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Policy Responses to External Shocks in Selected Latin-American Countries

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The non-OPEC developing countries suffered external shocks of considerable magnitude after 1973. In the 1973–78 period, these shocks included the quadrupling of petroleum prices, which took full effect in 1974, and the world recession of 1974–75, which was followed by a relatively slow recovery. The external shocks adversely affected the balance of payments of the countries in question through the deterioration of their terms of trade and through the slowdowns in the growth of foreign demand for their export products.

The non-OPEC developing countries adopted various policy measures in response to these external shocks. Depending on the country concerned, the policy responses involved additional external financing, export promotion, import substitution, and lowering the rate of economic growth.

In this paper I shall examine the economic effects of external shocks, and of the policy measures taken in response to these shocks, in three Latin-American countries (Brazil, Mexico, and Uruguay) during the 1973–78 period. Brazil and Uruguay are representative of countries that suffered the consequences of increased petroleum prices, but they differ in the policies adopted. The terms of trade deteriorated to a much lesser extent in Mexico, which started exporting substantial quantities of petroleum in 1977. At the same time, the choice of 1978 as the terminal year permits separation of the effects of the two oil shocks, the second being the approximate doubling of petroleum prices in 1979.

In the first section I shall describe the analytical framework used in estimating the balance of payments effects of external shocks, and of the policy measures taken in response to these shocks, with further consideration given to the treatment of internal shocks. In the second I present the estimates made for the three countries. Finally, in the third, I shall consider the policies applied and relate these to the results obtained. The relevant formulas are shown in the Appendix.

THE BALANCE OF PAYMENTS EFFECTS OF EXTERNAL SHOCKS AND OF POLICY RESPONSES TO THESE SHOCKS: ANALYTICAL FRAMEWORK

External Shocks

The effects of external shocks on the balance of payments of the countries under study have been estimated by postulating a situation that would have occurred in the absence of these shocks. In so doing, separate consideration has been given to the deterioration of the terms of trade (terms-of-trade effects) and the slowdown in the growth of foreign demand for the exports (export volume effects)[1] of the countries in question.

Terms-of-Trade Effects

In estimating the terms-of-trade effects of external shocks, the average for the years 1971–73 has been taken as the basis. It may be objected that, due to the effects of the world boom of 1972–73, the terms of trade of the developing countries were particularly favorable in 1971–73. However, the differences as compared with the 1960s are small, and the terms of trade of the developing countries in 1971–73 were in fact slightly less favorable than in the 1960s[2] if we exclude fuel, the price of which started to rise in late 1973.

In making estimates, changes in the terms of trade as compared with the 1971–73 base period have been attributed to external shocks. The underlying assumption is that the country in question is a price-taker in world markets. Such an assumption applies *grosso modo* to the principal exports of the three countries under study, the chief exception being coffee in Brazil. Nevertheless, in the absence of the explicit modeling of the world coffee market, the assumption has been retained in this case also.

Terms-of-trade effects have been calculated by revaluing imports and exports in the average prices of the years 1971–73 (for short "1972"), and taking the difference between *current-price* values and the *constant-price* values thereby obtained. They have further been decomposed into a pure terms-of-trade effect, calculated on the assumption of balanced trade in terms of "1972" prices, and the effects of the rise in import prices on unbalanced trade (the deficit or surplus in the balance of merchandise trade estimated in "1972" prices).[3]

In order to indicate the impact of the quadrupling of petroleum prices on the terms of trade, the balance of payments effects of changes in the price of fuel and nonfuel imports are separately shown. On the export side, distinction has been made between traditional primary exports,[4] taken individually, fuels, nontraditional primary exports other than fuels, and manufactured goods.

Export Volume Effects

The *trend* value of exports that would have occurred in the absence of external shocks has been estimated on the assumption that the world exports of

the country's traditional primary export products, taken individually, and the developing countries' exports of fuels, nontraditional primary products other than fuels, and manufactured goods grew at the same rate as in the preceding decade *and* the country concerned maintained its "1972" market share in these exports. The underlying assumption is that a developing country competes against all suppliers in the world market for its traditional primary exports while its nontraditional exports compete against those of other developing countries.

The effects of changes in foreign demand have been derived as the difference between the *trend* value of exports and the *hypothetical* value of exports, both estimated in "1972" prices. Hypothetical exports have been calculated on the assumptions that the country's exports of traditional primary products rose at the same rate as world exports, and that its exports of fuels, nontraditional primary products other than fuels, and manufactured goods increased at the same rate as developing country exports, between "1972" and 1978. It thus again reflects the assumption that the country maintained its "1972" market share during the period under consideration.

In the case of manufactured exports, we have further distinguished the effects of lower foreign GNP growth rates from the effects of changes in the foreign income elasticities of import demand which have been taken to reflect the effects of trade policy measures in the importing countries. For this purpose, we have calculated the constant-price value of exports that would have been obtained if foreign income elasticities of import demand remained the same as in the 1963–73 period *and* the country in question maintained its "1972" share in these exports.

The difference between the *trend* value and the *constant-income-elasticity* value of exports has been taken to reflect the effects of the decline in GNP growth rates abroad while the difference between the *constant-income-elasticity* value and the *hypothetical* exports has been used to express the effects of changes in foreign income elasticities of import demand. Separate calculations have been made for the country's exports to developed, developing, and centrally planned economies.

Policy Responses to External Shocks
Additional Net External Financing

Among policy measures taken in response to external shocks, the amount of additional external financing has been estimated as the difference between the *actual* resource gap and the *trend* value of the resource gap. The latter has been calculated on the assumption that past trends in the constant-price value of imports and exports continued and import and export prices remained unchanged, taking further the actual net balance of nonfactor services and private transfers as a datum. The procedure used assumes that, in obtaining additional

external financing, the countries in question were not constrained by borrowing limitations abroad. This assumption does not exclude the possibility that increased borrowing occurred at higher interest rates.

Export Promotion

The effects of export promotion have been represented by changes in exports associated with changes in the country's "1972" market share. This has been done by taking the difference between the constant-price value of *actual* and *hypothetical* exports. Separate calculations have been made for traditional primary products, taken individually, fuels, nontraditional primary products other than fuels, and manufactured goods.

Import Substitution

Import substitution is defined as savings in imports associated with a decrease in the country's income elasticity of import demand. It has been derived by taking the difference between the constant-price values of *hypothetical* and *actual* imports, when the former has been obtained by combining actual GNP growth rates with income elasticities of import demand estimated for the 1963–73 period. Separate calculations have been made for fuel and for nonfuel imports.

Lowering Economic Growth Rates

The effects on imports of lower economic growth rates in the country concerned have been estimated as the difference between the constant-price values of imports calculated for GNP growth rates observed in the 1963–73 period (the *trend* value of imports) and for actual GNP growth rates observed during the period under consideration (the *hypothetical* value of imports), applying income elasticities of import demand estimated for the 1963–73 period in both cases. Again, separate calculations have been made for fuel and for nonfuel imports.

It should be noted, however, that changes in export market shares and in the rate of economic growth may have been due to circumstances outside the country's control. A decrease (increase) in the country's export market share may have occurred because of an acceleration (deceleration) of exports by competing suppliers. In turn, a fall in foreign demand for the country's export products may have contributed to a decline in its rate of economic growth.

Changes in export market shares, in import demand, and in the rate of economic growth may also have been due to internal events. In particular, domestic policy changes may have occurred independently of external shocks and may themselves constitute an "internal" shock. The methodology applied does not permit separating the balance of payments effects of policy changes taken in response to external shocks from the effects of autonomous domestic

policy changes; such distinctions necessarily become a matter of interpretation.

The estimates reported in this paper have been made for the years 1974 to 1978, taken individually.[5] Averages for the 1974–78 period are also shown. This permits considering changes over time and indicating the results for the entire period.

THE BALANCE OF PAYMENTS EFFECTS OF EXTERNAL SHOCKS AND OF POLICY RESPONSES TO THESE SHOCKS: ESTIMATES

Table 1 reports the estimated effects of external shocks, and of policy measures taken in response to these shocks, on the balance of payments of the three countries under study. The estimated balance of payments effects have further been related to exports, imports, the average of exports and imports, and GNP, all expressed in "1972" prices.

More detailed estimates are provided in Appendix Table 1. Appendix Table 2 disaggregates the foreign demand effects on the manufactured exports of Brazil. Appendix Tables 3 and 4 show the extent of export shortfalls due to the deceleration of the growth of foreign demand, and the gains (losses) resulting from increases (decreases) in export market shares, for the various commodity categories and for individual traditional primary exports, respectively. Appendix Table 3 also provides information on the extent of import substitution, and on the decline of imports due to the deceleration of the rate of economic growth, for both fuels and nonfuels.

External Shocks

Terms of Trade Effects

Among the three countries under study, Brazil and Uruguay suffered a substantial deterioration of their terms of trade in 1974, amounting to about 50 percent of the average value of their exports and imports in that year. The quadrupling of petroleum prices was the principal factor contributing to these changes while increases in the prices of non-oil imports and exports were nearly in balance.

At the same time, given its higher trade share, the ratio of the terms of trade loss to GNP was greater in Uruguay (3.9 percent) than in Brazil (3.3 percent); and, with the price of its principal traditional export, beef, declining after 1974, Uruguay's terms of trade deteriorated further in subsequent years. The terms-of-trade loss reached a peak, amounting to 64.1 percent of the average value of exports and imports and 6.5 percent of GNP in 1977; the corresponding ratios were 55.7 percent and 5.4 percent in the 1974–78 period, on the average. As shown in Appendix Table 1, the estimated terms of trade loss was even larger if it is calculated under the assumption of balanced trade in "1972" prices as Uruguay had a rising trade surplus in terms of these prices.

Table 1

BALANCE OF PAYMENTS EFFECTS OF EXTERNAL SHOCKS AND OF POLICY RESPONSES TO THESE SHOCKS ($ million)

Balance of payments effects	Explanation	BRAZIL						MEXICO						URUGUAY					
		1974	1975	1976	1977	1978	1974–78 average	1974	1975	1976	1977	1978	1974–78 average	1974	1975	1976	1977	1978	1974–78 average
I. External shocks																			
(1) Terms-of-trade effects	See text	3,143	3,306	2,635	805	1,977	2,373	662	1,073	525	−114	90	447	117	183	176	213	176	173
(2) Export volume effects of changes in foreign demand	in "1972" prices	168	529	341	787	793	523	95	247	179	363	402	257	31	31	10	11	18	20
(3) Together		3,311	3,835	2,976	1,592	2,770	2,897	758	1,320	704	249	492	705	148	214	186	224	194	193
II. Policy responses																			
(4) Additional net external financing	See text	4,568	2,749	823	−2,327	−1,857	791	1,979	2,508	1,533	336	856	1,442	121	196	71	161	135	137
(5) Increase in export market shares	in "1972" prices	108	793	341	524	445	442	−93	−235	−509	−301	148	−198	11	48	124	81	86	70
(6) Import substitution	idem	−742	675	2,335	3,491	3,945	1,941	−1,136	−1,031	−533	−80	−813	−719	17	−18	8	11	16	7
(7) Import effects of lower GDP growth rates	idem	−624	−381	−524	−95	−237	−278	8	78	211	293	302	178	−1	−11	−17	−29	−43	−20
(8) Together		3,311	3,835	2,976	1,592	2,770	2,897	758	1,320	704	249	492	705	148	214	186	224	194	193
III. Aggregate values																			
(9) Exports	in "1972" prices	4,872	5,523	5,620	5,755	6,113	5,577	1,807	1,688	1,680	1,926	2,587	1,930	248	297	407	378	391	344
(10) Imports	idem	7,946	7,139	6,583	6,087	6,531	6,857	4,351	4,335	3,970	3,512	4,424	4,108	236	287	272	287	301	277
(11) Average trade	[(9)+(10)] : 2	6,409	6,331	6,102	5,921	6,322	6,218	3,079	3,012	2,775	2,719	3,505	3,018	242	292	340	332	346	310
(12) Gross national product	in "1972" prices	94,570	99,487	108,143	113,010	119,564	106,955	52,549	54,440	55,148	57,188	60,963	56,058	2,974	3,090	3,168	3,288	3,413	3,187
IV. Ratios (percent)																			
External shocks																			
(13) Terms of trade effects/average trade	(1) : (11)	49.0	52.2	43.2	13.3	31.3	38.2	21.5	35.6	18.9	−4.2	2.6	14.8	48.2	62.6	51.8	64.1	51.0	55.7
(14) Terms of trade effects/GNP	(1) : (12)	3.3	3.3	2.4	0.7	1.7	2.2	1.3	2.0	1.0	−0.2	0.1	0.8	3.9	5.9	5.6	6.5	5.2	5.4
(15) Export volume effects/exports	(2) : (9)	3.4	9.6	6.1	13.7	13.0	9.4	5.3	14.6	10.6	18.9	15.5	13.3	12.6	10.5	2.5	2.9	4.6	5.9
(16) Export volume effects/GNP	(2) : (12)	0.2	0.5	0.3	0.7	0.7	0.5	0.2	0.5	0.3	0.6	1.0	0.7	1.1	1.0	0.3	0.3	0.5	0.6
(17) External shocks/GNP	(3) : (12)	3.5	3.9	2.8	1.4	2.3	2.7	1.4	2.4	1.3	0.4	0.8	1.3	5.0	6.9	5.9	6.8	5.7	6.1
Policy responses																			
(18) Additional net external financing/average trade	(4) : (11)	71.3	43.4	13.5	−39.3	−29.4	12.7	64.3	83.3	55.2	12.4	24.4	47.8	50.0	66.9	21.0	48.4	39.0	44.0
(19) Additional net external financing/GNP	(4) : (12)	4.8	2.8	.8	−2.1	−1.6	0.7	3.8	4.6	2.8	0.6	1.4	2.6	4.1	6.3	2.2	4.9	3.9	4.3
(20) Increase in export shares/exports	(5) : (9)	2.2	14.4	6.1	9.1	7.3	7.9	−5.2	−13.9	−30.2	−15.6	5.7	−10.2	4.3	16.2	30.4	21.5	22.0	20.4
(21) Import substitution/imports	(6) : (10)	−9.3	9.5	35.5	57.3	60.4	28.3	−26.1	−23.8	−13.8	−2.3	−18.4	−17.5	7.1	−6.4	−2.8	−3.7	−5.4	−2.4
(22) Import effects of lower GDP growth rate/imports	(7) : (16)	−7.9	−5.4	−8.0	−1.6	3.6	−4.0	0.2	1.8	5.5	8.3	6.8	4.4	−0.3	−3.9	−6.2	−10.1	−14.1	−7.3

Sources: See Appendix Table 1. Gross National Product: World Bank, Atlas, Data Base.
Note: Numbers may not add up due to rounding.

Brazil benefited from increases in the prices of its coffee and soybean exports after 1974. Export prices were the most favorable in 1977, when the terms of trade loss as compared with "1972" was 13.3 percent of the average value of exports and imports and 0.7 percent of GNP. The terms of trade deteriorated again in 1978, with the resulting loss amounting to 31.3 percent of the average value of exports and imports and 1.7 percent of GNP; these ratios averaged 38.2 percent and 2.2 percent, respectively, in the entire 1974–78 period. About one-half of the loss due to the terms-of-trade effects reflects the impact of increased import prices on Brazil's trade deficit, estimated in "1972" prices.

Mexico imported only a small quantity of petroleum even before the discovery of large oil deposits in the mid-1970s. Correspondingly, it suffered a smaller terms-of-trade loss than Brazil and Uruguay in 1974, amounting to 21.5 percent of the average value of exports and imports and 1.3 percent of GNP. Following a temporary deterioration in 1975, the situation improved in subsequent years, largely as a result of the benefits Mexico derived from higher prices on its rising petroleum exports. By 1977, Mexico enjoyed a net gain from terms-of-trade changes, although this gave rise to a small loss in 1978 when import prices rose rapidly. The terms-of-trade loss was 14.8 percent of the value of trade and 0.8 of GNP in 1974–78, on the average. This loss was due to the impact of increased import prices on Mexico's trade deficit, estimated in "1972" prices, as the "pure" terms-of-trade effect, calculated on the assumption of balanced trade in terms of "1972" prices, was favorable.

Export Volume Effects

In 1974, export volume effects, calculated in "1972" prices, were much smaller than the terms-of-trade effects in all three countries. Assuming unchanged export market shares, the export shortfall due to the slowdown in the growth of foreign demand equalled 3.4 percent of the value of exports in Brazil, 5.3 percent in Mexico, and 12.6 percent in Uruguay. In the same year, the ratio of the export shortfall to GNP was 0.2 percent in Brazil and in Mexico and 1.1 percent in Uruguay.

The observed intercountry differences in export shortfalls are explained by differences in the commodity composition of exports. Brazil and, in particular, Mexico benefited from the relatively high export share of manufactured goods (18 percent and 41 percent in "1972"), for which foreign demand continued to rise in 1974. But, while Mexico was adversely affected by a decline in the world exports of cattle, the unfavorable effects of the world recession on Brazil's exports were attenuated by relatively strong demand for oilcake, oilseeds, and iron ore. Finally, manufactured goods accounted for a small share of Uruguay's exports (9 percent), which also suffered the adverse consequences of a decline in foreign demand for wool.

In subsequent years, demand for the exports of Brazil and Mexico by and large paralleled the world business cycle, with a shortfall in export volume

experienced in 1975 and 1977 and gains in 1976.[6] At the same time, in both countries, the ratio of the export shortfall to the value of exports was considerably higher in 1978 (13.0 percent in Brazil and 15.5 percent in Mexico) than it had been in 1974. For the period as a whole, this ratio averaged 9.4 percent in Brazil and 13.3 percent in Mexico, equalling 0.5 percent of GNP in both cases.

Different developments are shown in Uruguay. While the ratio of the export shortfall to the value of exports remained relatively high in 1975 (10.5 percent), it fell to a considerable extent in subsequent years. The ratio averaged 2.7 percent in 1976–77, when the rise in world demand for beef and wool led to positive export-volume effects for traditional exports. With some deterioration in 1978, the foreign-demand-induced losses in export volume averaged 5.9 percent of export value, and 0.6 percent of GNP, in the 1974–78 period, on the average.

Conclusions

The results indicate the relative importance of terms-of-trade effects and, within these effects, that of the loss suffered due to increases in petroleum prices, in Brazil and in Uruguay in the 1974–78 period. On the average, the loss due to terms-of-trade effects amounted to 2.2 percent of GNP in Brazil and 5.4 percent in Uruguay during this period, whereas export volume effects were 0.5 percent and 0.6 percent in the two countries, respectively. Terms-of-trade effects averaged 0.8 percent of GNP in Mexico, which imported little petroleum even before the discoveries in the mid-1970s, while export volume effects were 0.5 percent of GNP.

These conclusions conflict with the conventional wisdom that gives emphasis to the unfavorable effects of the 1974–75 world recession and the subsequent slow recovery in the developed countries on the balance of payments of the developing countries. Nor does one find evidence of the alleged adverse effects of increased protectionism on the exports of manufactured goods by the developing countries. As is apparent from Appendix Table 1, the average foreign income elasticity of demand for the manufactured exports of these countries rose during the period under consideration, offsetting in part the unfavorable effects of lower GNP growth rates.[7]

Appendix Table 2 reports estimates of growth effects and income elasticity effects on Brazil's exports in a geographical disaggregation. The data show that only the centrally planned economies experienced a decline in their income elasticity of demand for the manufactured exports of the developing countries during the period under consideration. In the developed countries, which continued to provide markets for most of the developing countries' exports of manufactured goods, increases in the income elasticity of demand for these exports offset one-fifth of the export shortfall[8] due to their lower

GNP growth rates. In turn, increases in the income elasticity of demand enhanced the favorable effects of higher GNP growth rates on intra-LDC trade in manufactured goods.

The Balance of Payments Effect of Policy Responses to External Shocks

In the 1974–78 period, on the average, the balance of payments effects of external shocks were estimated at 2.7 percent of GNP in Brazil, 1.3 percent in Mexico and 6.1 percent in Uruguay. In absolute terms, the relevant magnitudes are $2.9 billion in Brazil, $0.7 billion in Mexico, and $0.2 billion in Uruguay (Table 1).

It is apparent that there are considerable differences among the three countries as far as policy responses to external shocks are concerned. In Brazil, additional net external financing ($791 million) provided about one-fourth, and import substitution ($1,941 million) two-thirds, of balance of payments requirements attendant upon the external shocks. At the same time, the gain from increased export market shares ($442 million) was in large part offset by the rise in imports resulting from high GNP growth rates in Brazil ($278 million).[9]

The contribution of additional net external financing surpassed two-thirds of the total in Uruguay, amounting to $137 million in 1974–78, on the average. Increased export market shares ($70 million) was another important factor in attenuating the effects of external shocks. However, the acceleration of economic growth added $20 million to Uruguay's import bill and import substitution amounted to only $7 million. Nonetheless, the net effects of the domestic policy measures (that is, excluding external financing) on Uruguay's balance of payments were strongly positive.

Different conclusions apply to Mexico where decreases in export market shares ($198 million) and negative import substitution ($719 million) were offset only in part by the favorable balance of payments effects of lower GNP growth rates ($178 million). Correspondingly, average net external financing in 1974–78 ($1,442 million) was more than double the balance of payments effects of external shocks in Mexico.

In what follows, I shall examine the balance of payments effects of policy responses to external shocks in the three countries in the 1974–78 period, on the average. Subsequently, in the third section, the policy measures employed in the individual countries will be discussed and the effects of these policies on the time pattern of the results indicated.

Additional Net External Financing

In the 1974–78 period, on the average, additional net external financing amounted to 12.7 percent of the average value of exports and imports in Brazil, 47.8 percent in Mexico, and 44.0 percent in Uruguay. But, given its

larger trade share in GNP, the ratio of additional net external financing to GNP was higher in Uruguay (4.3 percent) than in Mexico (2.6 percent), with Brazil (0.7 percent) occupying third place.

It will be recalled that additional net external financing has been estimated as the difference between the actual resource gap (the balance for goods, non-factor services, and private transfers) and its trend value (the difference between the trend values of imports and exports), both expressed in "1972" prices, adjusted for the actual net balance of nonfactor services and private transfers. In Brazil, the trend value of the resource gap was 2.9 percent of GNP in 1974–78, on the average; the comparable figures are −0.6 percent in Mexico, and −2.2 percent in Uruguay.

In the case of Brazil, the relatively high trend value of the resource gap reflects the fact that its "1972" trade deficit would have increased further if export and import trends observed in the preceding decade continued. In turn, improvements in its service balance and increases in private transfers would have eliminated Mexico's resource gap, had past trends in exports and imports continued. Finally, the continuation of export and import trends would have led to further increases in the surplus in the balance for goods, nonfactor services, and private transfers which Uruguay experienced in "1972."

In the 1974–78 period, the actual resource gap (net external financing) averaged 3.6 percent of GNP in Brazil, 2.0 percent in Mexico, and 2.1 percent in Uruguay. In absolute terms, the relevant figures are Brazil, $3,880 million; Mexico, $1,098 million; and Uruguay, $67 million. In the same period, interest payments and dividends amounted to $3,188 million, $2,257 million, and $75 million in the three countries, respectively.[10] As a result, total external financing averaged $7,068 million in Brazil, $3,355 million in Mexico, and $142 million in Uruguay (Table 2).

There are some differences among the three countries as far as the sources of total external financing are concerned. If we combine errors and omissions (mostly unreported short-term capital flows) with portfolio capital, we find that the latter accounted for 90 percent of total external financing in Brazil, 72 percent in Mexico, and 106 percent in Uruguay. Foreign direct investment accounted for another 20 percent of external financing in Brazil, 18 percent in in Mexico, and 27 percent in Uruguay. In turn, Uruguay devoted 27 percent of total external financing to accumulate reserves during the period; the comparable figures are 16 percent for Brazil and 3 percent for Mexico.

Export Promotion

Uruguay showed the best export performance during the 1974–78 period, with increases in its export market shares accounting for more than one-fifth of its exports, on the average (Table 1). This gain came almost exclusively from manufactured exports, in particular leather, clothing, and shoes. Manufactured

exports averaging $103 million in 1974–78 as compared with hypothetical exports of $35 million, calculated under the assumption that Uruguay maintained its "1972" share in developing country exports of manufactured goods. A slight gain is also shown in nontraditional primary exports other than fuels and a small loss in traditional primary exports. In the latter case, the gain in market shares in wool, with actual exports exceeding hypothetical exports by 15 per‑ cent, more than offset the 6 percent loss in beef, with practically no change shown in the case of wool tops (Appendix Tables 3 and 4).

Brazil also increased its average export market share, albeit to a much lesser extent than Uruguay, representing a gain of less than one-thirteenth of exports. This result reflects gains obtained in regard to nontraditional exports other than fuels, where actual exports exceeded hypothetical exports by 39 percent, as well as in regard to manufactured goods, where this ratio was 21 percent. In the first case, fruits and vegetables and vegetable oils (in particular, soybean oil, representing the domestic transformation of soybeans); in the second, nonelectrical machinery, transport equipment, iron and steel, textiles, electrical machinery, footwear, and clothing, in this order, were largely responsible for the outcome.

In turn, a small loss is shown for traditional primary exports and for fuels, the latter which represent an insignificant part of Brazil's exports. Among traditional primary exports, there is a wide divergence among individual commodities. Gains in actual as compared with hypothetical exports are shown for oilseed cake (90 percent), iron ore (63 percent), cocoa beans (43 percent), and soybeans (12 percent) as against losses of 78 percent for cotton, 71 percent for coniferous sawnwood, 53 percent for meat, 34 percent for sugar, and 32 percent for coffee, with practically no change for castor oil.

Finally losses in market shares were responsible for a decline in the exports of Mexico by one-tenth. The losses were the largest in traditional primary exports, amounting to 22 percent of hypothetical exports. Mexico experienced a gain in its world market share only in the case of coffee, where actual exports exceeded hypothetical exports by 23 percent, with no change shown for tomatoes. Losses for the other products were sugar, 79 percent; beef, 46 percent; cattle, 33 percent; crustaceans and molluscs, 25 percent; and cotton, 6 percent.

Mexico also experienced a loss in its market share for nontraditional exports other than fuels (21 percent) and manufactured goods (11 percent). By contrast, actual exports of fuels exceeded hypothetical exports more than six times. The resulting gain in fuel exports equalled one-third of the loss in the other commodity groups.

Import Substitution

Brazil leads in terms of import substitution in the period 1974–78, with actual imports being 22 percent smaller than hypothetical imports, calculated on the

Table 2

BALANCE OF PAYMENTS STATISTICS ($ million, in current prices)

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	1974–78 average
Brazil										
Merchandise imports in CIF prices	3,701	4,783	6,999	5,161	14,168	13,592	13,726	13,257	15,054	13,959
Merchandise exports in f.o.b. prices	−2,904	−3,991	−6,199	−4,365	−7,951	−8,670	−10,128	−12,120	−12,659	−10,306
Merchandise trade deficit	797	792	800	796	6,217	4,922	3,598	1,137	2,395	3,654
Nonfactor services	120	190	283	198	63	4	228	508	420	245
Private transfers	7	18	−11	5	−3	−13	−8	4	−70	−18
Resource gap[a]	924	1,000	1,072	999	6,277	4,913	3,818	1,649	2,745	3,880
Interest receipts	43	131	327	167	718	364	282	358	640	472
Interest payments	−374	−544	−908	−609	−1,448	−1,861	−2,091	−2,460	−3,334	−2,239
Dividends	−412	−310	−530	−417	−554	−532	−790	−1,330	−1,538	−949
Other factor payments	8	8	10	9	−1	−75	−120	−33	−44	−55
Official transfers	20	23	16	20	−2	−10	−4	5	3	−2
Direct investment	536	570	1,341	816	1,268	1,090	1,212	1,678	1,880	1,426
Portfolio capital	1,595	3,115	2,768	2,493	5,371	4,956	6,988	4,540	9,486	6,268
Errors and omissions	−9	438	355	261	−64	−35	1,024	−614	298	122
Changes in reserves	−483	−2,431	−2,307	−1,740	989	1,016	−2,683	−495	4,646	−1,164
Net external financing	924	1,000	1,072	999	6,277	4,913	3,818	1,649	2,745	3,880
Total external financing[b]	1,710	1,854	2,510	2,025	8,279	7,306	6,699	5,439	7,617	7,068
Mexico										
Merchandise imports in CIF prices	2,254	2,718	3,813	2,928	6,057	6,580	6,030	5,890	8,144	6,540
Merchandise exports in f.o.b. prices	−1,363	−1,665	−2,071	−1,700	−2,850	−2,861	−3,316	−4,418	−6,217	−3,932
Merchandise trade deficit	891	1,053	1,742	1,229	3,207	3,719	2,714	1,472	1,927	2,608
Nonfactor services	−468	−624	−1,092	−728	−1,474	−1,154	−1,112	−1,403	−1,729	−1,374
Private transfers	−50	−54	−66	−57	−100	−114	−129	−153	−183	−136
Resource gap[a]	373	375	584	444	1,633	2,451	1,473	−84	15	1,098

Table 2 (continued)

BALANCE OF PAYMENTS STATISTICS ($ million, in current prices)

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	1974–78 average
Interest receipts	65	80	97	81	153	117	124	168	245	161
Interest payments	−309	−345	−513	−389	−806	−1,094	−1,675	−1,978	−2,550	−1,621
Dividends	−359	−435	−581	−458	−794	−840	−666	−460	−480	−636
Other factor payments	133	149	157	146	182	186	253	260	279	232
Official transfers	7	10	8	8	22	27	27	16	18	22
Direct investment	307	301	457	355	678	610	628	556	532	601
Portfolio capital	629	154	1,524	769	3,122	4,872	5,233	1,616	2,956	3,560
Errors and omissions	34	651	−411	91	−845	−1,249	−3,046	53	−557	−1,129
Changes in reserves	−134	−190	−154	−159	−79	−178	595	−375	−428	−93
Net external financing	373	375	584	444	1,633	2,451	1,473	−84	15	1,098
Total external financing[b]	1,041	1,155	1,678	1,291	3,233	4,385	3,814	2,294	3,045	3,354
Uruguay										
Merchandise imports in CIF prices	229	212	285	242	487	557	588	730	774	627
Merchandise exports in f.o.b. prices	−206	−214	−322	−247	−382	−384	−547	−608	−688	−522
Merchandise trade deficit	23	−2	−37	−5	105	173	41	122	86	105
Nonfactor services	26	−73	−19	−22	−17	−56	−43	−37	−41	−39
Private transfer	1	0	0	0	−1	1	1	−2	−1	0
Resource gap[a]	50	−75	−56	−27	89	118	−1	83	44	67
Interest receipts	1	1	6	3	5	4	7	12	18	9
Interest payments	−22	−25	−31	−26	−43	−71	−79	−77	−95	−73
Dividends	0	0	0	0	4	4	0	−2	0	−2
Other factor payments	−1	−1	−1	−1	−4	−5	−3	−10	−6	−6
Official transfers	8	8	7	8	17	5	0	0	0	4
Direct investment	0	0	0	0	0	0	0	0	0	0
Portfolio capital	102	40	20	54	160	165	160	66	129	39
Errors and omissions	−51	−62	−30	−48	−82	−38	−13	238	−31	138
Changes in reserves	13	−36	−27	−17	40	62	−73	35	158	12
Net external financing	50	−75	−56	−27	89	118	−1	−179	−129	−56
Total external financing[b]	72	−50	−25	−1	136	193	78	162	139	142

Sources: International Monetary Fund, Balance of Payments Yearbook, International Financial Statistics, various issues. Merchandise Imports and Exports for Mexico: Banco de México, System of Economic Data.
a Including private transfers.
b Net external financing plus interest payments and dividends.

assumption of unchanged income elasticity of import demand for total imports on the average. The same result is obtained for fuel and for nonfuel imports taken separately (Appendix Table 3).

Uruguay also experienced considerable import substitution in fuels (18 percent) that was in part offset by negative import substitution in other products (1 percent). As a result of these changes, Uruguay showed a small degree of net import substitution, with the difference between actual and hypothetical imports being 2 percent.

In turn, Mexico experienced negative net import substitution, raising its import bill by about one-fifth. With the discovery of new deposits leading to positive import substitution in fuels, where actual import hardly exceeded one-fourth of hypothetical imports, the extent of negative import substitution in nonfuel imports was even larger (27 percent).

Lowering Economic Growth Rates

The import saving resulting from the decline in the rate of growth of GNP amounted to 4 percent of the total imports of Mexico in the 1974–78 period on the average. By contrast, the acceleration of the rate of economic growth raised the import bill by 3 percent in Brazil and 8 percent in Uruguay. However, as already noted, the Brazilian result is affected by the choice of the base year.

THE POLICIES APPLIED

In the following, I shall consider the policy measures applied in the three countries under study, relate them to the time pattern of the estimates, and examine their economic effects. Apart from Tables 1 and 2 referred to earlier, use will be made of information on the money supply, government revenue and expenditures (Table 3), changes in real exchange rates (Table 4), and foreign debt and debt servicing (Table 5); other data cited originate in the World Bank data bank. The discussion will proceed by taking the three countries individually; a brief comparative evaluation will be made in the conclusion.

Brazil

Brazil's resource gap increased from $1.0 billion in "1972" to $6.3 billion in 1974 (Table 2). The principal factors contributing to this increase were the deterioration of the terms of trade ($3.1 billion, of which the rise in fuel prices represented $2.4 billion) and the acceleration of imports, reflecting in part the effects of high GNP growth rates ($0.6 billion) and in part negative import substitution ($0.7 billion), due largely to stock-building. Interest payments and dividends further raised Brazil's total external financing requirements to $8.3 billion. This deficit was financed by foreign borrowing ($5.4 billion), direct

Table 3

MONEY SUPPLY, GOVERNMENT REVENUE, AND EXPENDITURE (In domestic currency)

Year	In nominal terms							In real terms							
	Money supply[a]		Government revenue		Government expenditure		Deficit or surplus billions	Wholesale price index (1973 = 100)	Money[a]		Government revenue		Government expenditure		Deficit or surplus billions
	Billions	Percent change	Billions	Percent change	Billions	Percent change			Billions	Percent change	Billions	Percent change	Billions	Percent change	
Brazil (cruzeiros)															
1970	34.75	26.7	19.19	37.6	19.93	35.5	−0.74	60.2	57.58	3.6	31.82	12.5	30.04	10.8	−1.22
1971	44.91	29.3	26.96	40.6	27.65	38.7	−0.67	72.2	62.04	7.7	37.27	17.1	38.20	15.6	−0.93
1972	62.89	40.0	37.74	39.9	38.25	38.3	−0.52	85.6	73.26	18.0	43.96	17.9	44.56	16.7	−0.60
1973	93.78	49.1	52.86	40.1	52.57	37.4	0.30	100.0	93.75	28.0	52.06	20.0	52.57	18.0	0.29
1974	125.33	33.6	76.81	45.3	72.93	38.7	3.88	129.1	96.80	3.2	59.33	12.2	56.33	7.2	3.00
1975	174.51	39.2	95.45	24.3	95.37	30.8	0.07	164.2	105.93	9.4	57.94	−2.3	57.89	2.8	0.04
1976	241.71	38.5	166.22	74.2	165.80	73.8	0.42	235.3	102.41	−3.3	70.42	21.6	70.24	21.3	0.18
1977	330.29	36.6	242.89	46.1	241.85	45.9	1.04	335.1	98.24	−4.1	72.24	2.6	71.93	2.4	0.31
1978	465.62	41.0	349.22	43.8	344.35	42.4	4.87	461.1	100.65	2.4	75.48	4.5	74.43	3.5	1.05
Mexico (pesos)															
1970	53.80	10.7	42.48	12.2	48.56	3.5	−6.08	80.9	66.50	4.6	52.51	—	60.02	—	−7.52
1971	57.89	7.6	47.49	11.8	51.65	6.4	−4.16	84.0	68.92	3.6	56.54	8.4	61.49	2.4	−4.95
1972	68.24	17.9	57.49	21.1	68.61	33.2	−11.32	86.3	79.07	14.7	66.62	17.8	79.73	29.7	−13.12
1973	83.52	22.4	67.58	17.6	87.58	27.3	−20.00	100.0	83.52	5.7	67.58	1.4	87.58	9.8	−20.00
1974	100.77	20.7	92.64	37.1	122.01	39.3	−29.37	122.5	82.29	−1.5	75.48	11.7	99.60	13.7	−23.98
1975	122.36	21.4	130.71	41.1	165.12	35.3	−34.41	135.3	90.42	9.9	96.61	28.0	122.04	22.5	−25.43
1976	157.97	29.1	161.40	23.5	203.15	23.0	−42.4	165.5	95.45	5.6	97.52	0.9	122.75	0.6	−25.62
1977	199.04	26.0	193.54	19.9	248.8	22.5	−55.26	233.6	85.22	−10.7	82.85	−15.0	106.51	−13.2	−23.66
1978	260.86	31.1	407.32	110.5	506.70	103.6	−99.38	270.4	96.48	13.2	150.64	81.8	187.39	80.7	−36.75
Uruguay[b] (pesos)															
1970	87.8	14.5	n.a.	n.a.	n.a.	n.a.	n.a.	20.3	432.5	0.6	n.a.	n.a.	n.a.	n.a.	n.a.
1971	135.1	53.9	n.a.	n.a.	n.a.	n.a.	n.a.	24.5	551.4	27.5	n.a.	n.a.	n.a.	n.a.	n.a.
1972	198.4	46.9	n.a.	n.a.	n.a.	n.a.	n.a.	46.5	426.7	−22.6	n.a.	n.a.	n.a.	n.a.	n.a.
1973	357.1	80.0	552.0	n.a.	580.0	n.a.	−28.0	100.0	357.1	−16.3	552.0	n.a.	580.0	n.a.	−28.0
1974	586.2	64.2	914.0	65.6	1,084.0	86.9	−170.0	178.5	328.0	−8.1	512.0	7.3	607.3	4.7	−95.2
1975	961.5	64.0	1,519.0	66.2	1,877.0	73.2	−358.0	307.7	312.2	−4.8	493.7	3.6	610.0	0.4	−116.3
1976	1,597.4	66.1	2,669.0	75.7	2,952.0	57.3	−283.0	463.4	344.4	10.3	576.0	16.7	637.0	4.4	−61.1
1977	2,205.3	38.1	4,313.0	61.6	4,486.0	52.0	−173.0	696.5	316.3	−8.2	619.2	7.5	644.1	1.1	−24.8
1978	3,962.2	79.7	6,923.0	60.5	7,044.0	57.0	−121.0	1,034.6	382.5	20.9	669.1	8.1	680.8	5.7	−11.7

Source: International Monetary Fund, *International Financial Statistics*, various issues.
a End-year data.
b Data are expressed in millions.

Table 4

REAL EXCHANGE RATES, 1970–78

	1970	1971	1972	1973	1974	1975	1976	1977	1978
Brazil									
Exchange rate, cruzeiro/$US	4.593	5.288	5.934	6.126	6.790	8.129	10.675	14.144	18.070
Index of exchange rate	75.0	86.3	96.9	100.0	110.8	132.7	174.3	230.9	295.0
Index of relative prices vis-à-vis									
the US	73.5	85.2	96.8	100.0	108.8	126.5	173.5	232.7	297.4
Brazil's trading partners	79.7	91.1	100.6	100.0	106.6	126.3	173.1	229.6	288.0
Index of the real exchange rate vis-à-vis									
the US	102.0	101.3	100.1	100.0	101.8	104.9	100.5	99.2	99.2
the currencies of Brazil's trading partners	94.1	94.7	96.3	100.0	103.9	105.1	100.7	100.6	102.4
Mexico									
Exchange rate, peso/$US	12.500	12.500	12.500	12.500	12.500	12.498	15.426	22.573	22.767
Index of exchange rate	100.0	100.0	100.0	100.0	100.0	100.0	123.4	180.6	182.1
Index of relative prices vis-à-vis									
the US	98.8	99.2	97.6	100.0	103.1	104.2	121.9	162.0	174.2
Mexico's trading partners	103.0	103.1	99.7	100.0	103.0	104.7	122.6	161.7	170.8
Index of the real exchange rate vis-à-vis									
the $US	101.2	100.8	102.5	100.0	97.0	96.0	101.2	111.5	104.5
the currencies of Mexico's trading partners	97.1	97.0	100.3	100.0	.97.1	95.5	100.6	111.7	106.6
Uruguay									
Exchange rate, peso/$US	0.250	0.260	0.563	0.875	1.216	2.299	3.395	4.750	6.125
Index of exchange rate	28.6	29.7	64.3	100.0	139.0	262.7	388.0	542.9	700.0
Index of relative prices vis-à-vis									
the US	24.8	28.9	52.6	100.0	150.4	237.1	341.5	483.5	667.5
Uruguay's trading partners	27.9	31.7	55.7	99.9	149.1	264.4	346.4	504.4	646.8
Index of the real exchange rate vis-à-vis									
the $US	115.3	102.8	122.2	100.0	92.4	110.8	113.6	112.3	104.9
the currencies of Uruguay's trading partners	102.5	93.7	115.5	100.0	93.2	99.4	112.0	107.6	108.2

Sources: International Monetary Fund, *International Financial Statistics, Direction of Trade*, various issues.

Table 5

INTEREST, DEBT SERVICE, AND DEBT SERVICE RATIO ($ millions, in current prices)

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	1974–78 average
Brazil										
Exports in f.o.b. prices	2,904	3,991	6,199	4,365	7,951	8,670	10,128	12,120	12,659	10,306
Interest payments	374	544	908	609	1,448	1,861	2,091	2,460	3,334	2,239
receipts	43	131	327	167	718	364	282	358	640	472
Amortization payments	1,093	1,398	1,746	1,412	1,923	2,170	2,993	4,051	5,272	3,282
Gross debt service	1,467	1,942	2,654	2,021	3,371	4,031	5,084	6,511	8,606	5,521
Gross debt service ratio	50.5	48.7	42.8	46.3	42.4	46.5	50.2	53.7	68.0	53.6
Net debt service	1,424	1,811	2,327	1,854	2,653	3,667	4,802	6,153	7,966	5,048
Net debt service ratio	49.0	45.4	37.5	42.5	33.4	42.3	47.4	50.8	62.9	49.0
Gross external debt[a]	—	—	12,570	—	17,165	21,171	25,985	32,000	43,500	27,964
Net reserves	1,746	4,183	6,154	4,115	5,272	4,036	6,344	7,256	11,894	7,000
Net external debt	—	—	6,416	—	11,893	17,135	19,441	24,744	31,606	20,964
GNP in current prices	64,340	74,871	90,227	76,479	108,664	125,212	143,198	158,556	180,024	143,131
Gross external debt ratio			13.9		15.8	16.9	18.1	20.2	24.2	19.5
Net external debt ratio			6.8		10.9	13.7	13.6	15.6	17.6	14.6
Mexico										
Exports in f.o.b. prices	1,363	1,665	2,071	1,700	2,850	2,861	3,316	4,418	6,217	3,932
Interest payments	309	345	513	389	806	1,094	1,675	1,978	2,550	1,621
receipts	65	80	97	81	153	117	124	168	245	161
Amortization payments	479	531	877	629	592	835	1,258	2,420	4,490	1,919
Gross debt service	788	876	1,390	1,018	1,398	1,929	2,933	4,398	7,040	3,540
Gross debt service ratio	57.8	52.6	67.1	59.9	49.1	67.4	88.4	99.5	113.2	90.0
Net debt service	723	796	1,293	937	1,245	1,812	2,809	4,230	6,795	3,378
Net debt service ratio	53.0	47.8	62.4	55.1	43.7	63.3	84.7	95.7	109.3	85.9
Gross external debt[a]	n.a.	n.a.	8,310	n.a.	12,389	17,263	22,000	26,785	32,622	22,212
Net reserves	936	1,164	1,355	1,152	1,393	1,539	1,027	1,419	1,947	1,465
Net external debt	n.a.	n.a.	6,955	n.a.	10,996	15,724	20,973	25,366	30,675	20,747
GNP in current prices	41,284	46,102	52,391	46,592	60,478	68,624	73,159	80,402	91,914	74,915
Gross external debt ratio			15.9		20.5	25.2	30.1	33.3	35.5	29.6
Net external debt ratio			13.3		18.2	22.9	28.7	31.5	33.4	27.7
Uruguay										
Exports in f.o.b. prices	206	214	322	247	382	384	547	608	688	522
Interest payments	22	25	31	26	43	71	79	77	95	73
receipts	1	1	6	3	5	4	7	12	18	9
Amortization payments	24	46	75	48	20	67	61	72	112	66
Gross debt service	46	71	106	74	63	138	140	149	207	139
Gross debt service ratio	22.3	33.2	32.9	30.1	16.5	35.9	25.6	24.5	30.1	26.7
Net debt service	45	70	100	72	58	134	133	137	189	130
Net debt service ratio	21.8	32.7	31.1	29.1	15.2	34.9	24.3	22.5	27.5	25.0
Gross external debt[a]	—	—	369	—	557	667	750	791	866	726
Net reserves	181	204	201	195	154	275	345	623	849	449
Net external debt	—	—	168	—	403	392	405	168	17	277
GNP in current prices	2,823	2,829	3,027	2,893	3,430	3,906	4,212	4,629	5,157	4,267
Gross external debt ratio			12.2		16.2	17.1	17.8	17.1	16.8	17.0
Net external debt ratio			5.6		11.7	10.0	9.6	3.6	0.3	6.5

investment ($1.3 billion), reductions in reserve holdings ($1.0 billion), and interest receipts on foreign holdings ($0.7 billion).

The increase in the resource gap and the uncertainties associated with the installation of the new government give rise to a relatively restrictive monetary and fiscal policy stance from mid-1974. With the acceleration of inflation (the wholesale price index rose by 29 percent in 1974 as compared with 17 percent in 1973), the real value of the money supply increased by only 3 percent in 1974 as compared with 28 percent in 1973. The relevant figures are 7 and 18 percent for government expenditures and 12 and 20 percent for government revenues, resulting in a surplus in the budget (Table 3).

The restrictive monetary and fiscal stance had its effect on economic activity with a time lag, and the rate of growth of GNP declined from 9.8 percent in 1974 to 5.1 percent in 1975. The deceleration of economic growth was concentrated in manufacturing industries. The slowdown in industrial expansion and the strong showing of the opposition in the November 1974 elections led to the adoption of a more expansionary monetary policy in the second quarter of 1975, with the real value of the money supply rising by 9 percent for the year as a whole. Also, the budget surplus disappeared and the government undertook considerable expenditures outside the budget.

These expenditures were in large part designed to develop import-substituting industries producing intermediate products in the framework of the Second National Development Plan. The plan called for large investments in pulp and paper, petrochemicals, fertilizer, steel, and nonferrous metals, with the objective to reach — or to approach — levels of self-sufficiency by 1979.

Investments in intermediate products were accompanied by measures taken to promote capital goods industries, utilizing a combination of import restrictions, fiscal incentives, and credit preferences. Additional measures that aimed at reducing imports in general included increases in tariffs, advance deposit requirements, restrictions on private imports, and limitations on imports by public institutions and firms.

Measures were also taken to increase incentives to exports by the use of credit preferences and, subsequently, the so-called BEFIEX scheme, under which additional subsidies are provided to firms that undertake long-term export commitments. The extent of these measures was, however, substantially less than that of the measures of import protection, thereby increasing the bias against exports that had existed already in 1973. At the same time, the cruzeiro was devalued but little in real terms (Table 4).

The measures taken gave rise to considerable import substitution, equalling 36 percent of import value by 1976, increasing further to 57 percent in 1977 and to 60 percent in 1978.[11] In turn, while Brazil increased its export shares in 1975, it suffered a substantial decline in 1976 and, notwithstanding subsequent increases, it reached only one-half of the gain experienced in 1975,

as a proportion of exports, in 1978. Changes after 1975 may be explained by the increased emphasis given to import substitution as well as by the appreciation of the cruzeiro in real terms.

Import substitution, higher export shares, and the fall in the rate of growth of GNP in 1975 led to a reduction in Brazil's resource gap from $6.3 billion in 1974 to $4.9 billion in 1975. Total external financing declined to a lesser extent (from $8.3 billion to $7.3 billion), reflecting increased interest charges on existing debt. It was financed by foreign borrowing ($5.0 billion), foreign direct investment ($1.1 billion), and reductions in reserve holdings ($1.0 billion).

The adoption of expansionary monetary policies contributed to the acceleration of economic growth in 1976, with GNP rising by 8.7 percent. Increased import substitution, however, more than offset the higher imports attendant on the acceleration of growth and the decline in export market shares. Correspondingly, Brazil's resource gap declined from $4.9 billion in 1975 to $3.8 billion in 1976 and total external financing fell from $7.3 billion to $6.7 billion. Foreign borrowing ($7.0 billion, to which $1.0 billion of errors and omissions should be added), however, exceeded this amount as Brazil accumulated foreign exchange reserves ($2.7 billion).

In response to the acceleration of inflation, with the wholesale price index rising at an annual rate in excess of 40 percent, restrictive monetary policies were again adopted in the second half of 1976 and were maintained until mid-1977. These policies were reflected in the decline in the real value of the money supply by 3 percent in 1976 and by 4 percent in 1977. However, in 1976, government expenditures rose by 22 percent in real terms and only in 1977 did the rate of growth of these expenditures decline to 3 percent. At the same time, the growth of extra-budgetary expenditures accelerated, leading to considerable financing in domestic and in foreign capital markets.

Restrictive monetary policies contributed to a slowdown in economic expansion, with GNP rising by 4.5 percent in 1977. The resulting decline in import requirements, together with increased import substitution and the rise in export market shares, led to a further decrease in Brazil's resource gap to $1.6 billion in 1977. Total external financing requirements fell to $5.4 billion, notwithstanding the growing burden of interest payments and dividends ($3.8 billion). Foreign borrowing decreased also, from $7.0 billion in 1976 to $4.5 billion in 1977, and the decline was even greater if the $0.6 negative adjustment for errors and omissions is taken into account.

In response to the slowdown of economic activity, monetary policy became more expansionary in mid-1977, with the money supply rising at an average annual rate of 4 percent in real terms until mid-1978, when a restrictive policy was again adopted. The gross domestic product rose by 5.8 percent, while the resource gap increased to $2.7 billion and total external financing to $7.6

billion. Reserve accumulation of $4.6 billion further contributed to foreign borrowing of $9.5 billion in that year.

Data on external financing have been expressed in net terms; but, with the accumulation of foreign debt, amortization charges increased rapidly, raising Brazil's gross external financing requirements. As shown in Table 5, gross debt service (interest payments and amortization), expressed as a proportion of exports, increased from 42.8 percent in 1973 to 68.0 percent in 1978. In the same period, the net debt service ratio, derived by adjusting for interest receipts, rose from 37.5 percent to 63.0 percent.

With increased borrowing, the stock of foreign debt increased from $12.6 billion on 31 December 1973 to $43.5 billion at the end of 1978, representing 13.9 percent and 24.2 percent of GNP respectively. Deducting the value of net reserve holdings from these data, the relevant figures are $6.2 billion and $31.6 billion, with an increase in the ratio to GNP from 6.8 percent to 17.6 percent.[12]

Mexico

As already noted, the effects of external shocks on Mexico's balance of payments were substantially smaller than in the other two countries under study (1.4 percent of GNP in 1974 as compared with 3.5 percent in Brazil and 5.0 percent in Uruguay). At the same time, Mexico experienced substantial increases in import shares or negative import substitution, representing a loss of $1,136 million which exceeded the balance of payments effects of external shocks ($758 million) by a substantial margin. With the decline in export market shares, giving rise to a loss of $93 million in "1972" prices, and an import saving of $8 million due to the deceleration of the growth of GNP, the resource gap increased from $0.4 billion in "1972" to $1.6 billion in 1974.

In the same period, interest payments and dividends increased from $0.8 billion to $1.6 billion, bringing total external financing requirements to $3.2 billion in 1974. The principal source of financing was foreign borrowing which rose from $0.8 billion in "1972" to $3.1 billion in 1974. The differences are smaller if adjustment is made for errors and omissions; the adjusted figures are $0.7 billion and $2.3 billion.

Negative import substitution and decreases in export market shares show the direct and indirect effects of expansionary fiscal policies followed by the Echeverria Administration from 1972. These policies involved rapid increases in government expenditures without commensurate increases in revenues. In terms of current prices, the deficit in the government budget increased from 5 billion pesos in 1971 to 17 billion pesos in 1972, 27 billion pesos in 1973, and 33 billion pesos in 1974, reaching 3.6 percent of GNP in that year. The deficit was financed in part by money creation and in part by borrowing in domestic and in foreign capital markets. The money supply rose by 18 percent in nominal terms in 1972, 22 percent in 1973, and 21 percent in 1974.

Expansionary fiscal policies contributed to inflation with a time lag. The wholesale price index rose by 16 percent in 1973 and 23 percent in 1974 as compared with an average of 3 percent in the preceding two years. With the peso-dollar exchange rate remaining at 12.50, the real exchange rate appreciated by 3 percent in both 1973 and 1974 vis-à-vis the US dollar, although the extent of appreciation was less vis-à-vis other currencies.

However, changes in wholesale prices and in the real exchange rate did not fully reflect the effects of the expansionary policies, since Mexico's close trading relationships with the US limited the rise in domestic prices. Correspondingly, producers could not fully translate increases in wages averaging 28 percent in 1974 into higher prices, and profit margins declined, adversely affecting domestic production and hence the balance of trade. Also, expansionary policies directly affected the trade balance by reducing exportable supplies through increases in domestic demand as well as through "leaks" into higher imports.

In 1975, the budget deficit increased further in real terms. At the same time, with the continued maintenance of fixed parities, the real exchange rate appreciated by an additional one percent vis-à-vis the US and by 2 percent vis-à-vis Mexico's major trading partners. Finally, uncertainties relating to rumored changes in Echeverria's policies and the fall of the peso in forward markets contributed to a decline in the rate of growth of GNP from 5.3 percent in 1974 to 3.5 percent in 1975.

The favorable balance of payments effects of lower growth rates were much overshadowed, however, by the decline in Mexico's export market shares, representing a loss of $235 million in 1975 in terms of "1972" prices. Exports were also adversely affected by the world recession while there was little change in import substitution.

The net effect of these changes was to increase Mexico's resource gap from $1.6 billion in 1974 to $2.5 billion in 1975. With interest payments and dividends of $1.9 billion, Mexico's total external financial requirements reached $4.4 billion in 1975. In the same year, foreign borrowing amounted to $4.9 billion, or $3.6 billion if we adjust for errors and omissions, while foreign direct investment was $0.6 billion.

The budgetary deficit increased again in real terms in 1976, inflation accelerated, and the balance of payments deteriorated further. In response to these changes, on 1 September 1976 the Echeverria Administration abandoned the fixed parity of the peso. Simultaneously, however, export subsidies were eliminated and, coupled with rapid inflation in the wake of the depreciation of the peso, the competitiveness of Mexican exports declined again.

Correspondingly, Mexico's position in export markets deteriorated further. At the same time, imports fell in absolute terms in part because of import substitution in response to the depreciation of the peso, and in part because of the deceleration of economic expansion. The rate of growth of GNP declined to

1.3 percent in 1976 as unsettled conditions in financial markets, labor unrest, and land seizures undermined business confidence.

Notwithstanding the loss in export market shares, the fall in imports, together with favorable changes in the terms of trade and improvements in foreign business conditions, resulted in a decline in net external financial requirements from $2.5 billion in 1975 to $1.5 billion in 1976. The decline was only partly offset by increases in interest payments and dividends from $1.9 billion to $2.3 billion. For the first time in the 1970s, Mexico reduced its foreign exchange reserves, by $0.6 billion, to finance its deficit while unsettled conditions in financial markets were reflected in errors and omissions of −$3.0 billion that partly offset foreign borrowing of $5.2 billion.

The peso reached its lowest point, with 28 pesos to the dollar, shortly before the inauguration of the administration of Lopez Portillo in January 1977. It stabilized afterwards and remained in the 22–23 range during the next two years. The new administration also lowered the budgetary deficit, and let the money supply decline, in real terms. And, although inflationary pressures were aggravated, the depreciation of the peso was sufficient to raise its real value in 1977 by over 10 percent above the 1976 level, regardless of whether comparisons were made with the US dollar or with the currencies of Mexico's major trading partners.

The depreciation of the real exchange rate had its principal effect on import substitution, resulting in a further decline in the constant-price value of imports, notwithstanding the increase in the growth rate of GNP from 1.3 percent in 1976 to 3.7 percent in 1977. It had less of an impact on exports as the effects of the devaluation were largely offset by the abolition of export subsidies, except that increases in the exports of petroleum added $1.0 billion to Mexico's foreign exchange earnings in 1977.

As a result of these changes, Mexico's resource gap turned into a small surplus in 1977. However, interest payments and dividends gave rise to total external financial requirements of $2.3 billion. Gross financial requirements were raised further by the amortization of Mexico's foreign debt. The gross debt service ratio was 100 percent in 1977 as compared with 67 percent in 1973.[13] Net debt service ratios were only slightly lower.[14]

The deus ex machina of petroleum exports added $1.8 billion to Mexico's foreign exchange earnings in 1978 and an improvement was also shown in market shares for nonfuel exports, largely reflecting the effects of the reintroduction of export subsidies; but the return to expansionary policies, with the budget deficit increasing by one-half and the money supply by one-sixth in real terms, led to a deterioration in Mexico's balance of trade. Apart from increases in imports as a result of the 6.5 percent rise in GNP, pressures on domestic capacity and the appreciation of the real exchange rate greatly increased the extent of negative import substitution.

The ensuing deterioration of Mexico's trade balance was nearly offset by improvements in nonfactor services. Nevertheless, as a result of increases in interest payments and dividends, total external financial requirements came to amount to $3.0 billion in 1978. This was largely financed by foreign borrowing ($3.0 billion), adjusted for a negative balance on errors and omissions ($0.6 billion).

With increased foreign borrowing, Mexico's gross external debt increased from $26.8 billion at the end of 1977 to $32.6 billion at the end of 1978; the corresponding figure was $8.3 billion at the end of 1973. Deducting the value of net reserve holdings, the relevant figures are $7.0 billion in 1973, $25.4 billion in 1977, and $30.7 billion in 1978, representing 13.3 percent, 31.5 percent, and 33.4 percent of the gross domestic product, respectively. The gross debt service ratio reached 113 percent, and net debt service ratio attained 109 percent, in 1978.

Uruguay

Among the three countries, Uruguay suffered the largest external shocks in 1974, amounting to 5.0 percent of its GNP, largely on account of the deterioration of its terms of trade. In response to this situation, the government reduced the rate of growth of the money supply from 80 percent in 1973 to 64 percent in 1974. With rapid inflation, the real value of the money supply fell by 8 percent.

But the high rate of inflation also led to reductions in the real value of government revenue and increases in the budget deficit. Furthermore, Uruguay failed to devalue pari passu with inflation, so that the real exchange rate appreciated by 7 percent between 1973 and 1974, regardless of whether comparisons are made with US or with Uruguay's principal trading partners.

With the fall in the real exchange rate, changes in export shares and in import substitution were small. Correspondingly, the government relied on foreign borrowing to finance its resource gap. Foreign borrowing reportedly amounted to $160 million, as compared with total external financing of $136 million, of which interest payments and dividends represented $47 million. With negative errors and omissions of $82 million partly compensating for reported foreign borrowing, Uruguay also drew on its reserves in the amount of $40 million.

Important policy changes were made in July 1974. They included decontrolling domestic prices, eliminating import quotas, and abolishing minimum foreign financing requirements for imports, with exceptions made for capital goods in the latter case. Also, the indexing of financial obligations was introduced and interest rates raised so as to stimulate domestic savings, and foreign capital movements were liberalized. Finally, the system of minidevaluations was adjusted so as to depreciate the peso in real terms.

In 1975, the depreciation of the real exchange rate approximately offset its appreciation in 1974 vis-à-vis the currencies of Uruguay's principal trading partners, and a devaluation of 11 percent occurred vis-à-vis the US dollar. Also, tariffs were lowered while nontraditional exports received tax and tariff rebates, preferential credits, and tax relief. As a result of the imposition of these measures, the longstanding bias against exports and in favor of import substitution was reduced to a considerable extent.

The liberalization of the economy led to an acceleration of economic growth in late 1974 and in 1975, with GNP rising by 3.4 percent in 1974 and 3.9 percent in 1975, following a decline in the early 1970s. Higher growth rates, and reductions in protection, in turn, led to greater imports, although these changes were overshadowed by increases in export market shares that represented a response to improved export incentives.

But, with the continued deterioration in its terms of trade, due largely to a fall in beef and wool prices, Uruguay's resource gap increased from $89 million in 1974 to $118 million in 1975. Total financial requirements were raised further by interest payments and dividends of $75 million and Uruguay again relied on foreign borrowing ($165 million, reduced by negative errors and omissions of $38 million) and on reductions in reserve holdings ($62 billion) to provide the necessary financing.

Monetary policies became increasingly restrictive in mid-1975 and government expenditures were reduced at the same time, although the budget deficit did not decline until the following year. These measures contributed to a slowdown in the rate of economic expansion, with GNP rising by 2.5 percent in 1976. At the same time, the measures taken earier, together with the further depreciation of the real exchange rate, led to explosive increases in exports, in particular manufactured exports. In 1976, three-tenths of exports represented increases in export market shares over "1972." Expressed differently, actual exports were 44 percent higher than hypothetical exports, calculated under the assumption of unchanged market shares. The corresponding figure was 212 percent for manufactured exports, 16 percent for traditional exports, and 23 percent for nontraditional primary exports.

The resulting increase in exports by $124 million in terms of "1972" prices was responsible for the net positive effects of domestic policy measures that amounted to $115 million in 1976, again expressed in "1972" prices. Correspondingly, Uruguay's resource gap was eliminated in 1976 although interest payments and dividends gave rise to total financial requirements of $78 million. With the rebuilding of reserves ($73 million) and a small negative balance on errors and omission ($13 million), foreign borrowing was $160 million in 1976.

Foreign borrowing increased in 1977, amounting to $238 million, to which $35 million for errors and omissions should be added. Much of the proceeds of foreign loans went into increases in reserves ($179 million), while the resource

gap was $83 million and interest payments and dividends $79 million. An important factor contributing to the increase in the resource gap was the decline in beef exports that resulted from the application of protectionist policies in the European Common Market. Manufactured exports continued their favorable performance while a decline in the export shares of nontraditional primary exports is shown.

At the same time, the acceleration of economic growth, with GNP rising by 3.7 percent in 1977, contributed to increased imports while there was little import substitution. All in all, the net positive balance of payments effects of domestic policy measures are estimated at $63 million as compared with $115 million a year earlier. Note, however, that under the methodology utilized, the effects of Common Market protection on Uruguay's beef imports are represented as a decline in export market shares.

Beef exports declined further in 1978, but gains in the exports of nontraditional primary products and manufactured goods more than compensated for the resulting loss in export market shares. There was also some import substitution in 1978 that was more than offset by higher imports associated with a GNP growth rate of 3.8 percent.

With domestic policies leading to improvements in the balance of payments throughout the 1974–78 period and the growth of exports accelerating, the rise in the gross debt service ratio from 32.9 percent in 1973 to 35.9 in 1975 was followed by decreases to 25.6 percent in 1976 and 24.5 percent in 1977; and, notwithstanding an increase to 30.1 percent in 1978, the 1973 level was not exceeded in that year.[15]

Uruguay's external debt increased from $369 million at the end of 1973 to $866 million at the end of 1978, with its ratio to GNP rising from 12.2 percent to 16.8 percent during this period. Adjusting for net reserves, the relevant figures were $168 million and $17 million, representing 5.6 percent and 0.3 percent of the gross national product, respectively.[16]

Conclusions

In this paper I have examined the impact of external shocks in the form of the quadrupling of oil prices in 1973–74 and the world recession of 1974–75, followed by a slow recovery, on three Latin-American countries, Brazil, Mexico, and Uruguay. In so doing, separate consideration has been given to terms of trade effects and to export volume effects. I have further analyzed policy responses to these shocks, involving additional net external financing, export promotion, import substitution, and lowering the rate of economic growth.

It has been shown that, in the 1974–78 period, terms-of-trade effects were far more important than export volume effects in Brazil and Uruguay, which import much of their energy requirements. On the average, export volume effects were exceeded by terms-of-trade effects even in Mexico that benefited

from the high price of petroleum, the exports of which assumed importance from 1977. At the same time, the adverse export volume effects of lower economic growth rates in the developed countries were partly offset by increases in their propensity to import manufactured goods from the developing countries.

Among the countries under study, Brazil did not follow consistent macroeconomic policies during the period under consideration but, on the whole, aimed at maintaining rapid rates of economic growth in the face of the adverse balance of payments effects of external shocks. At the same time, it oriented public investment largely towards import substitution in intermediate products, increased the protection of domestic industry, and favored import-substituting industries in the allocation of preferential credits.

The measures applied led to a considerable degree of import substitution in Brazil where, after increases in 1975, export shares declined again. At the same time, import substitution proved to be increasingly costly, leading to a rise of incremental capital-output ratios from 2.3 in 1964–73 to 3.1 in 1974–76 and 4.3 in 1977–79; the ratio was 1.7 in the 1971–73 period, when growth was especially rapid (Table 6).

With small increases in the share of gross fixed capital formation in GDP, expressed in terms of constant prices, the rise in incremental capital-output ratios resulted in a decline in the rate of economic growth in Brazil. At the same time, data expressed in terms of current prices indicate that the inflow of capital did not modify the allocation of resources between consumption and investment.

It would appear, then, that a substantial part of foreign borrowing went into consumption, while the remainder, together with domestic savings, was invested in activities that bring lower returns than had been the case in the past. This finding suggests the need for improving the efficiency of the allocation of investment funds. This objective would be served by reducing the scope of government investment, making this more responsive to efficiency criteria, lessening the antiexport bias in the incentive system, and reducing the scope of preferential credits while adopting positive real interest rates.

Some steps in this direction were taken in 1979 and in the first half of 1980 under successive planning ministers, Mario Henrique Simonsen and Antonio Delfin Netto, reducing the size of the public investment budget and modifying the system of incentives. Still, more needs to be done in introducing rigorous project evaluation in the public sector and improving incentives to exports vis-à-vis import substitution. Furthermore, given Brazil's large indebtedness and the 120 percent rise in petroleum prices between 1978 and mid-1980, a reduction in the rate of economic growth could not be forgone. This conclusion is strengthened if we consider the need to lower the rate of inflation that reached 100 percent in the first half of 1980.

Table 6

DOMESTIC EXPENDITURE SHARES, INCREMENTAL CAPITAL-OUTPUT RATIOS, AND GROWTH RATES

	BRAZIL					MEXICO					URUGUAY				
	1964-73	1971-73	1974-76	1977-79	1974-79	1964-73	1971-73	1974-76	1977-79	1974-79	1964-73	1971-73	1974-76	1977-79	1974-79
Domestic expenditure shares[a]															
(as percent of GDP)															
(in current prices)															
Private consumption	72.1	68.7	70.0	69.4	69.7	73.0	72.9	66.7	64.8	65.9	75.2	73.4	75.3	73.4	74.5
Public consumption	10.7	9.7	9.7	9.6	9.6	7.9	8.6	10.9	11.6	12.2	13.6	14.2	14.5	12.6	13.7
Total consumption	82.8	78.5	79.7	78.9	79.3	80.9	81.5	77.6	76.4	77.1	88.8	87.6	89.8	86.0	88.3
Gross domestic fixed investment	18.2	22.9	24.4	22.4	23.4	20.1	19.2	21.8	21.3	21.6	10.8	10.0	12.4	14.2	13.1
Increases in stocks	N/A	N/A	N/A	N/A	N/A	N/A	0.4	3.0	2.7	2.9	N/A	2.3	0.2	-0.1	0.1
Gross domestic investment	18.2	22.9	24.4	22.4	23.4	20.1	19.6	24.9	24.0	24.5	10.8	12.3	12.6	14.1	13.2
Net foreign investment	-1.0	-1.4	-4.0	-1.3	-2.7	-1.0	-1.1	-2.5	-0.4	-1.6	0.4	0.1	-2.4	-0.1	-1.5
(in constant prices)															
Private consumption	70.9	68.8	67.6	67.4	67.4	73.2	73.2	69.6	67.1	68.6	75.9	76.8	69.6	61.2	66.0
Public consumption	11.3	9.8	9.7	9.5	9.6	7.5	8.5	10.4	10.9	10.6	12.7	13.3	14.0	14.9	14.4
Total consumption	82.2	78.6	77.3	77.0	77.0	80.7	81.7	80.0	78.8	79.5	88.6	90.1	83.6	76.1	80.5
Gross domestic fixed investment	18.4	23.1	25.5	24.3	25.0	20.1	19.3	21.2	19.2	20.4	10.4	12.7	13.6	18.5	15.7
Increases in stocks	N/A	N/A	N/A	N/A	N/A	N/A	0.4	3.0	3.0	3.0	N/A	1.4	-0.1	-0.3	-0.1
Gross domestic investment	18.4	23.1	25.5	24.3	25.0	20.1	19.7	24.2	22.3	23.4	10.4	14.1	13.5	18.2	15.5
Net foreign investment	-0.6	-1.7	-2.8	-1.3	-2.0	-0.8	-1.4	-4.2	-1.1	-2.9	1.0	-4.2	2.9	5.7	4.0
Incremental capital-output ratio[b]															
(in constant prices)	2.3	1.7	3.1	4.3	3.6	3.1	3.0	5.5	3.3	4.1	9.6	-11.0	3.6	3.3	3.4
Growth rates[c]															
(in constant prices)															
Gross national product	8.0	12.1	7.3	5.3	6.3	6.4	6.0	3.3	5.8	4.2	1.2	-1.5	3.3	5.0	3.9
Population	2.9	2.8	2.8	2.8	2.8	3.2	3.2	3.3	3.3	3.3	0.8	0.2	0.2	0.7	0.5
GNP per capita	5.2	9.2	4.5	2.4	3.4	3.2	2.7	0.0	2.5	0.9	0.4	-1.6	3.1	4.3	3.4

Source: World Bank data base.
a 1979 data not available for Mexico and Uruguay.
b Incremental capital-output ratios have been calculated by assuming a one-year lag between investment and output; the ratio for 1971-73, for example, has been derived by dividing the sum of gross fixed capital formation in 1970, 1971, and 1972 by the increment in GDP between 1971 and 1973, both measured in constant prices.
c Growth rates have been calculated by taking the year preceding that indicated.

In Mexico, an internal shock — the ambitious public expenditure program of President Echeverria, undertaken without adequate financing — dominated external shocks. With the exchange rate maintained unchanged until nearly the end of the Echeverria Administration, unsustainable balance of payments deficits emerged while labor unrest and land seizures undermined business confidence.

Confidence was reestablished in the first year of Lopez Portillo's administration, which also limited money creation and the expansion of government expenditure. Monetary expansion accelerated, however, in the following year and the budget deficit increased again, approaching 5 percent of GNP. The budget deficit, in turn, led to rapid increases in the real value of the money supply.

As a result, the rate of inflation accelerated, exceeding 30 percent in the first half of 1980 and there was a considerable spillover into higher imports. Also, notwithstanding the rapid rise in oil earnings, Mexico continued to borrow abroad, thereby avoiding the depreciation of the peso. At the same time, with the exchange rate remaining in the narrow range of 22.5–23.0 pesos to the dollar in the face of rapid inflation, the competitive position of Mexican exports again deteriorated. Finally, while some import liberalization occurred in 1977, the appreciation of the peso in real terms led to increased demands for protection.

These considerations point to the need to reduce reliance on foreign borrowing and to accept exchange rate changes for the sake of improving the competitiveness of the non-oil sector in Mexico. This would require, first of all, lowering the budget deficit. It would further be necessary to introduce rigorous project evaluation for public investment.

Apart from increasing the competitiveness of Mexican agriculture and industry, the proposed measures would reduce inflationary pressures and contribute to the efficiency of investment. As shown in Table 6, incremental capital-output ratios rose from 3.0 in 1964–73 to 4.1 in 1974–79; the ratio was 3.1 in 1971–73.

Among the three countries under study, Uruguay suffered by far the greatest external shocks, the effects of which continued throughout the period under consideration. The government used the occasion of the external shocks to undertake long overdue reforms of the incentive system and to shift resources from the public to the private sector, by reducing the budget deficit from about four percent of GNP in 1974 and 1975 to less than one percent in 1977 and 1978.

These reforms led to the rapid expansion of exports and decreases in incremental capital-output ratios from 9.6 in 1964–73 to 3.6 in 1974–76 and 3.3 in 1977–78 (the ratio was negative in 1971–73 when Uruguay's GNP declined). With the rise in the share of gross domestic capital formation in GNP, expressed in constant prices, from 10.4 percent in 1964–73 to 13.6 percent in 1974–76

and 18.5 percent in 1977–79, after near-stagnation in the decade preceding the quadrupling of petroleum prices, Uruguay experienced rapid economic growth. The average annual rate of growth of GNP was 3.3 percent between 1973 and 1976; it rose to 5.0 percent between 1976 and 1979, with a rate of growth of 8.4 percent in 1979.

As a result of greater export orientation, rapid economic growth was attained with only a temporary increase in Uruguay's indebtedness. Thus, external debt, adjusted for net reserves other than gold, accounted for the same proportion of GNP at the end of 1978 as five years earlier; the ratio declined to a considerable extent if account is taken of the revaluation of gold holdings that is included in the value of net reserves reported in Table 5.

The case of Uruguay shows that incentive reforms may permit surmounting the effects of sizable external shocks. At the same time, further reforms would be necessary in order to utilize fully the country's growth potential. These would involve additional reductions in tariffs and the rationalization of agricultural interventions. Also, there is need to avoid an appreciation of the currency in real terms that is said to be desired for the sake of reducing the rate of inflation.

The results further show the contrast between the policies followed by Uruguay and Brazil, the two countries that experienced external shocks of considerable magnitude after 1973. Uruguay was able to surmount these shocks without a rise in its external debt ratio by turning toward outward-orientation and increasing reliance on the private sector. In turn, Brazil increased the bias in the incentive system in favor of import substitution and against exports, it further promoted import substitution through public investments, and accepted a considerable increase in its external debt for the purpose of maintaining rapid economic growth.

Nonetheless, with increases in incremental capital-output ratios, the rate of growth of GNP declined in Brazil while the opposite was the case in Uruguay. As a result, in the 1976–79 period, the growth rate of GNP of Uruguay came to exceed that of Brazil, with an acceleration shown in the former and a deceleration in the latter during this period. The differences are even larger in per capita terms; 4.3 percent in Uruguay and 2.4 percent in Brazil between 1976 and 1979. The corresponding figure was 2.5 percent in Mexico, where this result was attained at the expense of rapid increases in the external debt.

NOTES

1. Throughout this paper exports refer to merchandise exports, valued in f.o.b. prices and imports refer to merchandise imports valued in c.i.f. prices.

2. The index numbers reported in United Nations, *Monthly Bulletin of Statistics* (December 1971 and June 1977) are 103 including, and 93 excluding, fuels in 1971–73 on a 1970 basis; the comparable averages for the 1961–70 period are 101 and 98 respectively.

3. For example, if import and export prices rose by 50 percent and 40 percent, respectively, between "1972" and 1978, and imports and exports valued in "1972" prices were $220 million and $200 million, the estimated terms of trade effect will be $30 million, the (pure) terms-of-trade effect for balanced trade $20 million, and that for unbalanced trade $10 million.

4. Traditional exports have been defined to include all commodities that accounted for at least 1.5 percent of the country's merchandise exports in 1971–73. Manufactured goods have been defined as SITC categories 5 to 8 less 68; fuels as SITC category 3; nontraditional primary exports other than fuels include the remainder.

5. Estimates of balance of payments effects pertaining to individual years are shown on a "1972" basis. Changes between individual years can be derived as the difference between the reported estimates for consecutive years.

6. It should be recalled that developments in particular years are derived as differences in the estimates for consecutive years.

7. It should be noted, however, that the outcome is affected by efforts made by developing countries to increase export supply.

8. As export shortfalls are shown with a positive sign, a negative sign denotes an improvement in Appendix Table 2.

9. The latter result is, however, affected by the choice of "1972" as the base period. This is because the high GNP growth rate in 1973 raised the average for the "1972"–1978 period.

10. We did not net out interest receipts on the grounds that these relate largely to holdings of foreign exchange reserves. Such is the case in Brazil, Uruguay, and to a lesser extent in Mexico.

11. A ratio of 60 percent means that actual imports were 37 percent lower than what they would have been in the absence of import substitution.

12. Net reserves were defined as the sum of foreign exchange holdings, gold reserves as valued by the national authorities, SDR holdings, reserve position in the International Montary Fund, less the use of Fund credit. Changes in the valuation of gold are reflected in the reserve figures in Table 5 but are not included with changes in reserves in Table 1.

13. The gross debt service ratio was 49 percent in 1974, when debt repayments were postponed on account of Mexico's balance of payments deficit.

14. As elsewhere in the paper, exports are defined to include merchandise exports only. The inclusion of tourism would add $3.2 billion to exports in 1978, reducing the gross debt service ratio to 75 percent and the net debt service ratio to 72 percent. However, against this figure there is a debit item of $2.3 billion on account of tourism by Mexicans abroad. (In Brazil tourist expenditures abroad exceeded the small tourist receipts.)

15. The gross debt service ratio was only 16.5 percent in 1974, when loan repayments were postponed due to Uruguay's large balance of payments deficit.

16. Gold accounted for two-thirds of reserve holdings at the end of 1978. Increases in the national valuation of gold holdings, from $149 million at the end of 1973 to $562 million at the end of 1978, largely reflect increases in the price of gold. But reserves other than gold also increased from $52 million at the end of 1973 to $287 million at the end of 1978, offsetting the rise in the gross external debt as a proportion of GNP.

Appendix Table 1

BALANCE OF PAYMENTS EFFECTS OF EXTERNAL SHOCKS AND POLICY RESPONSES TO THESE SHOCKS: RELATED DATA ($ millions)

	BRAZIL						MEXICO						URUGUAY					
	1974	1975	1976	1977	1978	1974–78 average	1974	1975	1976	1977	1978	1974–78 average	1974	1975	1976	1977	1978	1974–78 average
I. External shocks																		
Effects of increased import prices	6,222	6,453	7,143	7,170	8,523	7,102	1,706	2,245	2,160	2,378	3,720	2,442	251	270	316	443	474	351
of which, fuels	2,611	2,743	3,400	3,588	3,943	3,257	301	235	239	106	170	210	102	122	122	145	180	134
nonfuels	3,611	2,710	3,743	3,582	4,580	3,845	1,405	2,011	1,921	2,272	3,551	2,232	149	148	194	298	294	217
Effects of increased export prices	3,079	3,149	4,508	6,365	6,546	4,729	1,044	1,173	1,637	2,492	3,630	1,995	134	87	140	230	298	178
of which, traditional primary products	1,668	1,571	2,522	3,367	2,597	2,345	288	271	575	631	606	473	71	2	−4	40	44	31
fuels	82	151	192	171	154	150	92	348	425	809	1,411	617	0	0	0	0	0	0
nontraditional primary products other than fuels	725	727	938	1,484	1,691	1,113	275	215	207	353	269	264	41	49	77	87	109	73
manufactured goods	604	699	855	1,343	2,104	1,121	388	338	429	700	1,344	640	22	36	67	104	144	75
Difference (terms of trade effect)	3,143	3,306	2,635	805	1,977	2,373	662	1,073	523	−114	90	447	117	183	176	213	176	173
of which, pure terms of trade effect	736	1,845	1,590	414	546	1,203	−335	−298	−699	−1,188	−1,454	−794	129	193	332	353	318	265
unbalanced trade effect	2,407	1,461	1,045	391	1,431	1,170	998	1,371	1,222	1,074	1,544	1,242	−12	−10	−157	−141	−142	−92
Trend value of exports, in "1972" prices	4,992	5,259	5,619	6,018	6,461	5,653	1,995	2,171	2,368	2,591	2,841	2,393	268	280	293	307	323	294
Hypothetical exports, in "1972" prices	4,764	4,730	5,279	5,231	5,668	5,134	1,900	1,923	2,189	2,227	2,439	2,136	237	249	283	296	305	274
Difference (export volume effects of changes in foreign demand)	163	529	341	787	793	523	95	247	179	363	402	257	31	31	10	11	18	20
of which, traditional primary products	138	324	237	498	421	324	83	95	93	141	114	105	26	20	3	−5	−2	0
fuels	2	13	12	17	25	14	1	1	6	7	13	7	6	7	6	10	12	8
nontraditional primary products other than fuels	68	83	65	111	138	93	30	36	28	48	60	41	3	4	3	6	8	4
manufactured goods	−40	109	26	161	210	93	−18	109	51	165	215	105	−2	4	2	6	8	4
of which, growth effects	41	175	186	240	318	192	53	193	195	242	291	195	1	7	3	9	10	7
income elasticity effects	−81	−66	−160	−80	−108	−99	−70	−83	−144	−78	−76	−90	−3	−3	−5	−3	−3	−3
II. Policy reactions																		
Actual resource gap, in current prices	6,277	4,913	3,818	1,649	2,745	3,860	1,633	2,451	1,473	−84	15	1,098	89	118	−1	83	44	67
Trend value of resource gap, in "1972" prices	1,709	2,164	2,995	3,976	4,599	3,069	−346	−57	−60	−420	−841	−345	−32	−78	−72	−78	−91	−70
Difference (additional net external financing)	4,568	2,749	823	−2,327	−1,857	791	1,979	2,508	1,533	336	856	1,442	121	196	71	161	137	137
Actual exports, in "1972" prices	4,872	5,523	5,620	5,755	6,113	5,577	1,807	1,683	1,680	1,925	2,587	1,938	248	297	407	378	391	344
Hypothetical exports, in "1972" prices	4,764	4,730	5,279	5,231	5,668	5,134	1,900	1,923	2,189	2,227	2,439	2,136	237	249	283	296	305	274
Difference (increase in export market shares)	108	793	341	524	445	442	−93	−235	−509	−301	−143	−198	11	48	124	81	86	70
of which, traditional primary products	−253	94	−76	−122	−481	−168	−110	−169	−179	−183	−129	−154	0	−6	28	−15	−28	−3
fuels	−27	−1	4	−9	−11	−8	3	89	101	192	354	148	0	0	0	0	0	0
nontraditional primary products other than fuels	170	312	909	400	467	332	14	−31	−122	−90	−176	−80	−14	6	18	4	13	5
manufactured goods	218	386	105	254	470	287	3,215	3,309	3,309	−220	99	111	18	48	78	92	101	68
Hypothetical imports, in "1972" prices	7,205	7,813	8,918	9,577	10,476	8,798	3,215	4,335	3,870	3,433	3,610	3,380	253	269	280	298	317	283
Actual imports, in "1972" prices	7,946	7,139	6,583	6,087	6,531	6,857	4,351	4,335	3,870	3,512	4,424	4,098	236	287	272	287	301	277
Difference (import substitution)	−742	675	2,335	3,491	3,945	1,941	−1,136	−1,031	−533	−80	−813	−719	17	−18	11	11	16	9
of which, fuels	205	224	214	299	308	250	82	117	125	167	176	134	16	−3	−4	16	14	7
nonfuels	−947	451	2,121	3,192	3,637	1,691	−1,218	−1,149	−657	−247	−990	−852	1	−22	14	−5	2	−3
Trend value of imports, in "1972" prices	6,581	7,492	8,394	9,482	10,713	8,520	3,223	3,382	3,549	3,726	3,912	3,558	252	258	263	268	274	263
Hypothetical imports, in "1972" prices	7,205	7,813	8,918	9,577	10,476	8,798	3,215	3,303	3,338	3,433	3,610	3,380	253	269	280	298	317	283
Difference (import effects of lower GDP growth rate)	−624	−381	−524	−95	237	−278	8	78	211	293	302	178	−1	−11	−17	−29	−43	−20
of which, fuels	−71	−47	−63	−21	9	−39	2	10	27	38	42	24	−2	−6	−9	−15	−22	−11
nonfuels	−553	−335	−461	−74	228	−239	6	68	185	255	259	155	−1	−5	−8	−14	−21	−9

Sources: International and national statistics.

Appendix Table 2

FOREIGN-DEMAND-INDUCED CHANGES IN EXPORTS OF MANUFACTURED GOODS IN BRAZIL (US $million in "1972" prices)

		Export growth rates "1972"-1977	"1972"	1974	1975	1976	1977	1978	1974-78 average
Hypothetical value of exports	DC[a]		490	649	610	815	822	956	700
	LDC		297	430	477	541	603	667	544
	CPE		17	20	21	16	21	16	19
	World		804	1,099	1,107	1,372	1,446	1,638	1,332
Trend value of exports	DC	16.6	490	666	777	906	1,056	1,231	927
	LDC	11.8	297	371	415	464	519	580	470
	CPE	13.5	17	22	25	28	32	36	29
	World		804	1,059	1,217	1,398	1,607	1,848	1,426
Constant income elasticity value of exports	DC		490	609	598	710	805	917	728
	LDC		297	387	419	475	533	581	479
	CPE		17	22	24	27	29	32	27
	World		804	1,018	1,041	1,212	1,367	1,530	1,233
Constant income elasticity less hypothetical value (income elasticity effects)	DC		0	-40	-11	-105	-18	-38	-42
	LDC		0	-43	-58	-66	-70	-86	-65
	CPE		0	2	3	11	8	16	8
	World		0	-81	-66	-160	-80	-108	-99
Trend less constant income elasticity value of exports (growth effects)	DC		0	57	179	196	252	314	199
	LDC		0	-16	-4	-11	-14	-1	-9
	CPE		0	0	1	2	3	5	2
	World		0	41	175	186	240	318	192
Trend less hypothetical value of exports (foreign demand effects, total)	DC		0	17	167	91	234	276	157
	LDC		0	-59	-62	-77	-84	-87	-74
	CPE		0	2	4	12	11	21	10
	World		0	-40	109	26	161	210	93

Source: See text.

[a] DC—developed countries; LDC—less developed countries; CPE—centrally planned economies. Numbers may not add up because of rounding.

Appendix Table 3

TRADE EFFECTS OF EXTERNAL SHOCKS AND OF POLICY RESPONSES TO THESE SHOCKS: COMMODITY GROUPS

	BRAZIL						MEXICO						URUGUAY					
	1974	1975	1976	1977	1978	1974–78 Average	1974	1975	1976	1977	1978	1974–78 Average	1974	1975	1976	1977	1978	1974–78 Average
Exports																		
Traditional primary products																		
Hypothetical/trend	95.3	89.4	92.6	85.1	88.0	89.9	89.0	87.0	88.7	83.4	87.2	87.2	83.9	87.9	98.5	102.7	100.9	95.1
Actual/hypothetical	90.9	103.4	97.4	95.7	84.5	94.2	83.5	75.5	75.3	72.2	83.4	78.4	104.7	96.2	116.4	91.9	84.7	98.2
Fuels																		
Hypothetical/trend	97.4	78.6	82.0	76.3	68.1	79.6	97.4	78.6	82.0	76.3	68.1	79.6	–	–	–	–	–	–
Actual/hypothetical	52.0	102.3	106.9	84.5	78.8	84.4	110.6	447.6	448.5	760.8	1369.7	624.3	–	–	–	–	–	–
Nontraditional primary products other than fuels																		
Hypothetical/trend	92.3	90.9	93.1	88.7	86.5	90.2	92.3	90.9	93.1	88.7	86.5	90.2	92.3	90.9	93.1	88.7	86.5	90.2
Actual/hypothetical	120.9	137.5	134.9	145.8	152.9	138.7	104.2	91.5	68.9	76.4	54.5	78.5	80.7	108.0	123.0	104.8	117.0	107.1
Manufacturing goods																		
Hypothetical/trend	103.8	91.0	98.1	90.0	88.6	93.5	102.1	88.6	95.3	87.0	85.3	90.7	102.1	88.6	95.3	87.0	85.3	90.7
Actual/hypothetical	119.8	134.9	107.6	117.6	128.7	121.5	99.9	85.3	70.6	80.1	107.9	89.1	160.9	260.7	312.0	337.9	329.7	288.3
Total																		
Hypothetical/trend	96.6	89.9	93.9	86.9	87.7	90.7	95.2	88.6	92.4	86.0	85.8	89.2	88.3	88.8	96.6	96.5	94.4	93.1
Actual/hypothetical	102.3	116.8	106.5	110.0	107.9	108.6	95.1	87.8	76.8	86.5	106.1	90.7	104.5	119.4	143.8	127.5	128.2	125.6
Imports																		
Fuels																		
Hypothetical/trend	107.9	104.7	105.8	101.8	99.3	103.5	98.9	94.5	86.9	83.1	83.2	88.5	104.1	115.7	122.6	135.8	150.5	126.5
Actual/hypothetical	78.8	78.3	81.3	75.4	76.3	77.9	49.8	32.5	29.8	11.3	15.9	26.9	97.7	92.9	77.1	72.6	78.6	82.5
Nonfuels																		
Hypothetical/trend	109.7	105.2	106.3	100.9	97.6	103.2	99.8	97.9	94.5	92.7	92.9	95.4	99.6	102.4	103.4	106.2	109.0	104.2
Actual/hypothetical	115.2	93.3	72.7	61.8	60.4	77.9	139.9	136.7	120.8	107.6	129.1	126.6	92.6	109.7	101.6	102.0	99.1	101.1
Total																		
Hypothetical/trend	109.5	105.1	106.2	101.0	97.8	103.3	99.8	97.7	94.0	92.1	92.3	95.0	100.3	104.4	106.4	110.8	115.5	107.6
Actual/hypothetical	110.3	91.4	73.8	63.6	62.3	77.9	135.3	131.2	116.0	102.3	122.5	121.3	93.4	106.9	97.3	96.4	94.9	97.7

Sources: International and national statistics. For explanation, see text.

Appendix Table 4

RATIOS OF HYPOTHETICAL, TREND, AND ACTUAL EXPORTS: TRADITIONAL PRIMARY PRODUCTS

SITC Code		1974	1975	1976	1977	1978	1974-78 Average
Brazil							
011	Meat, fresh, chilled, frozen						
	Hypothetical/trend	88.2	88.0	95.7	99.4	99.1	94.2
	Actual/hypothetical	43.6	37.0	47.1	54.5	49.1	46.8
0611	Sugar, raw, centrifugal						
	Hypothetical/trend	99.0	84.8	85.6	107.2	88.5	93.0
	Actual/hypothetical	96.7	73.3	37.3	65.4	56.4	66.0
0711	Coffee, green, toasted						
	Hypothetical/trend	90.8	93.3	93.3	72.6	82.1	68.2
	Actual/hypothetical	68.3	74.2	74.6	59.6	62.4	86.4
0721	Cocoa beans						
	Hypothetical/trend	99.3	95.3	94.4	77.8	88.7	91.1
	Actual/hypothetical	127.5	179.5	131.4	132.4	143.7	143.2
0813	Oilseed cake						
	Hypothetical/trend	99.9	93.0	110.1	104.9	114.0	104.4
	Actual/hypothetical	122.8	176.9	194.6	231.6	202.3	189.5
2214	Soybeans						
	Hypothetical/trend	101.6	87.9	95.6	87.7	95.5	93.7
	Actual/hypothetical	133.4	170.4	155.0	108.8	23.0	111.8
2432	Sawnwood (coniferous)						
	Hypothetical/trend	85.6	69.0	86.8	91.8	87.8	84.2
	Actual/hypothetical	49.7	47.8	21.2	20.8	12.4	28.7
2631	Cotton, raw						
	Hypothetical/trend	86.4	89.6	89.0	85.5	93.4	88.8
	Actual/hypothetical	35.4	43.4	2.2	14.3	16.6	22.1
2813	Iron ore						
	Hypothetical/trend	105.4	91.1	82.5	72.6	65.9	83.5
	Actual/hypothetical	135.1	174.1	171.0	156.2	180.0	162.7
4225	Castor oil						
	Hypothetical/trend	102.8	64.8	90.9	68.2	92.6	83.9
	Actual/hypothetical	107.0	99.2	101.5	93.5	92.3	98.9
Mexico							
0011	Bovine cattle						
	Hypothetical/trend	72.9	78.6	72.8	67.0	68.3	71.9
	Actual/hypothetical	57.3	30.9	64.8	74.8	104.2	67.1
0111	Bovine meat, fresh, etc.						
	Hypothetical/trend	89.3	88.0	94.5	100.0	102.2	94.8
	Actual/hypothetical	40.8	12.9	35.7	68.4	96.3	54.2
036	Crustaceans and molluscs						
	Hypothetical/trend	91.3	90.6	95.3	84.0	86.4	89.5
	Actual/hypothetical	82.7	91.3	71.3	73.5	59.7	74.7
0544	Tomatoes, fresh						
	Hypothetical/trend	93.9	89.8	93.1	93.3	97.6	93.6
	Actual/hypothetical	85.4	95.1	95.7	112.4	110.6	100.3
0611	Sugar, raw, centrifugal						
	Hypothetical/trend	99.0	84.8	85.6	107.2	88.5	93.0
	Actual/hypothetical	69.9	29.7	0.2	0	11.2	21.4
0711	Coffee, green, toasted						
	Hypothetical/trend	90.8	93.3	93.3	72.6	82.1	86.4
	Actual/hypothetical	113.1	128.1	146.7	117.0	106.1	122.8
2631	Cotton, raw						
	Hypothetical/trend	86.4	89.6	89.0	72.4	93.5	86.2
	Actual/hypothetical	102.4	91.8	82.9	92.1	101.0	94.2
Uruguay							
0111	Bovine meat, fresh, etc.						
	Hypothetical/trend	89.3	88.0	94.5	100.0	102.2	94.8
	Actual/hypothetical	106.2	80.7	129.9	87.4	70.4	93.8
2621	Wool, greasy						
	Hypothetical/trend	73.5	76.1	91.6	100.6	81.8	84.7
	Actual/hypothetical	133.0	154.5	76.4	96.9	126.5	114.9
2628	Wool, tops						
	Hypothetical/trend	76.3	102.1	124.6	118.0	118.4	107.9
	Actual/hypothetical	64.9	97.1	108.5	104.1	110.2	99.3

Sources: International and national statistics. For explanation, see text.

Comment on "Policy Responses to External Shocks in Selected Latin-American Countries"

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Bela Balassa developed an interesting framework designed to measure the impact of external shocks on the balance of payments of three developing countries: Brazil, Mexico, and Uruguay. Through a gradual and ingenious decomposition of the balance of payments identity, he was able to express two external shocks and various policy responses as separate components on each side of the identity. Specifically, he quantified the external shocks of the quadrupling of oil prices in 1973–74 and the following world recession of 1974–75. In this setting, separate consideration was given, on the one hand, to the adverse terms-of-trade effect resulting from the change in oil prices and, second, to the adverse export effect resulting from the world recession and subsequent slow recovery in developed countries. Furthermore, domestic policy responses to these external shocks were quantified in the form of export promotion, import substitution, lowering the rate of economic growth, and additional net external financing.

One of the study's major findings is the relative importance of the terms-of-trade effect, at least in Brazil and Uruguay, as compared with the unfavorable effects of the 1974–75 recession. The deterioration of their terms of trade amounted to about 50 percent of the average value of their exports in the 1974–77 period. Mexico's terms of trade loss was only 16.8 percent of average export value. The decline in foreign demand as a proportion of exports equaled 6.5 percent in Uruguay, 8.2 percent in Brazil, and 11.9 percent in Mexico during this period.

On the other hand, there are considerable differences among the three countries of policy responses to external shocks in the 1974–77 period. Uruguay showed the best performance during this period, with increases in its export market shares accounting for more than 20 percent of its export. Brazil leads the way in terms of import substitution. This item was responsible for a decrease in its imports of about 22 percent. Mexico relied heavily on foreign borrowing to finance higher imports and decreased exports. Additional external financing amounted to about 90 percent of the average value of exports in Mexico, while the corresponding item was 26.7 percent in Brazil and 41.7 percent in Uruguay.

I admire the first half of Balassa's work. It gives us a good summary view of the magnitudes and relative weight of the principal elements of external shocks and policy responses in these economies. In the second half of the paper Balassa

takes these countries individually and discusses at length, year by year, some of their main aggregate statistics, such as growth rates, exchange rate movements, money supply, and government expenditures, and tries to relate them to his measured shocks and responses. I failed to understand how this essentially descriptive material integrates with the rest of the paper. Policy issues are discussed here, at least by implication, but they are not explicit. Almost no effort is made to assess and compare the successes and failures of the measured responses to external shocks.

An alternative interpretation for the data provided in the first half of the paper might rest on a careful evaluation and comparison of the broad policy responses identified in the three economies. In this setting, one might ask whether there is any pattern of policy response in these countries, given their comparative advantages and institutional constraints, however defined. For example, this study indicates that Brazil and Uruguay, faced with a significant terms-of-trade effect, reacted through widely different policies. Brazil sought a strong policy of import substitution and Uruguay relied on an aggressive policy of export promotion. Was this an accident of exclusively political concern or could it be rationalized by some kind of economic reasoning? Also, Mexico, which was less affected by external shocks, seems not to have cared about balance of payments troubles. The data suggest that Mexico increased its imports and reduced its exports and paid for them dearly through massive external borrowing. Are these broadly identified diverse policy responses amenable to standard economic interpretation? If they are, then Balassa could add more wisdom to this work through a comparative policy analysis.

A more fundamental observation applies to the methodology itself. It has been assumed that all policies are independent responses to either an increase in import prices or a shift to the left in the demand for exports, or both. This, of course, is a simplification, since crossed effects between policy responses and external shocks are not considered. For example, a deceleration of exports by competing suppliers will show up as an export promotion policy, and a lower demand abroad inducing lower growth rates domestically will show up as a "successful" reduced growth policy. In this sense, as Balassa recognizes in the text, it is not possible to distinguish clearly between autonomous and induced policy responses.

Observed trade statistics of balance of payments are here attributed in a simple form to external shocks and policy reactions. But at any date in the future these elements should be measured by what the trade statistics at that time would have been and not by what is happening to trade at that time. Other forces that simultaneously influence observed trade statistics, such as real cost changes due to technical progress, financial cost changes due to a rise in the interest rate abroad, demand changes due to varying income elasticities of demand as real income rises, and bad harvest due to climatic accidents are not

considered. The two sets of forces — those captured in the model and those induced by exogenous and natural growth — are intermixed. The composition of trade may change considerably, as time elapses, due to these forces. The shorter the period under analysis, the more likely it is that the forces defined in the model will dominate. But the longer the time lapse the more would exogenous induced effects dominate, and the harder it will be to distinguish external shocks and policy responses. On the other hand, the shorter the time lapse, the harder it is to trust the estimated policy variables, since sudden shocks would be largely reflected in "additional external financing," the residuum variable in this model. All this, of course, does not deny the importance of the measurements being taken here but only suggests that they may not be conclusive.

NOTE