United States Exports to Paraguay
1970	9.0	11.0	15.0	18.0
1975	15.0	19.0	22.0	33.0
1976	21.0	20.0	18.0	38.0
1977	40.0	24.0	31.0	51.0
1978	22.0	51.0	35.0	90.0
1979	17.0	164.0	50.0	128.0
1980	17.0	81.0	51.0	109.0
1981	15.0	48.0	49.0	108.0

SOURCES.—Banco Central del Paraguay, *Boletin estadistico* (Asunción, 1981); Banco Central do Brazil, *Boletim* (Brasilia, 1982); Republica Argentina, Ministerio de Economia, Sec. de Programacion y Coordinacion Economica, INDEC, *Comercio exterior* (Buenos Aires, 1982); U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States, 1982–1983* (Washington, D.C., December 1982).

TABLE 7

REGIONAL TRADE SHARES: ARGENTINA AND BRAZIL (%)

	PARAGUAYAN EXPORTS TO*		PARAGUAYAN IMPORTS FROM	
	Argentina	Brazil	Argentina	Brazil
1960	99	1	97	3
1961	99	1	98	2
1962	99	1	96	4
1963	96	4	94	6
1964	99	1	97	3
1965	99	1	87	13
1966	99	1	87	13
1967	99	1	88	12
1968	99	1	85	15
1969	100	0	89	11
1970	94	6	86	14
1971	96	4	83	17
1972	96	4	51	49
1973	85	15	64	36
1974	86	14	63	37
1975	89	11	47	53
1976	62	38	55	45
1977	69	31	44	56
1978	54	46	44	56
1979	64	36	42	58
1980	65	35	43	57
1981	56	44	43	57
1982	41	59	42	58

NOTE.—Based on official statistics.

* Exports as a share of regional exports, i.e., exports to Argentina/exports to Argentina and Brazil.

and 1982. Yet Paraguayan exports to Argentina fell as a share of regional exports (in comparison with the immediately previous year) only in 1981 and 1982. Imports from Argentina rose only in 1967 and fell in 1972, 1977, and 1982. Similarly, the Brazilian cruzeiro was undervalued in 1967, 1968, 1978, 1979, and 1981. Paraguayan exports to Brazil decreased in 1979, but rose in 1978 and 1981. Paraguayan imports from Brazil increased in 1968 and 1979, remained constant in 1978 and 1981, but fell in 1967. Thus, the data for Brazil are somewhat more in keeping with our expectations.

The comparison of export or import shares in a given year to the level of over- or undervaluation of that year presents certain difficulties. Inflation and exchange rate adjustments are cumulative processes. While the rate of devaluation in a given year may be larger than the rate

of inflation in that year, it may still not fully compensate for the residual overvaluation from a previous period. For example, looking at the period 1965–82, on a year-by-year basis, the cruzeiro was undervalued (sometimes substantially) on five occasions and overvalued 13 times. Yet the cruzeiro was cumulatively undervalued throughout the period. The peso was also undervalued 13 times and overvalued five, but it was cumulatively overvalued (even including the massive 1982 devaluations).

Adoption of this cumulative measure as the relevant variable is prevented by the fact that it is extremely sensitive to variations in the time span considered. If we look at only the decade of the 1970s, we find the cruzeiro is cumulatively undervalued only once—in 1979—and in that year the share of exports to Brazil declined by more than 20%, while imports from Brazil increased slightly. The peso remained overvalued throughout. The idea of cumulative over- or undervaluation is perhaps best used as an explanation for multiyear trends rather than for year-to-year variation. Thus, we might observe that cumulative overvaluation was perhaps a contributing factor to the decline in Argentina's share in Paraguay's imports.

An alternative approach would be to examine the relation between exports and imports from and to Brazil and Argentina and the real exchange rate between the cruzeiro and the guarani and between the peso and the guarani.[10] Calculations of the real exchange rate for both the official (G 126 per dollar) and the fluctuating market rate are available. Using the official real rate was not fruitful, but comparison with the floating rate was more promising. In the first column of table 8 we can see the annual changes in the real value of the guarani vis-à-vis the peso and cruzeiro and in the second column the expected behavior of Paraguayan imports and exports. The other columns describe the actual movement of exports and imports, measured in four different ways. It would seem from comparing these columns with the second column that in the early 1970s the real exchange rate had a great deal to do with the direction of trade, by almost any measure of that trade. The relative regional share measure seems to provide the best fit. By the late seventies and early eighties, however, it would appear that other considerations overwhelmed relative price. In the case of Brazil, relative price seems to be more important in the mid- to late seventies. This might be expected, given the newness of trade relations with Brazil in the early seventies.

Overall, it would appear that the relative price only partially explains the direction of trade between Paraguay, Brazil, and Argentina. Institutional arrangements, availability of infrastructure, and economic growth in trading partner countries may be at least as important. Argentina's share of trade with Paraguay has undoubtedly declined over the last 20 years. A startling reminder of that fact is that despite

the overvaluation of the peso under Martinez de Hoz (1976–80) and the overseas buying spree Argentina enjoyed during that period, Paraguayan exports to Argentina declined as a share of all Paraguayan exports. In fact, they declined in terms of real value during 3 of the 4 years.

Trade with Brazil clearly increased during the period, and Itaipu construction is certainly a significant part of that expansion. Also important was the growth of production of consumer goods in Brazil in the 1970s and the economic development of southwestern Brazil, which brought about an increasing political interest in Paraguay. Brazil's emergence as a capital goods exporter put it in direct competition with Argentina by the end of the 1970s.

In the 1970s the guarani itself became increasingly overvalued vis-à-vis the U.S. dollar, as the Paraguayan rate of inflation began to substantially outpace U.S. inflation. This overvaluation made imports increasingly attractive. The cheaper imports, in turn, placed a downward pressure on Paraguay's rate of inflation. Overvaluation provided a subsidy to the importation of capital goods, but this had little effect in stimulating industrial growth, as the domestic market for manufactured goods was small and imported consumer goods, also made cheaper by overvaluation, were too competitive for local substitutes.

Foreign Direct Investment

The value of the guarani relative to that of the peso and the cruzeiro might also be expected to influence the location decision of foreign investors. However, many other aspects of a country's political and economic situation are also important. Paraguay's political and social stability have been important in establishing a favorable "climate" for foreign direct investment.

In the Paraguayan case, "the Government of Paraguay is firmly in favor of private enterprise and welcomes foreign investment."[11] Total private foreign investment as of January 1980 was probably over $1.2 billion, with investment from Argentina and Brazil predominating. United States private investment in Paraguay, mostly in land development, was estimated at $120 million in 1980.[12]

Paraguayan Law 550 provides very favorable treatment for foreign capital deemed to increase exports ("necessary") and for foreign firms that are labor intensive in their operations and that substitute for imports ("advantageous"). Provisions of Law 550 include an exemption from taxes on capital transfers and on imports of capital goods, as well as a 50% reduction of income tax liability. While sources vary substantially in their estimates of the amount of capital benefiting from these provisions, one recent estimate suggests that some $682 million was approved in 1976, $251 million in 1980, and $80 million in 1982.[13] While foreign investors are not required to apply for the benefits available

TABLE 8

REAL EXCHANGE RATES AND TRADE PATTERNS

RATE AND YEAR	DIRECTION	EXPECTED BEHAVIOR									
		M	X	M_o	X_o	M_o^r	X_o^r	M_{pc}	X_{pc}	M_{pc}^r	X_{pc}^r
		Direction of Change									
Guarani-peso rate:											
1971	Depreciated	−	+	−	0	−	+	−	+	−	−
1972	Appreciated	+	−	+	−	−	0	+	−	−	−
1973	Appreciated	+	−	+	−	+	−	+	+	+	−
1974	Appreciated	+	−	+	−	−	+	+	+	+	+
1975	Appreciated	+	−	−	+	−	+	−	+	−	+
1976	Depreciated	−	+	+	−	+	−	+	−	+	−
1977	Appreciated	+	−	−	+	−	+	+	+	+	+
1978	Depreciated	−	+	−	−	0	−	+	+	+	−
1979	Depreciated	−	+	+	+	−	+	N.A.		N.A.	
1980	Depreciated	−	+	+	+	+	+	N.A.		N.A.	
1981	Appreciated	+	−	−	−	0	−	N.A.		N.A.	
Guarani-cruzeiro rate:											
1971	Appreciated	+	−	−	−	+	−	+	+	+	+
1972	Appreciated	+	−	+	−	+	0	+	+	+	+
1973	Appreciated	+	−	+	+	−	+	+	+	−	+
1974	Appreciated	+	−	+	+	+	−	+	+	−	−
1975	Appreciated	+	−	+	0	+	−	+	−	+	−
1976	Depreciated	−	+	−	+	−	+	+	−	−	+
1977	Appreciated	+	−	+	−	+	−	+	+	−	−
1978	Appreciated	+	−	−	+	0	+	+	+	−	+
1979	Appreciated	+	−	+	+	+	−	+	+	N.A.	
1980	Appreciated	+	−	+	+	−	−	+	+	N.A.	
1981	Depreciated	−	+	−	+	0	+	+	+	N.A.	

				Absolute Percentage Changes							
Guarani-peso rate:											
1971	Depreciated	−	+	−21.9	−.7	−3.5	2.1	−35.8	6.6	−45.6	−4.3
1972	Appreciated	+	−	8.3	−33.3	−38.6	0	33.0	−6.2	−7.4	−14.8
1973	Appreciated	+	−	71.8	−29.7	25.5	−11.5	130.2	4.5	14.2	−37.8
1974	Appreciated	+	−	8.0	77.3	−1.6	1.2	73.7	107.2	4.9	15.4
1975	Appreciated	+	−	−33.7	23.8	−25.4	3.5	−27.7	17.0	−30.7	18.5
1976	Depreciated	−	+	6.2	−65.1	17.0	−30.3	51.2	−55.6	25.1	−30.2
1977	Appreciated	+	−	−18.1	30.6	−20.0	11.3	50.4	58.7	5.0	14.2
1978	Depreciated	−	+	−9.3	−26.6	0	−21.7	50.2	20.6	15.3	−7.4
1979	Depreciated	−	+	10.2	77.7	−4.5	18.5	N.A.	. . .	. . .	. . .
1980	Depreciated	−	+	23.6	43.1	2.4	1.6	N.A.	. . .	. . .	. . .
1981	Appreciated	+	−	−3.5	−2.9	0	−13.8	N.A.	. . .	. . .	. . .
Guarani-cruzeiro rate:											
1971	Appreciated	+	−	−7.6	−29.4	21.4	−33.3	90.3	78.6	60.5	60.6
1972	Appreciated	+	−	420.8	−.3	188.2	0	48.4	148.0	3.3	124.5
1973	Appreciated	+	−	.8	187.5	−26.5	275.0	89.6	271.0	−5.8	121.0
1974	Appreciated	+	−	13.5	56.5	2.8	−6.7	61.9	54.3	−2.4	−13.9
1975	Appreciated	+	−	25.9	−2.8	43.2	−21.4	20.8	−23.1	16.0	−22.3
1976	Depreciated	−	+	−21.1	74.3	−15.1	245.5	11.6	−1.1	−7.8	55.7
1977	Appreciated	+	−	23.2	−4.9	24.4	−18.4	40.2	23.0	−2.1	−11.7
1978	Appreciated	+	−	−6.3	36.2	0	48.4	21.1	40.1	−7.0	7.6
1979	Appreciated	+	−	18.3	20.3	3.6	−21.7	44.6	52.7	. . .	. . .
1980	Appreciated	+	−	18.0	35.8	−1.7	−2.8	26.1	29.0	. . .	. . .
1981	Depreciated	−	+	−4.4	41.9	0	25.7	9.9	109.1	. . .	. . .

SOURCE.—Real exchange rates taken from CEPAL, *Estudio economico de America Latina* (1981), "Apendice estadistico."

NOTE.—Real exchange rates are for the rate of exchange between the guarani and other currencies that prevailed on the fluctuating free market. M_o (X_o) is Paraguayan imports (exports) as a share of total imports (exports) measured with official statistics. M_o^r (X_o^r) is Paraguayan imports (exports) as a share of regional imports (exports) measured with official statistics. M_{pc} (X_{pc}) is Paraguayan imports (exports) in absolute terms measured with partner country data. M_{pc}^r(X_{pc}^r) is Paraguayan imports (exports) as a share of regional imports (exports) measured with partner country data. + indicates imports or exports increased; − indicates imports or exports decreased, 0 indicates no change.

TABLE 9

LAW 550: APPROVED INVESTMENTS, 1974–80 (%)

	1974	1975	1976	1977	1978	1979	1980
United States	13	0	6	3	15	7	67
Brazil	21	60	21	63	16	6	4
Argentina	47	11	14	6	7	2	2
Japan	0	13	6	13	6	0	3
Other	19	16	53	16	56	85	25

SOURCE.—Banco Paraguayo de Datos, *Lista de inversiones extranjeros en el Paraguay, 1974–1980* (June 1981).

NOTE.—In current U.S. dollars.

from Law 550, it might be expected that most legal investors would. Certainly not included is much of the Brazilian investment in agriculture in the eastern border region. Also mentioned, but not counted, is a sizable portion of investment in services (banking excluded). Capital from dubious or unsavory sources is also not likely to be registered, and this could be substantial.

Data on the amount, origin, geographic location, and type of industry are available only for projects approved under Law 550.[14] Keeping all the shortcomings of such data in mind, it is still interesting to note the increasingly diverse origin of capital (see table 9). The lumpiness of investment makes it difficult to discern trends. For example, the large U.S. share in 1980 is the result of one very large investment project in cement. Similarly, the unusually high proportions of Brazilian investment in 1975 and 1977 represent the Brazilian owners' contribution to the joint venture (with the Paraguayan government) in steel making. Agro-industrial investment by Germans was unusually high in 1979. Even so, it is notable that although Argentina was a large investor in 1974, its share declined over the period 1974–80 while Brazil's increased.

An annual comparison of levels of foreign investment and exchange rates yields little of interest. It is noteworthy that for much of the 1960s the guarani was undervalued relative to the U.S. dollar, yet foreign direct investment did not increase substantially. In the 1970s the guarani was increasingly overvalued, but foreign direct investment increased, both in absolute terms and as compared with export revenues or GDP. Not surprisingly, foreign direct investment would seem to be more sensitive to overall economic and political conditions than to minor variations in the value of the guarani. Exchange rate stability may have been the relevant decision variable rather than the relative prices it implied. The promise of abundant electricity and the opening of the eastern border region, combined with a very liquid international

TABLE 10

ALTERNATIVE ESTIMATES OF TRADE FOR PARAGUAY: OVERALL MERCHANDISE TRADE
(Millions of US$)

	1976	1977	1978	1979
Exports (FOB):				
Official estimates	182.3	279.4	281.5	305.2
Including adjustments from partner country data	234.4	343.7	421.2	520.3
Including adjustments from exchange houses data	301.2	640.2	713.7	1,191.0
Imports (FOB):				
Official estimates	236.3	360.1	432.0	577.1
Including adjustments from partner country data	315.5	480.5	671.1	865.6
Including adjustments from exchange houses data	398.5	717.8	912.4	1,494.6

SOURCE:—World Bank, *Economic Memorandum on Paraguay* (September 1981), p. 89, based on information provided by the Balance of Payments Division of the Central Bank.

financial market and changing institutional structures in Europe, made Paraguay an attractive site for investment in the 1970s.

In 1983, both the overall environment of economic prosperity and stability and the real exchange rate moved against foreign investment. Itaipu construction slowed and, for the first time since 1970, capital flows did not offset the current account deficit. There followed a sudden and acute shortage of foreign exchange. Overvaluation of the guarani with respect to the dollar was high, and the Argentine peso was substantially undervalued. It became clear that the government was unable or unwilling to respond to the sudden change in conditions, and the adoption of interim measures was not sufficient to stem the growing uncertainty. In addition, the overvaluation reduced profitability of already existing local ventures. Thus, there were many economic advantages to locating in Argentina, and foreign direct investment in Paraguay declined. Paraguayan investors also flocked to take advantage of the undervaluation of the Argentine peso and bought real estate and other property in Argentina. The agro-business boom of the 1970s in Paraguay came to a halt as international commodity prices fell and foreign investors went elsewhere.

Overvaluation and Contraband Trade

Paraguay has nearly always had trouble with smuggling. It was estimated to amount to about 12% of the value of registered trade in the 1950s and somewhat more in the early 1960s. Table 10 provides an estimate of the degree of nonrecorded trade in the 1970s. Many miles of sparsely populated frontier make policing almost impossible. High

tariffs and cumbersome procedures provide a further incentive. Only in the last decade, however, did smuggling become institutionalized. Standardized procedures facilitate regular delivery and increased marketing potential. The abundance of smuggled merchandise in the Paraguayan market has lessened the impact of inflationary forces by keeping down the cost of food and many consumer goods.

In spite of the implicit subsidy to imported goods derived from the overvaluation of the guarani, a large contraband trade flourishes. While those who deal in contraband imports may have to buy dollars at the higher free market rate, they avoid high tariffs, payment of taxes and commissions, and complex administrative procedures that include mandatory deposits with the Central Bank of up to 200% of the value of imported items for 90 days.

In theory, increased overvaluation of the guarani in the late 1970s and early 1980s should have caused exports to decline as they became less competitive. In fact, however, these expectations did not materialize. First, rising prices in international commodity markets mitigated the impact of overvaluation. Second, when international prices began to fall, an increasing amount of export earnings was permitted access to the free-floating exchange market. This was, in fact, the beginning of a system of multiple exchange rates, since it constituted a de facto devaluation for a certain class of traded goods—agricultural exports. Third, contraband flourished. These items were generally smuggled to avoid export restrictions (as in the case of unprocessed logs, which may not be legally exported) or to take advantage of Brazilian export incentives by reexporting them from Brazil as Brazilian goods. The fact that Paraguay's exports consist mainly of primary goods facilitates contraband, since their origin, unlike manufactured goods, is difficult to prove.

Whereas we have been able to show little effect on registered trade and investment as a result of the maintenance of a fixed official exchange rate, there is evidence to suggest that it has provided a substantial incentive for contraband. An exporter, bringing his dollar earnings in through the Central Bank, is subject to a number of taxes, fees, and delays, and then receives only G 126 per dollar. However, if he changes his dollar earnings into pesos or cruzeiros in Argentina or Brazil, respectively, and then trades those currencies for guaranies, he stands to make substantial gains. He will almost always receive something more than G 126 and sometimes more than twice that amount (see table 11).

Contraband trade has become so prominent that most Paraguayan and international balance-of-payments analysts pay only slight attention to official export and import data. Tables 6 and 10 present various orders of magnitude of contraband trade. Table 10, which contains World Bank estimates, shows an ever-widening gap between official

TABLE 11

EXCHANGE RATE DIFFERENTIALS

	G/Cr$	Cr$/US$	G/US$	G/P	P/US$	G/US$
1960	653.6	.205	134	247.59	.8	198.1
1965	62.0	2.22	137	63.93	1.9	121.5
1970	35.7	4.95	127.2	31.55	4.0	126.2
1975	14.97	9.07	135.8	5.42	60.9	330.1
1980	1.97	65.50	129.0	.16	199.3	318.9

SOURCE.—*Boletin estadistico* (Asunción 1981); IMF, *International Financial Statistics* (Washington, D.C., various years).

trade data and estimates based on partner country information and on data from free-floating exchange transactions volume. Table 6 shows the divergence between Paraguayan data and those of its three major trading partners. It is thus quite likely that the degree of openness of the Paraguayan economy is more than twice as large as revealed by the export/GDP and import/GDP ratios of table 12, that is, in the period 1970–81 the export/GDP ratio could have averaged around 26%–30% instead of 13% and the import/GDP ratio about 35% instead of 18%, ranking Paraguay's economy among the most open in the world.

TABLE 12

PARAGUAY: TRADE EXPOSURE OF ECONOMY (% of GDP)

	Exports of Goods and Services	Imports of Goods and Services
1962	12.6	14.7
1970	14.9	16.1
1971	13.4	16.0
1972	13.8	13.8
1973	15.0	14.3
1974	15.5	17.8
1975	13.2	18.7
1976	12.4	17.8
1977	15.0	20.7
1978	13.4	20.6
1979	10.3	19.1
1980	9.6	18.5
1981	6.7	16.1

SOURCE.—Banco Central del Paraguay, *Cuentas nacionales* (Asunción, 1982), and *Boletin estadistico* (Asunción, 1982).

The Foreign Debt

Borrowing abroad by the Paraguayan government and the autarkic entities has been quite limited. Government policy is to borrow only to "accelerate the rate and level of investments in infrastructure" in support of directly productive activities in the private sector and to "promote and strengthen direct investment in the productive sectors." At the same time, debt service (interest and amortization) is to be kept at "reasonable levels with respect to the foreign exchange income" derived from exports. Foreign borrowing is to take place in the context of a balanced national budget in order to "preserve the value of money" and with minimal use of internal credit that is judged to "imply inflationary pressures."[15]

An examination of the data suggests that the policy was closely followed in the 1960s and part of the 1970s. Rapid growth in Paraguay and changes in the international setting, however, are making it increasingly difficult to adhere to such a policy, and possibly inadvisable. As of December 1979, about two-thirds of all foreign borrowing by the public sector was from international development agencies (see table 13). This lending was generally made at concessional rates, and it was claimed that the average loan carried a 4.5% interest rate payable over 20 years, with a 5-year grace period.[16] Borrowing from private sources increased dramatically at the end of the decade and into the 1980s, so that by the end of 1981 it totaled $454.5 million, almost twice the 1978 level.[17]

In light of current interest in the question of Latin America's foreign debt and Paraguay's unusually low foreign debt, it will be useful to examine the nature of that debt before reaching any conclusions about the role of the external sector in Paraguay's recent economic growth. Borrowing for the two large hydroelectric projects, Itaipu with Brazil and Yacyreta with Argentina, has been undertaken by the binational entities that administer those projects. Paraguay, as half owner of the entities, is also owner of half the debt. However, by terms agreed on in the respective treaties, the governments of Brazil and Argentina assume responsibility for contracting and guaranteeing the loans for each project. Thus, public-sector debt was actually lower in 1981 than 10 years earlier and, as a percentage of GDP, net foreign debt fell from 30% in 1972 to 5% in 1981.[18]

The trend for the 1980s, however, is somewhat different. Contracted foreign debt has increased by an average of 20% per year between 1980 and 1983, and net external debt increased by some 56% in 1983 alone. By the end of 1984, net external debt amounted to $1.4 billion. Much of the new debt is being contracted by the public sector, and there is some tendency toward increased spending on social infrastructure. Service on the debt more than doubled between 1982 and 1983, rising from 28% to 39% of export revenues.[19]

TABLE 13

PARAGUAY: FOREIGN DEBT BY SOURCE (thousands of U.S.$, December 1979)

Lender	Amount	%
IADB	171.3	29
AID	60.7	10
World Bank	134.0	23
IDA	26.5	4
Export-Import Bank	15.6	3
Other	86.0	15
Suppliers' credit	95.9	16
Total	590.0	100

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982
Gross debt contracted	220	291	368	473	545	654	932	1,055	1,042	1,641	1,939
Gross debt disbursed	192	219	272	332	456	518	669	733	861	949	1,204
Net debt:	232	235	265	304	380	346	339	253	228	146	530
Public	203	202	212	237	316	265	226	99	78	22	385
Private	29	33	53	67	64	81	103	154	150	124	145
Service (net) on debt	18	19	28	36	38	48	61	68	83	75	50
Nebt debt/GDP*	30	24	20	20	22	17	13	7	5	3	12
Debt service/export	17	13	13	16	16	12	14	13	15	13	8

SOURCES.—Paraguay, Ministerio de Hacienda, *Un cuarto de siglo de paz y bienstar del pueblo Paraguayo* (Asunción, 1979). UN/ECLA, *Economic Survey of Latin America, 1981* (Santiago, 1983), pp. 27, 28.

* Calculated at official exchange rates.

Changes also occurred in the sources of financing. By the end of 1981, 44.9% of the debt was owed to international agencies, and 23.4% to foreign governments.[20] While these ratios are still high, compared with the data for the 1970s, they indicate that Paraguay, like other developing countries, was turning increasingly to private sources of financing. It is likely that this sort of borrowing is related to government budget deficits, which appear to be financed by foreign funds.[21]

In the 1970s, Paraguay was the fastest growing country in Latin America and the least debt incurring—not counting the financing for Itaipu, which undoubtedly contributed in a major way to the rapid growth. In the 1980s, hit by the worldwide recession, the end of Itaipu construction, and the delays in the Yacyreta project, Paraguay is increasing its borrowing to make up for the shortfalls in government revenues that have accompanied the economic slowdown. In the face of declining export revenues, the burden of servicing the growing debt becomes more onerous.

The Fixed Exchange Rate Policy and Economic Development

In order to sustain high rates of economic growth, Paraguay will have to rationalize its external sector. Given its involvement with Argentina and Brazil in gigantic investment projects, a return to autarky seems unlikely. It is also quite unnecessary. The increasing diversity among Paraguay's trade partners is an encouraging sign. While some might see this as increasing penetration of world markets and thus increasing dependency, we would argue the opposite: that this variety of international transactions increases Paraguay's independence and gives it more options in terms of potential export buyers and sources for import purchases. The statistical analysis of table 4 provides moderate support for this argument.

Essential for assuring that this expansion implies independence rather than dependency is the diversification of export production. Unfortunately, Paraguay's production of soybeans and cotton in the 1970s does not indicate that sort of diversification. Instead, it was a result of the incorporation of new, frequently Brazilian, labor and capital. Its effect was to replace traditional exports like beef, tannin, and tobacco with soybeans and cotton. In order to promote true export diversification that would benefit small Paraguayan farmers, the government will need to increase and improve extension services and access to capital and markets for outlying colonies and promote the production of nontraditional crops. To do so will require additional funding.[22]

An additional requirement for such a diversification scheme would be incentives for industrial processing of Paraguayan raw materials. While Law 550 gives special treatment to such ventures, it is clearly insufficient. The economic success of such a venture requires adequate

and reliable supplies of inputs (both domestic and imported), a prosperous local market, and access to export channels. As long as production of raw materials is small and of varying quality and delivery to the processing site is irregular due to the impassability of dirt roads in rainy weather, costs of production will be sufficiently high that output could not be competitively priced. If the already small Paraguayan market is further diminished by an active illegal import trade or imports are subsidized by an overvalued guarani, it is difficult to imagine an investor undertaking production, especially if export procedures are complicated and overvaluation acts as an unseen tax. Clearly, a comprehensive industrial promotion program would require a number of reforms.

Basic to such a program would be exchange rate and tax reforms. The overvalued guarani reduces profitability of industrial ventures and discourages exports. High import tariffs and complicated procedures promote contraband. Combined with a tax system that relies heavily on foreign trade taxes, contraband trade means lost government revenues. This becomes clear when one considers that one-third of government revenues come from taxes on international trade and that public-sector revenue as a percentage of GDP fell from 14.7% in 1972 to 12.2% in 1981. Thus, contraband trade deprived the public sector of funds necessary to finance infrastructure construction. For example, the geographic expansion of the economy increased the need for access roads to bring products from the new agricultural lands to market. As the government had few resources to build such roads, only private companies were able to manage adequately as they built their own road system. Peasant farmers were thus forced to sell at lower prices to the middlemen. Similarly, the construction of much-needed infrastructure (e.g., water distribution, sewage systems, etc.) was insufficient because of the lack of adequate government revenues.

Improved design and administration of tax policy would provide revenues for such projects.[23] With a per capita income of US$1,420, Paraguay is now in a position to design and enforce a national income tax. Ideally, the latter should have been implemented during the rapid growth period of the 1970s, which would have made its impact less noticeable and its revenue yield greater. With respect to exchange rate policy, the fixed rate of the sixties and seventies will inevitably have to be abandoned if exports through regular channels are to be stimulated and if government revenues from foreign trade are to be increased. The maintenance of the fixed rate in the 1970s was feasible only because of the unusual foreign exchange flows from the Itaipu project.

When Itaipu and Yacyreta begin to produce and earn export revenues for Paraguay, a new strain will be placed on institutional structures. Initially, much of this revenue will be used to pay for Paraguay's portion of the debt incurred for construction. Later on, however, if

appropriately utilized, revenues could be used for physical and social infrastructure, as well as providing funds for a development bank that would encourage local entrepreneurship. Such a plan would help ensure that future growth is based on increased domestic production and expanded legal trade. In these circumstances, international trade would allow Paraguay to exploit its comparative advantage and achieve more rapid economic growth.

Notes

* This is a substantially revised version of a paper presented at a conference on "The Paraguayan Economy: Current Situation and Perspectives" held in Asunción, Paraguay, in July 1983. The authors would like to thank Russell E. Smith and an anonymous referee for their helpful comments and suggestions.

1. Fernando L. Masi, "Paraguay: The External Sector and the Making of the Economic Boom," mimeographed (Washington, D.C.: World Bank, April 1983), pp. 3–5.

2. Natalicio Gonzalez, *El estado servidor del hombre* (Mexico: Editorial Guarania, 1969), p. 178.

3. Paul H. Lewis, *Paraguay under Stroessner* (Chapel Hill: University of North Carolina Press, 1980), p. 152.

4. Ibid., p. 153.

5. Werner Baer and Melissa Birch, "Expansion of the Economic Frontier: Paraguayan Growth in the 1970's," *World Development* 12 (August 1984): 783–98.

6. Ibid., p. 788.

7. Ibid., p. 787.

8. Ibid.

9. Regression analysis would be the more usual approach, but that is precluded by the quality and quantity of the available data. With less than 20 usable observations the power of the test would be unreliable. Moreover, during the period under consideration, there were a number of exogenous changes (the construction of the Itaipu Dam, new roads and bridges, and rapid growth of Brazilian industry). There are insufficient data to support a complete model.

10. The real exchange rate is found by dividing an index of nominal foreign exchange rates by an index of relative prices. More specifically, it can be expressed as

$$X_{Bi}/P_{Bi} - W_{Bi},$$

where X is an index of nominal exchange rates between country B and country i, P is an index of the relation of prices in country B and country i (i.e., a relative inflation measure), and W is a weight derived from relative share of exports going to country i.

11. U.S. Department of Commerce, Overseas Business Reports, *Marketing in Paraguay* (Washington, D.C.: Government Printing Office, September 1980), p. 11.

12. Ibid.

13. *ABC Color* (Asunción), Suplemento economico (August 28, 1983), p. 6.

14. Data are for projects approved. There is no guarantee that these projects were ever carried out. One assumes an investor would not incur the costs and delays required to apply if there were not a very high degree of certainty about the venture.

15. *Un cuarto do siglo de paz y bienestar del pueblo paraguayo* (Asunción: Imprenta Nacional, 1979), p. 1,101.

16. Ibid., p. 1,107.

17. Inter-American Development Bank, *Economic and Social Progress in Latin America* (Washington, D.C., 1983), p. 293.

18. United Nations, Economic Commission for Latin America, *Economic Survey of Latin America 1981* (Santiago, 1983), p. 28.

19. United Nations, Economic Commission for Latin America, *Economic Survey of Latin America 1983* (Santiago, 1985), pp. 27–28.

20. Ibid., p. 293.

21. Ibid., p. 292.

22. Baer and Birch (n. 5 above).

23. Ibid., p. 796.