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The Newly-Industrializing Developing Countries after the Oil Crisis

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Introduction

In recent years, much attention has been given to the emergence of the newly-industrializing countries on the world scene [OECD, 1979]. The present paper will examine the experience of the newly-industrializing developing countries during the period following the quadrupling of oil prices in 1973/74 and the world recession of 1974/75. It will focus on the policy responses of these countries to external shocks and analyze the economic effects of the policies applied.

As an introduction to the discussion, Section I will briefly review the incentive policies followed by the newly-industrializing developing countries during the 1960—1973 period and the effects of these policies on exports and on economic growth. Next, the methods employed to estimate the balance-of-payments effects of external shocks and of policy responses to these shocks will be described (Section II).

In Section III, estimates will be presented on the balance-of-payments effects of external shocks, in the form of the deterioration of the terms of trade and the slowdown of world demand for the exports of the newly-industrializing developing countries. Section IV will analyze policy responses to external

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shocks in the individual countries, including increased reliance on foreign financing, export promotion, import substitution, and lowering the rate of economic growth, and provide estimates on the balance-of-payments effects of these policies. In the conclusion, the policies followed by the newly-industrializing developing countries during the 1973—1978 period will be evaluated in a comparative framework.

I. The Newly-Industrializing Developing Countries in the 1960—1973 Period

For purposes of the analysis, the newly-industrializing developing countries have been defined to include developing countries that had per capita incomes in excess of \$ 1,100 in 1978 and where the share of the manufacturing sector in the gross domestic product was 20 percent or higher in 1977¹. The countries in question are Argentina, Brazil, Chile, Mexico, and Uruguay in Latin America; Israel and Yugoslavia in the Europe-Middle East area; and Hong Kong, Korea, Singapore, and Taiwan in the Far East.

With the exception of Hong Kong and Uruguay, these countries were the subject of an earlier study by the author of incentive policies, exports, and economic performance which dealt with the period preceding the 1973 oil crisis². The study also covered Colombia that is on the borderline of becoming a newly-industrializing country and India that has an industrial sector larger than any developing country other than Brazil and Mexico, which co-exists with a very large and backward agricultural sector.

For comparability with the earlier study, Colombia and India have been retained in the present investigation. Also, the earlier study has been extended to include Uruguay but not Hong Kong that offers characteristics little different from those of Singapore, another city-state.

Correspondingly, the analysis of the pre-1973 and post-1973 periods in this paper will cover altogether twelve countries. In accordance with the scheme of classification applied in the earlier study, the countries have been divided into four groups on the basis of the policies applied in the period preceding the oil crisis.

The countries of the first group, Korea, Singapore, and Taiwan, adopted outward-oriented strategies, providing similar incentives to sales in domestic and in foreign markets, after the completion of the first stage of import substitution that entailed replacing the imports of nondurable consumer goods and their inputs by domestic production. The second group, Argen-

¹ The data have been derived from the World Bank [1979a; 1979b]. — The newly-industrializing developing country category overlaps with the upper ranges of the group of middle-income countries as defined in World Bank [1979b], that also includes newly-industrializing countries which are members of the OECD, the international economic organization of developed countries (Greece, Portugal, Spain, and Turkey).

² The findings of the study have been reported in the author's articles [1978a; 1978b; 1981, Ch. 3].

tina, Brazil, Colombia, and Mexico, moved to the second stage of import substitution, involving the replacement of the imports of intermediate goods and producer and consumer durables by domestic production, but subsequently reformed their incentive system by reducing the bias against exports. In turn, the countries of the third group, Israel and Yugoslavia, started export promotion at an early date but their efforts slackened somewhat afterwards. Finally, India, Chile, and Uruguay, classified in the fourth group, continued to pursue inward-oriented strategies throughout the period preceding the 1973 oil crisis.

1. Incentives and Export Performance

The first group of Far Eastern countries established a free trade regime for exports and their domestic inputs. Some additional subsidies were also provided, equalizing the treatment of exports and import substitution in the manufacturing sector, without introducing substantial interindustry differences in export incentives. At the same time, there was little discrimination against primary activities; incentives were granted by and large automatically; realistic exchange rates were established; and stability in the system of incentives was ensured over time.

The early application of outward-oriented policies explains that, in the 1960—1966 period, the countries of the first group experienced more rapid increases in manufactured exports than any of the other nine countries and had the highest share of exports in manufacturing output. They also showed the best export performance in the 1966—1973 period, when their export promotion efforts intensified. Increases in manufactured exports were accompanied by the rapid growth of primary exports, again surpassing all the other countries under consideration in 1960—1966 as well as in 1966—1973.

Unlike the first group, the second group of countries began their export-promoting efforts after having embarked on second-stage import substitution. They also differed from the first group in that, with few exceptions, the use of imported inputs in export production was limited to cases when comparable domestic products were not available. To compensate exporters for the resulting high costs, and for the effects of continued import protection on the exchange rate, the countries of the second group provided subsidies to nontraditional exports. Export subsidies lessened, but did not eliminate, the bias against exports, which remained particularly pronounced in the case of traditional primary products.⁴ And, while the adoption of the crawling peg imparted considerable stability to the system of incentives, incentives to value added continued to vary greatly among industries and several of the incentive measures were subject to discretionary decision making.

Within this group of Latin American countries, in the 1966—1973 period manufactured export growth rates were the highest in Argentina and Brazil that introduced considerable export incentives in the mid-sixties. As a result, between 1966 and 1973, the share of exports in manufactured output rose from 0.9 percent to 3.6 percent in Argentina and from 1.3 percent to 4.4 per-

cent in Brazil. Nevertheless, this share remained substantially lower than in the countries of the first group; in 1973, Korea exported 40.5 percent, Singapore 42.6 percent, and Taiwan 49.9 percent of its manufacturing output.

Having extended to a considerable extent the scope of export-promoting measures in the mid-sixties, Colombia increased the share of exports in its manufacturing output from 3.0 percent in 1966 to 7.5 percent in 1973. The corresponding figures were 2.9 percent and 4.4 percent in Mexico that benefited from the proximity of the United States but, apart from the establishment of a free trade zone in the border area, did not provide export incentives until early 1971.

With continued discrimination against traditional primary exports, the four Latin American countries saw their world market shares dwindle in practically all of these commodities. Three of these countries, Argentina, Brazil, and Colombia, however, experienced gains in nontraditional primary exports that benefited from export subsidies, thereby raising the rate of growth of primary exports after 1966.

As a result of their early export promotion efforts, Israel and Yugoslavia surpassed the second group of countries, while falling behind the first, in terms of the share of exports in manufacturing output in 1966. But, as their export promotion efforts slackened, this share increased relatively little, from 12.8 percent to 14.1 percent in Israel and from 13.8 percent to 16.9 percent in Yugoslavia, between 1966 and 1973. In the same period, the share of exports in the increment of manufacturing output declined in Israel and hardly changed in Yugoslavia. Israel, however, gained in both traditional and nontraditional primary exports which suffered little discrimination while smaller increases were observed in Yugoslavia where a bias against primary exports existed.

The fourth group of countries continued to apply an inward-oriented strategy, entailing considerable discrimination against primary as well as manufactured exports, during the period under consideration. As a result, they lost market shares in traditional primary exports, did poorly in non-traditional primary exports, and also suffered losses of market shares in manufactured exports. India's share in the combined exports of manufactured goods of the twelve countries under consideration decreased from 50.4 percent in 1960 to 31.0 percent in 1966 and to 10.7 percent in 1973; Chile's share declined from 1.9 percent to 1.5 percent and, again, to 0.5 percent; while Uruguay's share never reached 0.5 percent of the total.

2. Exports and the Growth of Output

Exportation provides advantages over import substitution by contributing to resource allocation according to comparative advantage, greater capacity utilization, the exploitation of economies of scale, and improvements in technology stimulated by competition in foreign markets. To the extent that exports give rise to more rapid increases in output than import

substitution; the indirect effects of export growth, too, will be larger in countries where resources are not fully utilized.

These considerations explain that exports and output are highly correlated in an intercountry context. In the 1960—1973 period, the Spearman rank correlation coefficient between the growth of exports and that of output was 0.67 for agriculture, 0.71 for manufacturing, and 0.89 for the national economy taken as a whole. In the same period, the coefficients obtained in correlating exports with output net of exports were 0.74 in the case of manufacturing and 0.77 for the gross national product, presumably reflecting the indirect effects of exports¹.

Alternatively, one may introduce exports, in addition to labor and (domestic and foreign) capital, as an explanatory variable in a regression equation designed to explain intercountry differences in GNP growth rates. The inclusion of exports in such a production function-type relationship reflects the assumption that outward-orientation enhances the productivity of labor and capital. In estimates made by pooling data for the 1960—1966 and 1966—1973 periods that were available for ten out of the twelve countries (excepting Singapore and Uruguay), adding the export variable to the regression equation raised the coefficient of determination from 0.58 to 0.77. The export variable was significant at the 1 percent level; all other variables (labor, domestic capital and foreign capital) were significant at the 5 percent level.

At the same time, the method applied tends to underestimate the effects of export growth on the growth of output by failing to account for the impact of exports on other variables in the equation. Yet, there is evidence that exports and domestic savings are positively correlated. Also, the improved balance-of-payments situation attendant on the expansion of exports increases the attractiveness of the country concerned for foreign capital.

II. Estimating the Balance-of-Payments Effects of External Shocks and of Policy Responses to these Shocks

1. The Analytical Framework

The world economic situation changed with the quadrupling of oil prices in 1973/74 and the world recession of 1974/75. In examining the policy responses of the newly-industrializing developing countries to these external shocks, the following analysis will consider reliance on foreign financing and the use of macroeconomic policy measures aimed at reducing the rate of economic growth, together with incentives to exports and to import substitution.

¹ All coefficients are significant at the 1 percent level. Results obtained by the use of alternative methods and for the subperiods 1960—1965 and 1966—1973 are reported in the publications cited in the preceding footnote. Correlations for output net of exports have not been calculated in the case of agriculture. All the calculations exclude Uruguay.

The balance-of-payments effects of external shocks in the form of the deterioration of the terms of trade and the slowdown of world demand for the exports of the newly-industrializing developing countries will be estimated by postulating a situation that would have obtained in the absence of external shocks. The same procedure will be applied in estimating the effects of policy responses to external shocks.

In developing the analytical framework, designed to estimate the effects of external shocks, and of policy responses to these shocks, the point of departure is the balance-of-payments identity. This is defined in terms of the resource gap that equals the deficit in merchandise trade, non-factor services and private transfers combined; the resource gap is financed by the net flow of external financing.

The resource gap is shown in equations (1) and (2) for years 0 and 1, respectively. In the equations, M and X denote merchandise imports and exports valued in base year (0) prices; P_{01}^m and P_{01}^x represent percentage changes in import and export prices between years 0 and 1; and S and R refer to the balance of non-factor services and private transfers and to the resource gap, respectively, valued in terms of current prices.

$$(1) \quad R_0 = M_0 - X_0 - S_0$$

$$(2) \quad R_1 = M_1 (1 + P_{01}^m) - X_1 (1 + P_{01}^x) - S_1$$

Taking the difference between equations (2) and (1) and rearranging terms, we express changes in the resource gap between years 0 and 1 in equation (3) in terms of changes in import and export prices for the volume of imports and exports in period 1 ($P_{01}^m M_1 - P_{01}^x X_1$); changes in the volume of imports ($M_1 - M_0$); changes in the volume of exports ($X_1 - X_0$); and changes in the balance of non-factor services and private transfers ($S_1 - S_0$).

$$(3) \quad R_1 - R_0 = (P_{01}^m M_1 - P_{01}^x X_1) + (M_1 - M_0) \\ - (X_1 - X_0) - (S_1 - S_0)$$

Equation (3) is modified if we examine the effects of policy actions taken at home and abroad. As a first step, we introduce hypothetical exports (X_1^h) that would be reached if the country in question maintained its base-period share in world markets. Now, differences between actual and hypothetical exports ($X_1 - X_1^h$), shown on the left-hand side of equation (4), are taken to have resulted from domestic policy actions as regards exports.

$$(4) \quad (R_1 - R_0) + (X_1 - X_1^h) = (P_{01}^m M_1 - P_{01}^x X_1) \\ + (M_1 - M_0) - (X_1^h - X_0) - (S_1 - S_0)$$

Next, we introduce the effects of changes in foreign demand. For this purpose, we calculate the trend value of exports (X_1^t) on the assumptions

that the trend of foreign export demand remained the same as in the base period and that the country under consideration maintained its export share unchanged. The difference between trend and hypothetical values ($X_1^t - X_1^h$), shown on the right-hand side of equation (5), thus represents the effects of the external shock due to changes in foreign demand for the country's export products. (Since this export shortfall adds to the deficit, it is shown with a positive sign.)

$$(5) \quad (R_1 - R_0) + (X_1 - X_1^h) = (P_{01}^m M_1 - P_{01}^x X_1) + (X_1^t - X_1^h) \\ + (M_1 - M_0) - (X_1^t - X_0) - (S_1 - S_0)$$

In turn, hypothetical imports (M_1^h) are calculated for the actual growth rate of GNP in the country concerned on the assumption that the income elasticity of import demand remained the same as in the base period. Differences between hypothetical imports (M_1^h) and actual imports (M_1), shown on the left-hand side of equation (6), are taken to reflect the effects of import-substituting policies.

$$(6) \quad (R_1 - R_0) + (X_1 - X_1^h) + (M_1^h - M_1) = (P_{01}^m M_1 - P_{01}^x X_1) \\ + (X_1^t - X_1^h) + (M_1^h - M_0) - (X_1^t - X_0) - (S_1 - S_0)$$

Furthermore, we calculate the trend value of imports on the assumptions that the income elasticity of import demand and the rate of growth of GNP remained the same as in the base period (i.e. no change in the rate of growth of imports). Differences between the trend value of imports and hypothetical imports ($M_1^t - M_1^h$), shown on the left-hand side of equation (7), are assumed to reflect the effects of changes in the rate of growth of GNP on imports.

$$(7) \quad (R_1 - R_0) + (X_1 - X_1^h) + (M_1^h - M_1) + (M_1^t - M_1^h) \\ = (P_{01}^m M_1 - P_{01}^x X_1) + (X_1^t - X_1^h) + (M_1^t - M_0) \\ - (X_1^t - X_0) - (S_1 - S_0)$$

The difference between the trend values for imports and exports, adjusted for the actual balance of non-factor services and private transfers, equals the amount of net external financing that would have been necessary in the absence of external shocks and policy reactions to these shocks (the trend value of the resource gap, R_1^t). In turn, the sum of the differences between trend values and actual values of imports and exports equals the difference between the trend value of the resource gap and its actual value in the base year.

Introducing the trend value of the resource gap and rearranging terms, we show the excess of the actual resource gap over its trend value on the left-hand side of equation (8). This is taken to represent the additional inflow

of external funds associated with the balance-of-payments effects of external shocks (additional net external financing).

$$\begin{aligned}
 (8) \quad & (R_1 - R_1^t) + (X_1 - X_1^h) + (M_1^h - M_1) + (M_1^t - M_1^h) \\
 & = (P_{01}^m M_1 - P_{01}^x X_1) + (X_1^t - X_1^h) + (M_1^t - M_0) - (X_1^t - X_0) \\
 & \quad - (S_1 - S_0) - (R_1^t - R_0)
 \end{aligned}$$

The last term on the right-hand side of equation (8) equals the sum of the previous three terms and indicates the amount of additional net external financing that would have been necessary in the absence of external shocks if past trends continued, over and above the inflow of external funds in the base year. The term is shown with a negative sign, so that the last four terms add up to zero and can be omitted.

Under the assumption that the country in question is a price-taker in world markets, the right-hand side of equation (8) is taken to indicate the effects of external shocks on the balance of payments. This is decomposed into effects on the terms of trade ($P_{01}^m M_1 - P_{01}^x X_1$) and on export volume ($X_1^t - X_1^h$). The former is further decomposed into a pure terms of trade effect calculated on the assumption of balanced trade in base year prices, $(P_{01}^m - P_{01}^x) X_1$, and the effects of increased import prices on unbalanced trade, $(M_1 - X_1) P_{01}^m$.

In turn, the left-hand side of equation (8) consists of terms representing policy responses to external shocks, including additional net external financing ($R_1 - R_1^t$), increases in the country's export share in world markets ($X_1 - X_1^h$), import substitution ($M_1^h - M_1$), and the effects of lower GNP growth rates on the country's imports ($M_1^t - M_1^h$).

In the case of manufactured exports, the effects of lower growth rates of GNP abroad and the effects of changes in the foreign income elasticity of demand for these exports have further been distinguished. This has involved calculating the constant-income-elasticity exports of manufactured goods from developing countries to developed countries, developing countries, and centrally planned economies that would have been obtained if the income elasticities of import demand in the base period were combined with the actual GNP growth rates (X_{m1}^c).

Assuming further that the country in question maintained its share in the manufactured exports of the developing countries unchanged, the difference between the trend value of manufactured exports and the constant-income-elasticity exports of manufactured goods ($X_{m1}^t - X_{m1}^c$) is taken to reflect the effects of changes in GNP growth rates abroad. In turn, the difference between constant-income-elasticity exports and hypothetical exports ($X_{m1}^c - X_{m1}^h$) represents the effects of changes in foreign income elasticities of demand for the manufactured exports of the developing countries. Again, a positive sign denotes an export shortfall.

2. Estimating the Effects of External Shocks

In the practical application of the analytical framework, the average for the years 1971—1973 (for short, “1972”) has been taken as the basis for estimating terms of trade effects. 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—1973. However, the differences as compared to the nineteen-sixties are small, and the terms of trade of the developing countries in 1971—1973 were in fact slightly less favorable than in the nineteen-sixties¹ if we exclude fuel, the price of which started to rise in late 1973.

Changes in the terms of trade as compared to the “1972” 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 countries under study, the principal exception being coffee in Brazil and in Colombia. Nevertheless, in the absence of the explicit modelling of the world coffee market, the assumption has been retained in this case also.

Terms of trade effects have 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) expressed in “1972” prices. In the event of unbalanced trade, then, the expressed terms of trade effects include the impact of increases in import prices on the trade deficit (surplus). The estimate reflects the assumption that, in the absence of external shocks, import prices would have remained unchanged during the period under consideration. The assumption of unchanged import prices has the following rationale.

While primary product prices were rising rapidly during the 1972/73 world boom, historical experience indicates that such price increases were followed by a decline or, at the least, by a flat price trend. Primary product prices, in turn, influence the prices of manufactured goods and it may not be unreasonable to assume that the world economy would have experienced a return to the noninflationary situation of the nineteen-sixties if the quadrupling of petroleum prices did not occur. At any rate, the rapid rise in petroleum prices accounts for a substantial part of the increase in import prices during this period.

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 prices of fuel and nonfuel imports are separately shown. On the export side, distinction has been made between traditional primary exports², taken individually,

¹ The index numbers reported in United Nations [1971; 1977] are 103 including, and 93 excluding, fuels in 1971—1973 on a 1970 basis; the comparable averages for the 1961—1970 period are 101 and 98, respectively.

² Traditional exports have been defined to include commodities that accounted for at least 1.5 percent of the country’s merchandise exports in the years 1971—1973, on the

fuels, nontraditional primary exports other than fuels, and manufactured goods.

The trend value of exports that would have occurred in the absence of external shocks has been estimated on the assumptions 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 1963—1973 period and that 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 in the country's exports have been derived as the difference between trend and hypothetical values of exports, both expressed in "1972" prices. Hypothetical exports have been estimated 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 countries' exports, from a "1972" basis. It thus again reflects the assumption that the country maintained its "1972" market share during the period under consideration.

3. Estimating the Effects of Policy Responses to External Shocks

Among policy measures taken in response to external shocks, the amount of additional net external financing has been estimated as the difference between the actual resource gap or net external financing and the trend value of the resource gap. The latter has been calculated on the assumption that the country's imports and exports, expressed in "1972" prices, rose at the same rate as in the 1963—1973 period, taking further the actual net balance of non-factor services and private transfers as a datum. In turn, total external financing has been defined as the sum of actual net external financing, interest payments, and dividends.

The effects of export promotion have been represented by increases (decreases) in exports, expressed in "1972" prices, that were associated with changes in the country's "1972" market shares. Separate calculations have been made for traditional primary products, taken individually, fuels, nontraditional primary products other than fuels, and manufactured goods.

Import substitution has been defined as savings in imports associated with a decrease in the country's income elasticity of import demand as compared to the 1963—1973 period, again expressed in "1972" prices. Separate calculations have been made for fuel and for nonfuel imports.

average. 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.

Table 1a — Balance-of-Payments Effects of External Shocks and of Policy Responses to these Shocks, 1974—1978 (\$ million)

	1974	1975	1976	1977	1978	Average 1974—78	1974	1975	1976	1977	1978	Average 1974—78
<i>I. External Shocks</i>												
<i>Argentina</i>												
Terms of trade effects	-180	622	194	193	-524	61	3 143	3 306	2 635	805	1 977	2 373
Export volume effects	18	113	-59	38	54	33	168	529	341	787	793	523
Together	-161	735	135	231	-470	94	3 311	3 835	2 976	1 592	2 770	2 897
<i>Brazil</i>												
Terms of trade effects	156	1 523	-241	-732	-1 680	-195	4 568	2 749	823	-2 327	-1 857	791
Increase in export market share	-209	-739	-386	565	327	-89	108	793	341	524	445	442
Import substitution	90	34	710	350	631	363	-742	675	2 335	3 491	3 945	1 941
Import effects of lower GNP growth rate	-198	-81	52	49	232	15	-624	-381	-524	-95	237	-278
Together	-161	735	135	231	-470	94	3 311	3 835	2 976	1 592	2 770	2 897
<i>Colombia</i>												
Terms of trade effects	47	159	-139	-710	-511	-231	662	1 073	525	-114	90	447
Export volume effects	62	101	82	230	205	136	95	247	179	363	402	257
Together	109	260	-58	-479	-306	-95	758	1 320	704	249	492	705
<i>Mexico</i>												
Additional net external financing	213	108	93	-227	122	62	1 979	2 508	1 533	336	856	1 442
Increase in export market share	39	110	-126	-118	4	-18	-93	-235	-507	-301	148	-198
Import substitution	-133	46	-23	-134	-417	-132	-1 136	-1 031	-533	-80	-813	-719
Import effects of lower GNP growth rate	-10	4	-1	-1	-15	-6	8	78	211	293	302	178
Together	109	260	-58	-479	-306	-95	758	1 320	704	249	492	705
<i>Chile</i>												
Terms of trade effects	45	710	478	932	1 130	659	117	183	176	213	176	173
Export volume effects	-52	87	74	98	175	76	31	31	10	11	18	20
Together	7	797	552	1 030	1 304	735	148	214	186	224	194	193
<i>Uruguay</i>												
Additional net external financing	-563	225	-430	50	505	-43	121	196	71	161	135	137
Increase in export market share	288	249	447	462	538	397	11	48	124	81	86	70
Import substitution	202	18	218	248	84	154	17	-18	8	11	16	7
Import effects of lower GNP growth rate	66	309	318	270	177	227	-1	-11	-17	-29	-43	-20
Together	-7	797	552	1 030	1 304	735	148	214	186	224	194	193

	India						Korea					
<i>I. External shocks</i>												
Terms of trade effects	1 116	1 919	872	396	962	1 053	1 712	1 806	1 203	623	1 247	1 318
Export volume effects	34	342	322	595	852	429	45	493	254	673	791	451
Together	1 150	2 260	1 194	997	1 815	1 482	1 757	2 299	1 456	1 296	2 038	1 769
<i>II. Policy responses</i>												
Additional net external financing	1 587	2 529	994	1 723	3 128	1 992	486	-296	-2 141	-3 291	-2 906	-1 630
Increase in export market share	-328	-79	1	-362	-677	-289	445	934	1 658	2 211	2 625	1 575
Import substitution	-173	-165	202	-302	-546	-197	795	1 412	2 272	3 395	4 082	2 391
Import effects of lower GNP growth rate	63	-25	-3	-68	-91	-25	31	248	-333	-1 019	-1 762	-567
Together	1 150	2 260	1 194	997	1 815	1 482	1 757	2 299	1 456	1 296	2 038	1 769
<i>I. External shocks</i>												
Terms of trade effects	678	911	602	433	997	724	1 208	836	191	-72	-348	363
Export volume effects	3	297	163	398	557	284	-14	581	237	813	992	522
Together	681	1 208	765	832	1 554	1 008	1 194	1 416	428	742	644	885
<i>II. Policy responses</i>												
Additional net external financing	1 011	1 042	587	139	630	682	1 556	520	-987	-1 499	-2 955	-673
Increase in export market share	211	-15	4	300	636	227	-343	-302	243	190	666	93
Import substitution	-742	-193	-402	-304	-524	-433	-509	107	-7	523	1 432	309
Import effects of lower GNP growth rate	202	374	576	697	812	532	491	1 093	1 179	1 520	1 501	1 157
Together	681	1 208	765	832	1 554	1 008	1 194	1 416	428	742	644	885
<i>I. External shocks</i>												
Terms of trade effects	1 054	1 079	745	757	1 116	950	1 653	2 009	1 479	2 387	2 159	2 009
Export volume effects	12	217	110	318	409	215	134	443	608	800	1 247	646
Together	1 066	1 296	864	1 075	1 525	1 165	1 787	2 452	2 087	3 187	3 765	2 665
<i>II. Policy responses</i>												
Additional net external financing	1 209	952	362	338	459	664	2 044	1 817	518	1 970	2 072	1 686
Increase in export market share	-278	-206	-321	-205	-161	-234	-321	-28	73	-580	-440	-259
Import substitution	49	282	287	86	180	177	-216	-28	573	933	1 166	486
Import effects of lower GNP growth rate	87	267	535	856	1 047	558	279	691	923	855	968	743
Together	1 066	1 296	864	1 075	1 525	1 165	1 787	2 452	2 087	3 187	3 765	2 655

Note: Numbers may not add up due to rounding.

Source: See Appendix Table I and for gross national product World Bank [World Bank Atlas, 1979].

The effects on imports of lower economic growth rates in the country concerned have been derived by applying income elasticities of import demand for the 1963—1973 period to GNP growth rates observed in the same period and to actual GNP growth rates during the period under consideration. 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 the growth 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 become a matter of interpretation.

The estimates reported in this paper have been made for the years 1974 to 1978, taken individually¹. Averages for the 1974—1978 period are also shown. This permits considering changes over time and indicating the results for the entire period.

III. Empirical Evidence on the Balance-of-Payments Effects of External Shocks

This section will present empirical evidence on the balance-of-payments impact of external shocks, in the form of terms of trade effects and export volume effects, in the twelve newly-industrializing developing countries. Under each heading, the discussion will proceed by separating countries into four groups according to the scheme of classification described in Section I. This will be followed by a comparative analysis of the relative importance of the sources of external shocks in the twelve countries.

Table 1a reports the estimated terms of trade effects and export volume effects on the balance of payments of the newly-industrializing developing countries; more detailed results are shown in Appendix Table I for the years 1974—1978, on the average. Table 1b relates terms of trade effects to the average of exports and imports (average trade) and to the gross national product, and export volume effects to exports and to the gross national

¹ 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.

product, all expressed in "1972" prices. Export volume effects are shown in a four commodity group breakdown in Appendix Table II¹.

1. Terms of Trade Effects

Among the first group of Far Eastern countries, Korea suffered the largest terms of trade loss in 1974, equivalent to one-half of the average value of its exports and imports. The quadrupling of petroleum prices accounted for the two-thirds of this loss. Higher petroleum prices adversely affected also Taiwan, where the terms of trade loss equalled one-third of the average value of trade in 1974.

In the same year, the terms of trade loss amounted to one-sixth of the average of exports and imports in Singapore, where the export value of petroleum products nearly equalled the import value of petroleum. Nevertheless, with the average value of trade exceeding its gross national product, the ratio of the terms of trade loss to GNP was the highest in Singapore; 18 percent in 1974. It was followed by Taiwan (10 percent) that also had a relatively high trade share and by Korea (8 percent).

In Korea and in Taiwan, the terms of trade improved in subsequent years when the rise of petroleum prices decelerated. In Korea, the terms of trade loss was equivalent to 4 percent of GNP in 1978, with the pure terms of trade effect accounting for two-thirds of the total. In Taiwan, the terms of trade effect turned positive in 1977 as the gain from higher import prices on its large trade surplus in terms of "1972" prices more than compensated for the loss due to the negative pure terms of trade effect. In turn, the unfavorable impact of higher import prices on its trade deficit was offset only in part by the favorable pure terms of trade effect in Singapore, resulting in a terms of trade loss equivalent to one-fifth of GNP in 1978.

In 1974, the terms of trade loss equalled one-half of the average value of exports and imports in Brazil that was the only major petroleum importer in the second group of Latin American countries. The corresponding ratio was one-fifth in Mexico that experienced unfavorable trends in the prices of its traditional primary exports; it was 4 percent in Colombia and -8 percent in Argentina that gained from increases in cereal prices. Expressed as a proportion of GNP the terms of trade loss was 3 percent in Brazil, 1 percent in Mexico, and practically zero in Colombia and in Argentina.

Owing largely to increases in coffee prices, Brazil and Colombia experienced considerable improvements in their terms of trade in subsequent years. By 1978, the terms of trade loss declined to 2 percent of GNP in Brazil, with the pure terms of trade effect accounting for three-fourths of the total, while Colombia had a terms of trade gain amounting to 3 percent of its GNP.

¹ More detailed estimates of the balance-of-payments effects of external shocks, and of policy responses to external shocks in three Latin American countries (Brazil, Mexico, and Uruguay) are contained in a paper [1980] of the author. Detailed results for the other nine countries covered in the paper are available from the author.

As a result of higher prices on its rising petroleum exports, Mexico's terms of trade loss disappeared by 1977, with the favorable pure terms of trade effect compensating for the adverse impact of higher import prices on the trade deficit. In turn, the favorable impact of higher import prices on its trade surplus slightly exceeded the unfavorable pure terms of trade effects in Argentina.

In the third group, Israel and Yugoslavia suffered the consequences of the quadrupling of petroleum prices that resulted in a terms of trade loss equivalent to one-half of the average value of their trade in 1974. Given differences in trade shares, the corresponding ratio with respect to GNP was 11 percent in Israel and 5 percent in Yugoslavia. These figures changed little in subsequent years. At the same time, in both countries, the effects of higher import prices on the trade deficit expressed in "1972" prices exceeded the pure terms of trade effect by a large margin.

The quadrupling of petroleum prices adversely affected the balance of payments of all three countries of the fourth group, although Chile benefited from high copper prices that continued during much of 1974. The terms of trade loss expressed as a proportion of average trade and the gross national product, respectively, was 48 percent and 4 percent in Uruguay, 41 percent and 2 percent in India, and 4 percent and 1 percent in Chile in 1974.

Subsequently, however, copper prices declined precipitously, leading to a terms of trade loss equivalent to 11 percent of Chile's GNP in 1978. In the same year, the fall in beef prices contributed to a terms of trade loss equal to 5 percent of GNP in Uruguay. Finally, increases in tea prices contributed to a decline in India's terms of trade loss that amounted to 1 percent of GNP in 1978.

2. Export Volume Effects

Export volume effects were negligible in the first group of Far Eastern countries in 1974 as foreign demand continued to be strong during much of the year. These effects increased in subsequent years, however, with year-to-year changes paralleling the world business cycle. By 1978, the shortfall in exports due to the slow growth of world demand reached 13 to 16 percent of export value in the three countries. With differences in export shares, the ratio of the export shortfall to GNP was 11 percent in Singapore, 6 percent in Taiwan, and 3 percent in Korea in 1978.

A similar pattern was observed in Brazil, Colombia, and Mexico, with the export shortfall reaching 18 percent of the value of exports in Colombia, 16 percent in Mexico, and 13 percent in Brazil in 1978. Given the relatively low share of exports in the gross national product, the ratio of the export shortfall to GNP did not exceed 1 percent in any of the three countries, however. And, this ratio was practically zero in Argentina that benefited from the rise in world demand for beef and maize.

Israel followed the time pattern observed in the above mentioned countries, with the ratio of the export shortfall to export value exceeding 21 percent in 1978. In turn, the export shortfall rose uninterruptedly in Yugo-

slavia, reaching the highest level (44 percent of the value of exports) among all the countries under study in 1978, largely because of unfavorable developments in centrally planned economies whose 1978 imports from the developing countries were below the "1972" level. Finally, the export shortfall, expressed as a proportion of GNP, increased from practically nil in 1974 to 3 percent in Yugoslavia and to 4 percent in Israel in 1978.

India also exhibited the pattern observed in most other countries, with the ratio of the export shortfall to export value rising from 1 percent in 1974 to 28 percent in 1978, and that calculated with respect to GNP increasing from nil in 1974 to 1 percent in 1978. The pattern was similar in Chile, except that strong demand for copper gave rise to a gain in 1974; the export shortfall equalled 10 percent of Chile's exports and 2 percent of its GNP in 1978. By contrast, owing to the rise in world demand for beef and wool, the ratio of the export shortfall to export value declined from 12 percent in 1974 to 5 percent in 1978 in Uruguay, with a parallel decline shown with respect to GNP.

3. Terms of Trade versus Export Volume Effects

The results indicate the relative importance of terms of trade effects in newly-industrializing developing countries that rely on imported petroleum. In 1974 and 1975, on the average, the ratio of the terms of trade loss to the export shortfall ranged between 4 and 6 in Taiwan, Singapore, Uruguay, Yugoslavia and Korea; it was between 8 and 10 in India, Brazil and Israel; and it reached 22 in Chile. The corresponding ratios for the remaining countries were 1 in Colombia, 3 in Argentina, and 5 in Mexico.

With the exception of Chile and Uruguay, the ratio of terms of trade effects to export volume effects declined during the period under consideration. For one thing, apart from Chile and Uruguay that experienced unfavorable changes in the prices of their principal traditional exports, there was a tendency for terms of trade losses as a percentage of GNP to decline over time due largely to the slowdown in the rise of petroleum prices. For another thing, export volume effects showed an increasing trend, with fluctuations around the trend paralleling the business cycle, except that Uruguay benefited from increased world demand for beef and wool.

Still, terms of trade effects continued to exceed export volume effects by a considerable margin in all the petroleum importing countries other than India where increases in the price of tea reduced terms of trade losses towards the end of the period and Taiwan where high import prices on its trade surplus measured in "1972" prices gave rise to a terms of trade gain. In 1978, the ratio of these effects was 2 in Brazil, Korea, Singapore and Yugoslavia, and 3 in Israel; it was 6 in Chile, and 10 in Uruguay. In the same year, terms of trade effects were negative in Argentina and Colombia and practically nil in Mexico.

The results show the importance of the quadrupling in petroleum prices in 1973/74, the effects of which were fully felt by January 1974. They con-

Table 1b — *Balance-of-Payments Effects of External Shocks and of Policy Responses to these Shocks, 1974—1978 (per cent)*

	1974	1975	1976	1977	1978	1974-78	1974	1975	1976	1977	1978	1974-78
	<i>Argentina</i>						<i>Brazil</i>					
<i>I. External shocks</i>												
Terms of trade effects/average trade	-7.7	29.1	9.0	6.6	-19.3	2.5	49.0	52.2	43.2	13.6	31.3	38.2
Terms of trade effects/GNP	-0.4	1.3	0.4	0.4	-1.1	0.1	3.3	3.3	2.4	0.7	1.7	2.2
Export volume effects/exports	0.8	5.7	-2.2	1.0	1.4	1.1	3.4	9.6	6.1	13.7	13.0	9.4
Export volume effects/GNP	0.0	0.2	-0.1	0.1	0.1	0.1	0.2	0.5	0.3	0.7	0.7	0.5
External shocks/GNP	-0.3	1.5	0.3	0.5	-1.0	0.2	3.5	3.9	2.8	1.4	2.3	2.7
<i>II. Policy responses</i>												
Additional net external financing/average trade	6.7	71.2	-11.3	-25.1	-61.9	-8.0	71.3	43.4	13.5	-39.3	-29.4	12.7
Additional net external financing/GNP	0.3	3.2	-0.5	-1.5	-3.5	-0.4	4.8	2.8	0.8	-2.1	-1.6	0.7
Increase in export market shares/exports	-8.7	-37.8	-14.4	15.1	8.8	-3.0	2.2	14.4	6.1	9.1	7.3	7.9
Import substitution/imports	4.0	1.4	44.2	16.9	37.2	18.2	-9.3	-9.5	35.5	57.3	60.4	28.3
Import effects of lower GNP growth/imports	8.7	-3.5	3.2	2.4	14.9	0.7	-7.9	-5.3	-8.0	-1.6	3.6	-4.0
	<i>Colombia</i>						<i>Mexico</i>					
<i>I. External shocks</i>												
Terms of trade effects/average trade	4.4	15.5	-14.0	-69.1	-39.2	-21.3	21.5	35.6	18.9	-4.2	2.6	14.8
Terms of trade effects/GNP	0.4	1.2	-1.0	-5.1	-3.4	-1.7	1.3	2.0	1.0	-0.2	0.1	0.8
Export volume effects/exports	6.2	9.3	8.7	26.2	18.4	13.5	5.3	14.6	10.6	18.9	15.5	13.3
Export volume effects/GNP	0.5	0.8	0.6	1.6	1.3	1.0	0.2	0.5	0.3	0.6	0.7	0.5
External shocks/GNP	0.9	2.0	-0.4	-3.5	-2.0	-0.7	1.4	2.4	1.3	0.4	0.8	1.3
<i>II. Policy responses</i>												
Additional net external financing/average trade	20.1	10.5	9.4	-22.1	9.3	5.7	64.3	83.3	55.2	12.4	24.4	47.8
Additional net external financing/GNP	1.7	0.9	0.7	-1.6	0.8	0.5	3.8	4.0	2.8	0.6	1.4	2.6
Increase in export market shares/exports	3.9	10.1	-13.4	-13.4	0.4	-1.8	-5.2	-13.9	-30.2	-15.6	5.7	-10.2
Import substitution/imports	-11.8	4.8	-2.2	-11.4	-28.0	-11.4	-26.1	-23.8	-13.8	-2.3	-18.4	-17.5
Import effects of lower GNP growth/imports	-0.9	-0.4	-0.1	-0.1	-1.0	-0.5	0.2	1.8	5.5	8.3	6.8	4.4
	<i>Chile</i>						<i>Uruguay</i>					
<i>I. External shocks</i>												
Terms of trade effects/average trade	3.9	65.2	41.6	76.6	80.0	54.8	48.2	62.6	51.8	64.1	51.0	55.7
Terms of trade effects/GNP	0.5	8.6	5.5	10.0	11.0	7.2	3.9	5.9	5.6	6.5	5.2	5.4
Export volume effects/exports	-3.6	6.5	4.6	5.9	10.1	4.9	12.6	10.5	2.5	2.9	4.6	5.9
Export volume effects/GNP	-0.5	1.0	0.9	1.0	1.7	0.8	1.1	1.0	0.3	0.3	0.5	0.6
External shocks/GNP	-0.1	9.6	6.4	11.0	12.7	8.0	5.0	6.9	5.9	6.8	5.7	6.1
<i>II. Policy responses</i>												
Additional net external financing/average trade	-49.0	20.7	-37.5	4.1	35.7	-3.6	50.0	66.9	21.0	48.4	39.0	44.0
Additional net external financing/GNP	-6.0	2.7	-5.0	5.0	4.9	-0.5	4.1	6.3	2.2	4.9	3.9	4.3
Increase in export market shares/exports	19.8	18.7	27.9	27.9	31.3	25.5	4.3	16.2	30.4	21.5	22.0	20.4
Import substitution/imports	24.0	2.1	31.4	31.9	7.6	18.1	7.1	-6.4	2.8	3.7	5.4	2.4
Import effects of lower GNP growth/imports	7.9	36.1	45.7	34.7	16.1	26.7	-0.3	-3.9	-6.2	-10.1	-14.1	-7.3

	India										Korea													
<i>I. External shocks</i>																								
Terms of trade effects/average trade	40.9	65.5	29.1	12.4	29.0	34.7	51.8	50.0	25.6	11.3	18.4	27.6	1.8	2.8	1.3	0.5	1.2	1.5	8.3	8.2	4.8	2.2	3.9	5.1
Terms of trade effects/GNP	1.3	11.7	9.5	18.7	27.6	14.1	1.5	14.6	5.3	12.5	12.6	9.9	0.1	0.5	0.8	0.8	1.1	0.6	0.2	2.2	1.0	2.4	2.5	1.8
Export volume effects/exports	1.9	3.3	1.7	1.3	2.3	2.1	8.5	10.4	5.8	4.5	6.4	6.9	1.9	3.3	1.7	1.3	2.3	2.1	8.5	10.4	5.8	4.5	6.4	6.9
Export volume effects/GNP	0.1	0.5	0.8	0.8	1.1	0.6	0.2	2.2	1.0	2.4	2.5	1.8	0.1	0.5	0.8	0.8	1.1	0.6	0.2	2.2	1.0	2.4	2.5	1.8
External shocks/GNP	1.9	3.3	1.7	1.3	2.3	2.1	8.5	10.4	5.8	4.5	6.4	6.9	1.9	3.3	1.7	1.3	2.3	2.1	8.5	10.4	5.8	4.5	6.4	6.9
<i>II. Policy responses</i>																								
Additional net external financing/average trade	58.1	86.3	33.2	53.8	94.3	65.6	14.7	8.3	45.6	-60.0	-42.8	34.2	2.6	3.7	1.4	2.3	4.0	2.8	2.3	1.3	-8.5	-11.5	-9.1	-6.3
Additional net external financing/GNP	12.3	2.7	0.0	-11.4	-21.9	9.5	15.0	27.7	34.8	41.0	41.9	34.6	6.2	5.6	7.8	-9.1	-15.4	0.5	21.8	37.5	49.1	60.8	55.7	47.9
Increase in export market shares/exports	2.3	0.9	-0.1	-2.1	2.6	0.8	0.8	6.6	-7.2	-18.3	-24.1	-11.4	6.2	5.6	7.8	-9.1	-15.4	0.5	21.8	37.5	49.1	60.8	55.7	47.9
Import substitution/imports	2.3	0.9	-0.1	-2.1	2.6	0.8	0.8	6.6	-7.2	-18.3	-24.1	-11.4	2.3	0.9	-0.1	-2.1	2.6	0.8	0.8	6.6	-7.2	-18.3	-24.1	-11.4
Import effects of lower GNP growth/imports	2.3	0.9	-0.1	-2.1	2.6	0.8	0.8	6.6	-7.2	-18.3	-24.1	-11.4	2.3	0.9	-0.1	-2.1	2.6	0.8	0.8	6.6	-7.2	-18.3	-24.1	-11.4
<i>I. External shocks</i>	Singapore										Taiwan													
Terms of trade effects/average trade	16.8	23.5	13.8	9.2	18.6	16.1	31.9	23.4	4.0	1.4	0.0	7.9	16.8	23.5	13.8	9.2	18.6	16.1	31.9	23.4	4.0	1.4	0.0	7.9
Terms of trade effects/GNP	18.1	22.8	14.2	9.4	19.8	16.7	10.4	7.0	1.4	0.5	2.1	2.7	18.1	22.8	14.2	9.4	19.8	16.7	10.4	7.0	1.4	0.5	2.1	2.7
Export volume effects/exports	0.1	0.1	4.8	10.4	12.7	8.0	-0.4	15.9	4.6	15.4	15.5	10.8	0.1	0.1	4.8	10.4	12.7	8.0	-0.4	15.9	4.6	15.4	15.5	10.8
Export volume effects/GNP	0.1	7.4	3.8	8.6	11.0	6.6	-0.1	4.9	1.8	5.6	6.1	3.9	0.1	7.4	3.8	8.6	11.0	6.6	-0.1	4.9	1.8	5.6	6.1	3.9
External shocks/GNP	18.2	30.3	18.0	18.0	30.8	23.3	10.2	11.9	3.2	5.1	4.0	6.5	18.2	30.3	18.0	18.0	30.8	23.3	10.2	11.9	3.2	5.1	4.0	6.5
<i>II. Policy responses</i>																								
Additional net external financing/average trade	24.4	26.0	13.5	2.9	11.8	15.2	41.1	14.6	-29.5	-39.1	51.1	14.7	24.4	26.0	13.5	2.9	11.8	15.2	41.1	14.6	-29.5	-39.1	51.1	14.7
Additional net external financing/GNP	27.0	26.1	13.8	3.0	12.5	15.8	13.3	4.4	-7.4	-10.4	18.1	5.0	27.0	26.1	13.8	3.0	12.5	15.8	13.3	4.4	-7.4	-10.4	18.1	5.0
Increase in export market shares/exports	6.6	-0.5	0.1	7.8	14.5	6.4	-9.4	8.3	4.7	3.8	10.4	1.9	6.6	-0.5	0.1	7.8	14.5	6.4	-9.4	8.3	4.7	3.8	10.4	1.9
Import substitution/imports	14.6	-4.0	-7.6	5.4	8.3	-8.0	-13.0	3.1	-0.2	11.1	27.9	7.1	14.6	-4.0	-7.6	5.4	8.3	-8.0	-13.0	3.1	-0.2	11.1	27.9	7.1
Import effects of lower GNP growth/imports	4.0	7.8	10.9	12.4	12.9	0.8	12.5	31.4	26.6	32.4	29.2	26.7	4.0	7.8	10.9	12.4	12.9	0.8	12.5	31.4	26.6	32.4	29.2	26.7
<i>I. External shocks</i>	Israel										Yugoslavia													
Terms of trade effects/average trade	55.1	57.6	37.4	34.7	47.7	40.1	47.4	56.1	41.3	68.0	67.3	56.1	55.1	57.6	37.4	34.7	47.7	40.1	47.4	56.1	41.3	68.0	67.3	56.1
Terms of trade effects/GNP	11.1	11.0	7.7	7.8	11.0	9.7	5.3	6.4	4.5	6.7	6.7	5.9	11.1	11.0	7.7	7.8	11.0	9.7	5.3	6.4	4.5	6.7	6.7	5.9
Export volume effects/exports	0.9	16.7	7.9	10.0	21.2	14.1	5.5	16.0	10.7	30.0	43.8	23.4	0.9	16.7	7.9	10.0	21.2	14.1	5.5	16.0	10.7	30.0	43.8	23.4
Export volume effects/GNP	0.1	2.2	1.2	3.3	4.0	2.2	0.4	1.4	1.8	2.2	3.3	1.9	0.1	2.2	1.2	3.3	4.0	2.2	0.4	1.4	1.8	2.2	3.3	1.9
External shocks/GNP	11.2	13.2	8.9	11.1	15.0	11.9	5.7	7.8	6.3	8.0	10.0	7.8	11.2	13.2	8.9	11.1	15.0	11.9	5.7	7.8	6.3	8.0	10.0	7.8
<i>II. Policy responses</i>																								
Additional net external financing/average trade	63.2	50.9	18.2	15.5	19.6	32.2	58.6	50.7	14.5	56.4	55.4	47.1	63.2	50.9	18.2	15.5	19.6	32.2	58.6	50.7	14.5	56.4	55.4	47.1
Additional net external financing/GNP	12.7	9.7	3.7	3.5	4.5	6.8	6.5	5.7	1.6	5.6	5.5	5.0	12.7	9.7	3.7	3.5	4.5	6.8	6.5	5.7	1.6	5.6	5.5	5.0
Increase in export market shares/exports	-22.6	-15.0	21.4	12.2	8.4	-15.3	-13.1	-1.0	2.4	-21.8	-15.5	-9.4	-22.6	-15.0	21.4	12.2	8.4	-15.3	-13.1	-1.0	2.4	-21.8	-15.5	-9.4
Import substitution/imports	1.9	11.5	11.6	3.2	6.5	6.8	-4.8	-0.6	14.1	21.4	25.1	11.0	1.9	11.5	11.6	3.2	6.5	6.8	-4.8	-0.6	14.1	21.4	25.1	11.0
Import effects of lower GNP growth/imports	3.3	10.0	21.0	31.0	38.0	21.6	6.2	15.7	22.6	19.6	20.9	16.9	3.3	10.0	21.0	31.0	38.0	21.6	6.2	15.7	22.6	19.6	20.9	16.9

Source: Table 1a and World Bank data bank.

flict with conventional wisdom that gives emphasis to the unfavorable effects of the world recession and the subsequent slow recovery in the developed countries on the balance of payments of the developing countries. Also, the results do not support the view that the exports of manufactured goods from the developing countries were adversely affected by increased protectionism in the developed countries.

Thus, data available in a geographical breakdown show an increase in the "apparent" income elasticity of demand for the imports of manufactured goods in the developed countries, calculated as the ratio of the rate of growth of their imports to that of the gross national product. For the period as a whole, increases in the income elasticity of demand offset one-fifth of the export shortfall due to lower GNP growth rates in the developed countries.

At the same time, in intra-LDC trade, the favorable effects of higher GNP growth rates and income elasticity of import demand cumulated, with favorable effects for countries, such as those of the second group, where a large share of manufactured exports was sold in developing country markets. By contrast, in centrally planned economies, the decline in the income elasticity of demand aggravated the adverse effects of lower GNP growth rates, importantly contributing to the large export shortfall observed in Yugoslavia.

IV. The Policies Applied and Their Balance-of-Payments Effects in Individual Countries

Section III of the paper analyzed the impact of external shocks, in the form of terms of trade and export volume effects, on the balance of payments of the newly-industrializing developing countries classified into four groups. Section IV will examine the policies applied in these groups and indicate the balance-of-payments effects of these policies.

The balance-of-payments effects of the policies applied are shown in Table 1a while Table 1b relates the results to the value of exports, imports, average trade, and the gross national product, as the case may be, all expressed in "1972" prices. More detailed estimates are shown in Appendix Tables I and II. In turn, Table 2 provides information on the financing of the resource gap, Table 3 on nominal and real interest rates, the government budget and the money supply, Table 4 on nominal and real exchange rates vis-à-vis the U.S. dollar, Table 5 on debt service and the external debt, and Table 6 on expenditure shares, incremental capital-output ratios, and rates of economic growth.

1. Korea, Singapore, Taiwan

In 1974, the combined balance-of-payments effects of external shocks equalled 18 percent of the gross national product in Singapore, 10 percent in Taiwan, and 9 percent in Korea. The effects of these shocks increased in subsequent years in Singapore, reaching 31 percent of GNP in 1978. After a

small increase in 1975, the ratio declined to 6 percent in Korea and to 4 percent in Taiwan in 1978.

All three countries continued with outward-oriented policies in the years following the quadrupling of petroleum prices and the world recession. In Korea, quantitative import restrictions were liberalized and tariffs were lowered in 1973 and in 1977. The resulting reductions in import protection appear to have been greater than reductions in export subsidies which occurred through the elimination of tax benefits on income derived from exports and decreases in wastage allowances on imported inputs used in export production. Also, new facilities were established for medium-term and long-term export credits¹.

Import liberalization proceeded more rapidly in Taiwan than in Korea while reductions in tariffs were smaller in magnitude. In turn, Singapore had practically no import restrictions and further reduced its already low tariffs. And, both Singapore and Taiwan instituted new facilities for medium-term and long-term export credit.

At the same time, there are differences among the three countries in regard to the macroeconomic policies followed as well as the course of the real exchange rate. *Korea* increased reliance on foreign borrowing in order to overcome the adverse effects of external shocks it suffered in 1974. At the same time, it ensured that the incremental inflow of capital was invested rather than consumed by providing investment incentives, reducing the government deficit, and re-establishing positive real interest rates. These measures contributed to the increase in the share of investment in aggregate expenditure from 23 percent in 1971—1973 to 27 percent in 1974—1976.

With the rapid rise of investment, Korea expanded production for export as well as for domestic markets. Notwithstanding the appreciation of the exchange rate vis-à-vis the U.S. dollar from its undervalued "1972" level, increases in exports and import substitution, taken together, offset the adverse effects of external shocks on Korea's balance of payments in 1975, eliminating the need for additional net external financing.

Following the liberalization of imports, export expansion assumed increased importance relative to import substitution while the two effects combined came to exceed the adverse balance-of-payments effects of external shocks by more than four times in 1977. Although higher GNP growth rates added \$ 1.0 billion to the import bill, and Korea continued to suffer the effects of adverse external shocks, additional net external financing reached \$ — 3.3 billion as a result.

The increase in the share of investment in aggregate expenditure from 27 percent in 1974—1976 to 30 percent in 1977—1979 importantly contributed to the acceleration of economic growth in Korea. Notwithstanding the increased investment effort, however, export shares did not rise further and

¹ Exporters continued to benefit from the duty free entry of these inputs. While officially the prior exemption system on imported inputs was transformed into a drawback system, involving the payment and subsequent rebate of duties, in practice payments were not made.

Table 2 — Financing the External Resource Gap, 1971—1978 (\$ million)

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	Average 1974 to 1978	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	Average 1974 to 1978
	<i>Argentina</i>										<i>Brazil</i>									
Interest receipts	16	7	26	16	128	55	50	128	333	139	43	131	327	167	718	364	282	358	640	472
Interest payments	-226	-279	-343	-283	-425	-467	-515	-500	-719	-525	-374	-544	-908	-609	-1 448	-1 861	-2 091	-2 460	-3 334	-2 239
Dividends	-46	-61	-77	-61	-36	-16	-25	-211	-324	-122	-412	-310	-530	-417	-554	-532	-790	-1 330	-1 538	-949
Other factor payments	-33	-8	-33	-25	-59	-15	-5	-27	-143	-50	8	8	10	9	-1	-75	-120	-33	-44	-55
Official transfers	-3	-4	11	1	0	-1	-5	0	0	-1	20	23	16	20	-2	-10	-4	5	3	-2
Direct investment	11	10	10	10	0	0	82	273	73	536	570	1 341	816	1 268	1 090	1 212	1 678	1 880	1 426	
Portfolio capital	-94	112	56	25	-78	203	-221	137	-503	-92	1 595	3 115	2 768	2 493	5 371	4 956	6 988	4 540	9 486	6 268
Errors and omissions	29	40	69	46	26	4	486	324	297	227	-9	438	355	261	-64	-35	1 024	-614	298	122
Changes in reserves	444	65	-845	-112	-76	1 080	-921	-1 837	-2 269	-805	-483	-2 431	-2 307	-1 740	989	1 016	-2 683	-495	-4 646	-1 164
Net external financing	98	-118	-1 126	-382	-510	843	-1 156	-1 904	-3 055	-1 156	924	1 000	1 072	999	6 277	4 913	3 818	1 649	2 745	3 880
Total external financing ^a	370	220	-706	-38	-49	1 326	-616	-1 193	-2 012	-509	1 710	1 854	2 510	2 025	8 279	7 306	6 699	5 439	7 617	7 068
	<i>Colombia</i>										<i>Mexico</i>									
Interest receipts	9	18	24	17	65	56	65	65	123	75	65	80	97	81	153	117	124	168	245	161
Interest payments	-114	-135	-168	-139	-201	-250	-269	-252	-269	-248	-309	-345	-513	-389	-806	-1 094	-1 675	-1 978	-2 550	-1 621
Dividends	-71	-70	-70	-70	-55	-68	-109	-86	-114	-86	-359	-435	-581	-458	-794	-840	-666	-400	-480	-636
Other factor payments	-32	-33	-25	-30	-23	-18	-17	-2	-3	-13	133	149	157	146	182	186	253	260	279	232
Official transfers	31	24	23	26	32	17	13	6	6	15	7	10	8	8	22	27	27	16	18	22
Direct investment	43	18	24	28	41	40	25	64	75	49	307	301	457	355	678	610	628	556	532	601
Portfolio capital	303	228	123	218	231	142	171	-91	149	120	629	154	1 524	769	3 122	4 872	5 233	1 616	2 956	3 560
Errors and omissions	90	103	69	87	-17	10	211	159	138	100	34	651	-411	91	-845	-1 249	-3 046	53	-557	-1 129
Changes in reserves	1	-178	-161	-113	95	-112	-633	-586	-528	-353	-134	-190	-154	-159	-79	-178	595	-375	-428	-93
Net external financing	260	-25	-161	25	168	-183	-543	-723	-423	-341	373	375	584	444	1 633	2 451	1 473	84	15	1 098
Total external financing ^a	445	180	77	234	424	135	-165	-385	-40	-6	1 041	1 155	1 678	1 291	3 233	4 385	3 814	2 294	3 045	3 354
	<i>Chile</i>										<i>Uruguay</i>									
Interest receipts	12	1	5	6	24	5	10	18	39	19	1	1	6	3	5	4	7	12	18	9
Interest payments	-100	-124	-114	-113	-286	-282	-320	-360	-454	-340	-22	-25	-31	-26	-45	-71	-79	-77	-95	-73
Dividends	-30	-25	0	-18	-8	-7	-2	-23	-30	-14	0	0	0	-4	-4	0	0	-2	0	-2
Other factor payments	-13	5	12	1	-26	-11	-47	-54	-34	-34	-1	-1	-1	-1	-4	-5	-3	-10	-6	-6
Official transfers	4	2	10	5	8	13	16	10	0	11	8	8	7	8	17	5	0	0	0	4
Direct investment	-66	-1	-5	-24	-557	50	-1	21	182	-61	0	0	0	0	0	0	0	66	129	39
Portfolio capital	134	342	470	316	761	257	167	776	1 496	691	102	40	20	54	160	165	160	238	-31	138
Errors and omissions	-109	0	-86	-65	-117	-19	-3	-33	-68	-48	-51	-62	-30	-48	-82	-38	-13	35	158	12
Changes in reserves	239	130	-100	90	90	277	-333	-210	-720	-179	13	-36	-27	-17	40	62	-73	-179	-129	-56
Net external financing	71	330	192	198	-111	283	-513	151	411	44	50	-75	-56	-27	89	118	-1	83	44	67
Total external financing ^a	201	479	306	329	183	572	-191	534	895	399	72	-50	-25	-1	136	193	78	165	139	142

	India										Korea									
Interest receipts	48	43	51	47	94	130	195	274	468	232	23	21	41	28	82	47	70	134	282	123
Interest payments	-350	-350	-391	-364	-394	-386	-347	-413	-338	-358	-109	-150	-192	-150	-294	-424	-480	-675	-968	-568
Dividends	0	0	0	0	0	0	0	0	0	0	0	-3	-25	-10	-13	-30	-25	-37	-51	-39
Other factor payments	8	10	13	10	45	79	-29	-67	0	6	236	229	176	214	150	125	182	310	328	219
Official transfers	144	163	110	139	2 094	194	401	394	993	815	63	59	36	50	67	67	152	53	38	75
Direct investment	-1	3	-13	-4	-6	-11	-8	0	0	-5	42	64	95	67	119	57	81	93	89	88
Portfolio capital	757	275	482	595	-937	958	921	437	0	276	741	425	599	558	1 624	2 398	1 782	1 395	2 006	1 823
Errors and omissions	-95	-254	-42	-130	-290	-455	-296	-134	199	-195	26	21	45	31	107	-226	-232	-63	-327	-148
Changes in reserves	-22	129	108	72	20	-362	-2 214	-2 423	-1 692	1 335	39	-141	-348	-150	171	-376	-1 314	-1 372	-707	-720
Net external financing	489	19	318	275	716	147	-1 377	-1 934	-370	-564	1 058	494	352	635	1 996	1 643	204	-266	691	854
Total external financing ^a	839	369	709	639	1 020	533	-1 030	-1 521	-32	-206	1 170	669	554	798	2 320	2 092	721	460	1 709	1 461
	Singapore										Taiwan									
Interest receipts	83	96	137	105	182	211	208	273	383	251	40	46	111	66	164	149	154	212	376	211
Interest payments	30	-128	-298	-152	-371	-295	-349	-374	-454	-369	-56	-24	-43	-41	-82	-142	-261	-313	-400	-240
Dividends	0	0	0	0	0	0	0	0	0	0	-21	-25	-49	-32	-65	-90	-61	-67	-75	-72
Other factor payments	117	61	80	86	82	69	32	32	38	51	20	48	-2	22	11	11	-51	-19	-104	-30
Official transfers	11	4	11	9	1	0	-3	-3	-4	-2	2	2	-5	0	-2	-6	-1	-2	-7	-4
Direct investment	116	191	389	232	597	611	651	335	517	542	53	27	62	47	83	15	72	49	114	67
Portfolio capital	171	205	334	237	-99	-32	199	272	274	123	-162	-20	-485	-225	1 019	552	266	-1 080	1 633	-175
Errors and omissions	755	451	262	489	902	433	152	180	630	459	-24	-25	-116	-55	13	-5	-243	-141	-135	-102
Changes in reserves	-319	-337	-411	-356	-295	-408	-298	-313	-665	-396	-41	-514	-60	-205	-41	-12	-413	246	-6	-45
Net external financing	904	543	504	650	999	589	592	402	719	660	-189	-494	-587	-423	1 100	472	-533	-1 115	-1 870	-390
Total external financing ^a	934	671	802	802	1 370	884	941	776	1 173	1 029	-112	-445	-495	-351	1 247	704	-216	-735	-1 395	-79
	Israel										Yugoslavia									
Interest receipts	120	137	238	165	335	322	363	370	496	377	17	17	50	28	93	62	90	123	159	104
Interest payments	-177	-249	-334	-250	-526	-652	-663	-715	-939	-699	-147	-165	-222	-178	-285	-343	-364	-381	-455	-366
Dividends	-29	-20	-42	-30	-53	-49	-38	-46	-48	-47	0	0	0	0	0	0	0	0	0	0
Other factor payments	-68	-114	-198	-127	-235	-242	-222	-193	-218	-222	0	0	0	0	0	0	0	0	0	0
Official transfers	240	344	1 050	545	990	1 002	1 436	1 277	1 560	1 253	-1	-1	14	4	1	-1	0	-1	0	0
Direct investment	57	113	148	106	81	45	47	81	134	78	0	0	0	0	0	0	0	0	0	0
Portfolio capital	533	411	835	593	985	1 901	1 024	232	1 345	1 097	428	147	168	248	947	1 067	900	1 544	1 267	1 145
Errors and omissions	58	53	-4	36	-183	149	22	430	391	162	0	0	0	0	0	0	0	0	0	0
Changes in reserves	-224	-519	-532	-425	-815	197	-44	-237	-860	-26	-70	-566	-646	-427	243	-63	-1 065	-11	-250	-229
Net external financing	510	165	1 161	612	2 209	2 673	1 925	1 199	1 861	1 973	227	-568	-636	-326	999	722	-439	1 274	712	654
Total external financing ^a	716	425	1 537	893	2 788	3 374	2 626	1 960	2 848	2 719	374	-403	-414	-148	1 284	1 065	-75	1 655	1 167	1 019

^a Sum of net external financing, interest payments and dividends.

Source: IMF [Balance of Payments Yearbook various issues; International Financial Statistics, various issues]; Yugoslavian data from World Bank [Annual Report, various issues]; for India, 1978/79 fiscal year was used for 1978, from World Bank [Annual Report, various issues].

negative import substitution (i.e. an increase in import shares) occurred in 1978, largely as a result of the continued appreciation of the real exchange rate and the domestic expansionary measures applied that maintained rapid rates of economic growth at the cost of increased inflationary pressures¹. These influences, combined with credit allocation favoring large, capital-intensive investments in intermediate products, led to a decline in the volume of exports in 1979.

Additional net external financing was nearly offset by the trend value of the resource gap in 1977², so that actual net external financing was practically nil. With unfavorable developments in trade, net external financing reached \$ 0.7 billion in 1978 while total external financing was \$ 1.7 billion (Table 2). Also, Korea's gross debt service ratio (interest payments and amortization expressed as a proportion of the value of merchandise exports) increased from 17 percent in 1973 to 20 percent in 1978 while the ratio of the (gross) external debt to GNP rose from 18 percent to 25 percent (Table 5)³.

Taiwan let its real exchange rate appreciate by 23 percent in 1974 as compared to its "1972" level, leading to a decline in export market shares and to negative import substitution. These unfavorable changes in trade flows aggravated the effects on economic growth of the deflationary policies applied, involving a decline in the real value of the money supply by 24 percent in 1974. As a result, economic growth came practically to a halt whereas the 41 percent increase in wholesale prices in 1974 was followed by a 5 percent decline in 1975.

Savings in imports associated with the decline in the rate of economic growth did not fully offset the adverse balance-of-payments effects of losses in export market shares and negative import substitution in 1974. Correspondingly, Taiwan's additional net external financing requirements exceeded the negative effects of external shocks, necessitating large foreign borrowing. The situation changed in subsequent years as the policies applied encouraged new investment and improved Taiwan's competitive position.

To begin with, real interest rates rose to 19 percent in 1975 when wholesale prices declined and it remained in the 7—9 percent range in the following years. Also, increased investment incentive were provided through amendments to the Statute for Encouragement of Investment and there was a surplus in the government budget. Finally, Taiwan's real exchange rate

¹ The real exchange rate vis-à-vis the U.S. dollar was 84 percent of its "1972" level in 1977 and 81 percent in 1978; in the two years, the real value of the money supply increased by 29 percent and 12 percent, respectively.

² The high value of the resource gap reflects the fact that the "1972" trade deficit would have increased further if import and export trends observed in the preceding decade continued.

³ Table 5 also provides information on the net debt service ratio, derived by deducting interest receipts from debt service obligations, and the net external debt ratio, obtained by adjusting gross external debt for the net value of reserves. These ratios will be referred to in cases when they show results substantially different from the gross ratios.

depreciated from year to year, exceeding the 1973 level, and approaching the "1972" average, towards the end of the period.

As a result, the share of gross domestic investment in aggregate expenditure increased from 28 percent in 1971—1973 to 33 percent in 1974—1976, with a decline to 31 percent in 1977—1979 due largely to the decline in the rate of inventory accumulation. The rise in the rate of investment and improvements in its competitive position, in turn, contributed to increases in export shares and import substitution in Taiwan. At the same time, in conjunction with the liberalization of imports, export promotion assumed greater importance vis-à-vis import substitution.

These influences contributed to the acceleration of economic growth in Taiwan. Its gross national product grew at an average annual rate of 10 percent after 1975 while it hardly changed in the previous two years. Still, due to the slowdown in earlier years, Taiwan continued to experience import savings. All in all, the balance of payments impact of domestic economic policies affecting exports, import substitution, and the rate of economic growth exceeded the adverse effects of external shocks more than five times in 1978.

Correspondingly, additional net external financing became increasingly negative and amounted to \$ — 3.0 billion in 1978. Adjusted for the trend value of the resource gap, actual net external financing was \$ — 1.9 billion, and total external financing \$ — 1.4 billion, representing largely the repayment of foreign debt. In the same year, the gross debt service ratio was 7 percent, only slightly exceeding the 6 percent ratio in 1973 while the gross external debt ratio was 16 percent as compared to 11 percent in 1973.

The real exchange rate in *Singapore* fell by 20 percent between "1972" and 1974 and increased only slightly in 1975. While exports continued to benefit from subsidies, reductions in import tariffs aggravated the effects of the appreciation of the real exchange rate giving rise to negative import substitution and a slowdown in economic growth. Growth was further slowed by deflationary policies, although these were much less far-reaching than in Taiwan, with the real value of the money supply declining by 11 percent in 1974.

In 1974 and 1975, taken together, the net balance-of-payments effects of domestic economic policies added slightly to the adverse effects of external shocks in Singapore, thus raising external financing requirements. Financing took the form of the acceleration of the growth of foreign direct investment and the clandestine inflow of portfolio capital that shows up in the errors and omissions item. Political stability in Singapore was attractive to foreign investors and direct investment was further motivated by increased incentives through the extension of the tax-exempt status of pioneer industries from five to ten years and the establishment of the Capital Assistance Scheme to furnish capital to skill-intensive industries. At the same time, the inflow of foreign capital permitted maintaining gross investment at over one-third of aggregate expenditure.

Table 3 — Nominal and Real Interest Rates, the Government Budget and the Money Supply, 1971—1978

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	1971	1972	1973	"1972"	1974	1975	1976	1977	1978
<i>Argentina</i>																		
Nominal interest rate ^a	23.2	30.1	26.2	26.5	26.5	94.5	115.3	121.8	142.8	20.0	20.0	18.0	19.3	18.0	18.0	30.0	33.0	
Real interest rate ^b	-11.3	-24.7	-17.3	-17.8	7.9	-33.9	-64.1	-11.1	-1.3	0.0	1.2	1.1	0.8	-8.6	-7.3	-10.7	-8.7	-3.3
Government revenue ^c	6.6	5.7	5.2	5.8	6.0	3.9	5.3	6.2	—	9.8	10.5	10.7	10.3	10.8	9.6	10.8	10.6	10.4
Government expenditure ^c	8.9	8.5	10.7	9.4	12.3	16.1	13.8	10.4	—	10.1	10.6	10.6	10.4	10.2	9.6	10.8	10.6	10.3
Budget surplus (deficit) ^c	-2.3	-2.8	-5.5	3.5	-6.3	-12.2	-8.5	-4.2	—	-0.2	-0.1	0.1	-0.1	0.6	0.0	0.0	0.0	0.1
Change in the money supply (%)																		
— nominal ^d	35.9	67.0	103.6	68.8	71.6	196.5	297.7	148.7	133.3	29.2	40.0	49.1	39.4	33.6	39.2	38.5	36.6	41.0
— real ^b	-2.2	-5.5	32.7	8.3	46.4	0.8	-33.6	-0.3	-5.2	7.7	18.1	27.7	17.8	3.5	9.4	-3.3	-4.1	2.5
<i>Colombia</i>																		
Nominal interest rate ^a	14.0	14.0	14.0	14.0	16.0	16.0	20.0	20.0	22.0	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Real interest rate ^b	2.2	-3.7	-10.9	4.1	-14.7	-7.5	-2.4	-5.3	3.7	0.6	1.7	-8.8	-2.2	-14.7	-5.4	-14.6	-26.0	-9.7
Government revenue ^c	9.7	8.9	8.4	9.1	8.1	9.5	9.3	9.0	9.5	8.5	9.7	10.9	9.7	11.4	13.2	13.1	11.6	19.4
Government expenditure ^c	10.5	10.9	9.4	10.3	9.0	9.8	8.5	8.1	8.8	9.3	11.6	14.1	11.7	15.0	16.7	16.5	14.9	24.1
Budget surplus (deficit) ^c	-0.8	-2.0	-1.0	-1.3	-0.9	-0.3	0.9	0.8	0.7	-0.8	-1.9	-3.2	-2.0	-3.6	-3.5	-3.4	-3.3	-4.7
Change in the money supply (%)																		
— nominal ^d	11.9	27.1	30.7	23.2	17.8	20.1	34.7	30.4	25.0	7.6	17.9	22.4	16.0	20.7	21.4	29.1	26.0	31.1
— real ^b	0.3	7.4	2.2	3.3	-13.4	-4.3	9.6	2.9	6.3	3.6	14.7	5.7	8.0	-1.5	9.9	5.6	-10.7	13.2
<i>Chile</i>																		
Nominal interest rate ^a	15.0	20.0	50.0	28.3	—	267.3	197.9	93.8	63.2	—	—	—	—	—	—	45.6	65.2	59.7
Real interest rate ^b	-14.7	-51.1	-73.3	-46.4	—	-22.7	-4.5	1.1	16.5	—	—	—	—	—	—	-3.3	9.9	7.5
Government revenue ^c	18.2	15.9	16.9	17.0	24.3	18.9	—	—	—	—	—	21.9	—	20.1	18.5	20.9	22.0	23.2
Government expenditure ^c	26.1	26.1	24.8	25.7	34.9	17.8	—	—	—	—	—	23.1	—	23.8	22.9	23.1	22.9	23.6
Budget surplus (deficit) ^c	-7.9	-10.2	-7.9	-8.7	-10.6	1.1	—	—	—	—	—	-1.2	—	-3.7	-4.4	-2.2	-0.9	-0.4
Change in the money supply (%)																		
— nominal ^d	120.0	145.3	316.7	194.1	272.4	257.4	193.7	108.2	68.6	53.9	46.9	80.0	60.3	64.2	64.0	66.1	38.1	79.7
— real ^b	63.1	0.0	-25.8	12.4	-15.2	-24.8	-5.9	8.7	20.4	27.5	-22.6	-16.3	-3.8	-8.1	-4.8	10.3	-8.2	20.9
<i>Uruguay</i>																		
Nominal interest rate ^a	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Real interest rate ^b	2.2	-3.7	-10.9	4.1	-14.7	-7.5	-2.4	-5.3	3.7	0.6	1.7	-8.8	-2.2	-14.7	-5.4	-14.6	-26.0	-9.7
Government revenue ^c	9.7	8.9	8.4	9.1	8.1	9.5	9.3	9.0	9.5	8.5	9.7	10.9	9.7	11.4	13.2	13.1	11.6	19.4
Government expenditure ^c	10.5	10.9	9.4	10.3	9.0	9.8	8.5	8.1	8.8	9.3	11.6	14.1	11.7	15.0	16.7	16.5	14.9	24.1
Budget surplus (deficit) ^c	-0.8	-2.0	-1.0	-1.3	-0.9	-0.3	0.9	0.8	0.7	-0.8	-1.9	-3.2	-2.0	-3.6	-3.5	-3.4	-3.3	-4.7
Change in the money supply (%)																		
— nominal ^d	11.9	27.1	30.7	23.2	17.8	20.1	34.7	30.4	25.0	7.6	17.9	22.4	16.0	20.7	21.4	29.1	26.0	31.1
— real ^b	0.3	7.4	2.2	3.3	-13.4	-4.3	9.6	2.9	6.3	3.6	14.7	5.7	8.0	-1.5	9.9	5.6	-10.7	13.2

	India										Korea									
Nominal interest rate ^a	6.0	6.0	7.0	6.3	9.0	9.0	9.0	9.0	9.0	9.0	16.0	11.0	11.0	12.7	11.0	14.0	14.0	14.0	15.0	
Real interest rate ^b	0.9	-3.3	-7.3	-3.2	-15.2	4.5	7.3	3.0	10.1	10.1	0.9	-2.4	3.8	2.8	-21.9	-9.9	1.7	4.6	3.0	
Government revenues ^c	9.9	9.6	8.4	9.3	9.0	10.3	10.6	10.6	—	—	17.2	15.6	15.4	16.1	16.0	17.7	20.7	19.7	20.3	
Government expenditures ^c	12.1	11.6	9.9	11.2	10.6	12.5	13.4	13.2	—	—	17.8	20.1	16.6	18.2	17.8	19.4	20.3	19.4	19.8	
Budget surplus (deficit) ^c	-2.2	-2.0	-1.5	1.9	-1.6	-2.2	-2.8	2.6	—	—	-0.6	-4.5	-1.2	-2.1	-1.8	-1.7	0.4	0.3	0.5	
Change in the money supply (%)																				
— nominal ^d	13.6	12.8	16.9	14.4	10.2	9.3	24.9	16.8	21.6	21.6	16.4	45.1	40.6	34.1	29.5	25.0	30.7	40.7	24.9	
— real ^b	8.1	2.9	1.3	4.1	-14.3	4.8	22.0	10.4	22.9	22.9	7.2	27.5	31.5	22.1	-8.9	-1.3	16.6	29.1	11.8	
	Singapore										Taiwan									
Nominal interest rate ^a	8.0	7.5	9.0	8.2	10.3	7.1	6.8	7.0	7.7	7.7	12.0	11.3	13.3	12.2	14.8	13.3	12.0	10.8	10.8	
Real interest rate ^b	6.0	5.3	-13.7	-0.8	-9.9	4.3	9.0	3.6	2.8	2.8	11.8	6.6	-7.7	3.6	-18.3	19.3	8.9	7.9	7.0	
Government revenues ^c	22.3	23.1	21.5	22.3	22.2	25.5	24.2	23.5	23.7	23.7	—	—	—	—	14.4	16.4	16.1	16.5	16.8	
Government expenditures ^c	18.1	16.3	15.1	16.5	15.2	17.3	18.8	19.6	20.5	20.5	—	—	—	—	10.0	12.1	12.4	13.2	12.9	
Budget surplus (deficit) ^c	4.2	6.8	6.4	5.8	7.0	8.2	5.4	3.9	2.2	2.2	—	—	—	—	4.4	4.3	3.7	3.2	3.9	
Change in the money supply (%)																				
— nominal ^d	7.9	35.5	10.4	17.9	8.6	21.5	15.2	10.3	11.7	11.7	24.6	37.9	49.3	37.3	7.0	26.9	23.1	29.1	34.1	
— real ^b	6.0	32.7	-12.7	8.7	-11.3	18.3	17.6	6.8	6.6	6.6	24.4	32.1	21.6	26.0	-23.9	33.6	19.7	25.7	29.5	
	Israel										Yugoslavia									
Nominal interest rate ^a	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Real interest rate ^b	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Government revenues ^c	39.6	34.3	38.5	37.5	42.4	49.2	55.5	57.5	—	—	20.9	23.8	20.3	21.7	22.2	22.1	22.4	23.4	—	
Government expenditures ^c	55.0	47.2	67.3	56.5	66.1	70.3	76.6	78.5	—	—	25.3	24.1	20.7	23.4	24.9	24.2	24.3	25.1	—	
Budget surplus (deficit) ^c	-15.4	-12.9	-28.8	-19.0	-23.7	-21.1	-21.1	-21.0	—	—	-4.4	-0.3	-0.4	-1.7	-2.7	-2.1	-1.9	-1.7	—	
Change in the money supply (%)																				
— nominal ^d	28.2	28.7	32.3	29.7	18.0	21.7	27.1	38.8	45.0	45.0	15.9	41.7	38.4	32.0	25.2	32.8	60.2	16.8	20.4	
— real ^b	16.3	16.3	11.2	14.6	-22.1	-13.6	-2.8	0.2	-5.3	-5.3	2.0	26.5	23.1	17.2	-3.8	8.9	51.2	5.8	12.7	

^a Discount rate in most cases. For Argentina, the nominal interest rate, Singapore and Uruguay, the prime rate, and for Chile the 30 day time deposit rate at commercial banks were used. — ^b Deflated by the wholesale price index. — ^c Expressed as a proportion of the gross national product. The data do not include grants, lending, and repayments. — ^d Sum of private sector demand deposits and currency outside the banks (M1).

Source: IMF [International Financial Statistics, various issues].

The real exchange rate depreciated in subsequent years, surpassing the 1973 level by one-tenth, although falling short of the "1972" average in about the same proportion. Improvements in Singapore's competitive position were translated into rising export shares while negative import substitution continued during the period under consideration as tariffs were further reduced. With the effects of export promotion exceeding negative import substitution, and high investment shares being maintained, the rate of economic growth accelerated. Nevertheless, Singapore continued to experience import savings due to the slowdown in the rate of economic growth in the early part of the period.

Given the positive net balance-of-payments effects of domestic economic policies, additional net external financing requirements were considerably lower than the balance-of-payments effects of external shocks. With the trend value of the resource gap being small, actual net external financing was \$ 0.7 billion while interest and dividend payments raised total external financing to \$ 1.2 billion. Much of external financing continued to take the form of direct investments, and the gross debt service ratio declined from 9 percent in 1973 to 7 percent in 1978. And while the ratio of the gross external debt to GNP rose from 13 percent to 15 percent, Singapore's net reserves continued to exceed its gross external debt nearly three times.

2. Argentina, Brazil, Colombia, and Mexico

In 1974, the balance-of-payments effects of external shocks represented 4 percent of GNP in Brazil, 1 percent in Mexico and Colombia, and practically nil in Argentina. After increases in 1975, when adverse changes in the terms of trade reinforced the impact of the world recession, these ratios declined until 1977, with a small deterioration occurring in 1978, Argentina excepted. The relevant ratios for 1978 were: Brazil, 2 percent; Mexico, 1 percent; Argentina, — 1 percent; and Colombia, — 2 percent.

The four Latin American countries did not continue with reforms towards greater outward orientation during the period under consideration. Brazil and Colombia, in fact, increased the bias against exports through greater import protection and reduced export subsidies, respectively. Furthermore, Colombia let its real exchange rate increasingly appreciate vis-à-vis the U.S. dollar. In the early part of the period, the exchange rate was overvalued also in Argentina and Mexico while there was little change in relative incentives to exports and to import substitution in the two countries.

At the same time, there were differences among the countries of the second group in regard to the macroeconomic policies applied. In *Brazil*, the immediate response to external shocks was to increase foreign borrowing for the sake of maintaining a high rate of economic growth. In the years 1974 and 1975, taken together, the deterioration of the balance of payments resulting from external shocks was fully financed from abroad; increases in export market shares were offset by the rise in imports associated with higher GNP growth rates; and import substitution was practically nil.

Apart from permitting continued increases in domestic consumption, the amounts borrowed were employed to finance large investments in infrastructure and in highly capital-intensive industries producing intermediate goods for the domestic market. In turn, private investments in machinery industries were promoted through the increased application of credit preferences while real interest rates turned negative.

Measures aimed at reducing imports included increases in tariffs, advance deposit requirements, and import restrictions. Notwithstanding the introduction of some new export incentives, the net effect of the measures applied was to increase the bias against exports and in favor of import substitution. At the same time, the real value of the cruzeiro in terms of the U.S. dollar changed relatively little.

The application of these measures led to considerable import substitution that came to exceed the combined balance-of-payments effects of external shocks after 1976, when additional net external financing turned negative. This result should, however, be considered in the light of the increased burden of interest payments and dividends that rose from \$ 1.0 billion in "1972" to \$ 2 billion in 1974, approached \$ 3 billion in 1976 and was nearly \$ 5 billion in 1978, raising total external financing requirements to \$ 7.6 billion.

With the amortization of foreign loans adding to the debt service burden, the gross debt service ratio rose from 43 percent in 1973 to 68 percent in 1978 whereas the gross external debt ratio increased from 14 percent to 24 percent. In turn, the rate of growth of GNP declined after 1976, reflecting the effects of investments in capital-intensive industries, the decline in the rate of domestic savings associated with the maintenance of negative interest rates, the distortions due to accelerating inflation brought about by expansionary policies, and the deflationary policies followed between mid-1977 and mid-1978.

In *Mexico*, additional net external financing exceeded the balance-of-payments effects of external shocks by a considerable margin throughout the period under consideration. This result obtained as savings in imports associated with lower GNP growth rates did not suffice to offset the deterioration of the balance of payments resulting from losses in export market shares and negative import substitution.

Decreases in export market shares and negative import substitution show the direct and indirect effects of expansionary policies followed by the Echeverria Administration from 1972. These policies entailed rapid increases in government expenditures without corresponding increases in revenues. As a result, the budget deficit, expressed as a proportion of GNP, increased from 1 percent in 1971 to 4 percent in 1974; it was between 3 and 4 percent of GNP in the following two years.

The budget deficit was financed by money creation¹ and by foreign borrowing. Money creation gave rise to rapid inflation and to the dete-

¹ Apart from a small decline in 1974, the real value of the money supply increased at rates ranging from 4 percent to 15 percent between 1971 and 1976.

Table 4 — *Nominal and Real Exchange Rates, 1971—1978*

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	1971	1972	1973	"1972"	1974	1975	1976	1977	1978
<i>Argentina</i>																		
Exchange rate, national currency per U.S. dollar . . .	4.6	8.2	9.4	7.4	8.9	36.6	140.0	407.6	795.8	5.288	5.934	6.126	5.783	6.790	8.129	10.675	14.144	18.070
Index of exchange rates . . .	62.2	110.8	127.0	100.0	120.3	494.6	1 891.9	5 508.2	10 754.1	91.4	102.6	105.9	100.0	117.4	140.6	184.6	244.6	312.5
Domestic wholesale price index	53.8	95.1	143.5	100.0	171.2	503.4	3 015.5	7 520.9	18 505.3	84.1	99.7	116.4	100.0	150.4	191.3	274.3	390.6	537.3
Index of relative prices vis-à-vis the U.S.	60.6	102.6	136.8	100.0	137.3	369.5	2 117.2	4 973.1	11 368.9	90.6	103.1	106.4	100.0	115.7	134.6	184.3	247.6	316.4
Index of real exchange rate vis-à-vis the U.S. dollar . . .	102.6	108.0	92.8	100.0	87.6	133.9	86.4	110.8	94.6	100.9	99.5	99.5	100.0	101.5	104.5	100.2	98.8	98.8
<i>Colombia</i>																		
Exchange rate, national currency per U.S. dollar . . .	20.080	22.018	23.813	21.970	27.109	31.202	34.976	36.923	39.252	12.500	12.500	12.500	12.500	12.500	12.498	15.426	22.573	22.767
Index of exchange rates . . .	91.4	100.2	108.4	100.0	123.4	142.0	159.2	160.1	178.7	100.0	100.0	100.0	100.0	100.0	100.0	123.4	180.6	182.1
Domestic wholesale price index	81.1	96.1	122.9	100.0	167.1	209.6	257.6	326.5	384.0	93.2	95.8	111.0	100.0	136.0	150.2	183.7	259.3	300.1
Index of relative prices vis-à-vis the U.S.	87.7	99.7	112.6	100.0	128.9	147.9	173.9	207.5	226.8	100.3	98.7	101.1	100.0	104.2	105.4	123.3	163.8	176.1
Index of real exchange rate vis-à-vis the U.S. dollar . . .	104.2	100.5	96.3	100.0	95.7	96.0	91.5	77.2	78.8	99.7	101.3	98.9	100.0	96.0	94.9	100.1	110.3	103.4
<i>Chile*</i>																		
Exchange rate, national currency per U.S. dollar . . .	0.012	0.020	0.111	0.048	0.832	4.911	13.054	21.529	31.656	0.260	0.563	0.875	0.566	1.216	2.299	3.395	4.750	6.125
Index of exchange rates . . .	25.2	42.0	232.9	100.0	1 746.0	10 303.0	27 386.0	45 166.0	66 411.0	45.9	99.5	154.6	100.0	214.8	406.2	599.8	839.2	1 082.2
Domestic wholesale price index	17.4	42.7	239.9	100.0	1 054.0	5 008.0	15 623.0	29 945.0	41 938.0	43.0	81.6	175.4	100.0	313.5	540.4	813.7	1 223.2	1 817.4
Index of relative prices vis-à-vis the U.S.	18.7	44.0	218.5	100.0	808.0	3 837.0	10 471.0	18 916.0	24 554.0	47.8	86.9	165.3	100.0	248.6	391.9	564.5	799.2	1 103.3
Index of real exchange rate vis-à-vis the U.S. dollar . . .	134.8	95.5	106.6	100.0	216.1	268.5	261.5	238.8	270.5	96.0	114.5	93.5	100.0	86.4	103.6	106.3	105.0	98.1
<i>Brazil</i>																		
<i>Mexico</i>																		
<i>Uruguay</i>																		

	India										Korea									
Exchange rate, national currency per U.S. dollar . . .	7.501	7.594	7.742	7.612	8.102	8.376	8.960	8.739	8.193	350.80	393.97	398.32	381.03	405.97	484.00	484.00	484.00	484.00	484.00	
Index of exchange rates	98.5	99.8	101.7	100.0	106.4	110.0	117.7	114.8	107.6	92.1	103.4	104.5	100.0	106.5	127.0	127.0	127.0	127.0	127.0	
Domestic wholesale price index	89.3	97.8	112.9	100.0	145.2	151.4	153.8	162.8	161.1	90.0	101.5	108.5	100.0	154.3	195.4	218.9	238.7	266.6	266.6	
Index of relative prices vis-à-vis the U.S.	96.0	100.7	102.8	100.0	111.3	106.2	103.1	102.8	94.3	96.7	104.5	98.8	100.0	118.2	137.0	146.7	150.6	156.3	156.3	
Index of real exchange rate vis-à-vis the U.S. dollar . . .	102.6	99.1	98.9	100.0	95.6	103.6	114.2	111.7	114.1	95.2	98.9	105.8	100.0	90.1	92.7	86.6	84.3	81.3	81.3	
	<i>Singapore</i>										<i>Taiwan</i>									
Exchange rate, national currency per U.S. dollar . . .	3.0478	2.8092	2.4436	2.7066	2.4369	2.3713	2.4708	2.4394	2.2740	40.000	40.033	38.263	39.432	28.000	38.000	38.000	38.000	37.054	37.054	
Index of exchange rates	110.2	101.5	88.3	100.0	88.1	85.7	89.3	88.2	82.2	101.4	101.5	97.0	100.0	96.4	96.4	96.4	96.4	94.0	94.0	
Domestic wholesale price index	90.5	92.4	117.0	100.0	143.0	146.8	144.0	148.7	155.7	90.2	94.1	115.6	100.0	162.5	154.3	158.6	163.0	168.7	168.7	
Index of relative prices vis-à-vis the U.S.	97.6	95.5	106.8	100.0	110.0	103.2	96.8	94.1	91.7	97.3	97.3	105.6	100.0	124.9	108.6	106.7	103.3	99.3	99.3	
Index of real exchange rate vis-à-vis the U.S. dollar . . .	112.9	106.3	82.7	100.0	80.1	83.0	92.3	93.7	89.6	104.2	104.2	91.9	100.0	77.2	88.8	90.3	93.3	94.7	94.7	
	<i>Israel</i>										<i>Yugoslavia</i>									
Exchange rate, national currency per U.S. dollar . . .	0.373	0.420	0.420	0.404	0.450	0.639	0.798	1.046	1.747	14.958	17.000	16.189	16.049	15.913	17.386	18.193	18.298	18.644	18.644	
Index of exchange rates	92.3	103.9	103.9	100.0	111.3	158.0	197.4	258.7	432.1	93.2	105.9	100.9	100.0	99.2	108.3	113.4	114.0	116.2	116.2	
Domestic wholesale price index	93.1	97.1	109.9	100.0	130.5	142.7	149.2	158.5	170.5	88.8	99.4	111.9	100.0	145.6	177.5	188.3	207.7	221.9	221.9	
Index of relative prices vis-à-vis the U.S.	94.4	100.1	105.4	100.0	134.2	172.9	216.4	282.3	401.8	95.5	102.5	101.9	100.0	111.7	124.6	126.3	131.3	130.3	130.3	
Index of real exchange rate vis-à-vis the U.S. dollar . . .	97.8	103.8	98.6	100.0	82.9	91.4	91.2	91.6	107.5	97.6	103.3	99.0	100.0	88.8	91.0	89.8	86.8	89.2	89.2	

* The consumer price index was used.

Source: IMF [International Financial Statistics, various issues]; World Bank Reports.

rioration of Mexico's competitiveness that is not fully reflected by real exchange rates calculated by reference to relative prices. This is because, in Mexico's relatively open economy, increases in wages could not be fully translated into higher prices.

The decline in Mexico's competitiveness was not offset by a devaluation until September 1976. The devaluation, and the restrictive monetary policies adopted by the Administration of Lopez Portillo in 1977, with the real value of the money supply decreasing by 11 percent, led to reductions in import shares. However, increases in fuel exports apart, there was little improvement in export performance as the abolition of export subsidies largely offset the effects of the devaluation.

Expansionary policies were adopted again in 1978, when the real value of the money supply increased by 13 percent and the budget deficit approached 5 percent of GNP. With pressures on domestic capacity and the appreciation of the real exchange rate, the extent of negative import substitution increased to a considerable extent in 1978. This increase was only partly offset by the rise of petroleum exports and improvements in market shares for manufactured exports, reflecting the effects of the re-introduction of export subsidies.

As a result of these changes, Mexico's additional net external financial requirements increased again in 1978. This increase was largely offset by the rise in tourist earnings and private transfers, so that actual net external financing was practically zero in 1978. Interest payments on debt contracted after 1971 and, to a lesser extent, dividend payments, however, gave rise to total external financing of \$ 3.0 billion that was largely met by additional foreign borrowing.

With continued foreign borrowing, Mexico's gross external debt ratio increased from 16 percent in 1973 to 36 percent in 1978. In the same period, the gross debt service ratio rose from 67 percent to 113 percent. And while adding tourist revenue to merchandise exports would lower the latter ratio to 72 percent, tourist revenue in Mexico is in large part offset by tourist expenditures abroad.

In *Colombia*, the adverse effects of external shocks were aggravated by negative import substitution in 1974 as the real exchange rate appreciated by 4 percent as compared to the "1972" average. In the following year, however, import shares declined in response to the deflationary policies followed, with the real value of the money supply falling by 13 percent in 1974 and by 4 percent in 1975. Colombia also experienced increases in export market shares in 1975, due to the release of coffee from stockpiles as coffee prices rose towards the end to the year.

With the rapid rise of coffee prices, the balance-of-payments effects of external shocks turned positive in 1976 and increased further in 1977, with a small decline in 1978. The opportunities provided by improvements in the balance of payments were not utilized, however, to accelerate the rate of economic growth in Colombia. Rather, the policy measures applied adversely affected the competitiveness of the noncoffee sector.

To begin with, the authorities limited the rate of crawl of the exchange rate, notwithstanding the acceleration of inflation occasioned by the rise in the money supply as the credit measures taken did not suffice to offset the effects of the increase in foreign exchange reserves on domestic money holdings¹. After remaining unchanged in 1975, the real exchange rate appreciated vis-à-vis the U.S. dollar by 5 percent in 1976 and by 11 percent in 1977, bringing it one-fifth below the "1972" level.

The adverse effects on exports of the appreciation of the exchange rate were aggravated by reductions in subsidies while only modest measures of import liberalization were taken. With the increased bias against exports, Colombia's export market share in manufactured goods declined by nearly one-half. Furthermore, fuel exports increasingly gave place to imports, reflecting the effects of the policies applied in earlier years that were inimical to new exploration. At the same time, little change was shown in traditional and in nontraditional primary exports except that releases from stockpiles raised the volume of coffee exports again in 1978.

The appreciation of the real exchange rate also led to negative import substitution in Colombia after 1975. The adverse balance-of-payments effects of declines in export shares and negative import substitution offset the favorable effects of external shocks in the years 1976 to 1978, on the average, while the maintenance of past GNP growth rates did not have differential effects on imports.

Correspondingly, additional net external financing was practically zero in Colombia in the years 1976 to 1978 combined. Due largely to smuggling that is included under non-factor services, there was nevertheless a surplus in the actual resource gap that was only partly offset by interest and dividend payments. With continued small borrowing abroad, Colombia accumulated nearly \$ 2 billion of reserves between 1975 and 1978, reducing its net external debt ratio from 13 percent to 4 percent. In the same period, the gross external debt ratio decreased from 17 percent to 15 percent while the gross debt service ratio fell from 32 percent to 18 percent (there was little change in these ratios between 1973 and 1975).

In *Argentina*, internal shocks predominated during the period under consideration. As a result of the expansionary monetary and fiscal policies followed; the real value of the money supply rose by 33 percent in 1973 and by 46 percent in 1974 while the budget deficit increased from 2 to 3 percent of GNP in the early seventies to 5 percent in 1973 and to 6 percent in 1974. The government attempted to offset the inflationary effects of these policies on the trade balance by successive devaluations, but it only succeeded to accelerate the wage-price spiral as labor unions and other interest groups were able to maintain, and even to increase, their real incomes. Correspondingly, the real exchange rate appreciated by 14 percent in 1973 and 6 percent in 1974; it was 12 percent below its "1972" level in the latter year.

¹ The money supply increased by 10 percent in 1976, 3 percent in 1977, and 6 percent in 1978 in real terms.

Table 5 — Debt Service and the External Debt, 1971—1978 (\$ million, current prices)

	1971	1972	1973	"1972"	1974	1975	1976	1977	1978	1971	1972	1973	"1972"	1974	1975	1976	1977	1978
<i>Argentina</i>																		
Gross debt service . . .	502	538	744	595	1 000	1 011	1 223	1 284	3 161	1 407	1 942	2 654	2 021	3 371	4 031	5 084	6 511	8 606
Net debt service . . .	486	531	718	578	872	956	1 173	1 156	2 828	1 424	1 811	2 327	1 854	2 653	3 665	4 802	6 153	7 966
Merchandise exports . .	1 740	1 941	3 266	2 316	3 931	2 961	3 912	5 642	6 493	2 904	3 991	6 199	4 365	7 951	8 670	10 128	12 120	12 659
Gross debt service ratio .	28.9	27.7	22.8	25.7	25.4	34.1	31.3	22.8	49.4	50.5	48.7	42.8	46.3	42.4	46.5	50.2	53.7	68.0
Net debt service ratio . .	27.9	27.4	22.0	25.0	22.2	32.3	30.3	20.5	44.2	49.0	45.4	37.5	42.5	33.4	42.3	47.4	50.8	62.9
Gross external debt ^a . . .	—	—	3 323	—	3 641	3 450	5 055	5 890	7 290	6 622	9 521	12 572	9 572	17 165	21 171	25 985	32 000	43 500
Net external debt ^b	—	—	2 215	—	2 406	3 286	3 970	2 977	2 143	4 899	5 338	6 156	5 465	11 893	17 135	19 441	24 744	31 606
Gross national product . .	37 907	43 400	48 130	43 145	56 115	60 839	62 947	70 018	72 752	64 340	74 871	90 227	76 479	108 664	125 212	143 198	158 556	180 024
Gross external debt ratio .	—	—	6.9	—	6.5	5.7	8.0	8.4	10.0	10.3	12.7	13.9	12.5	15.8	16.9	18.1	20.2	24.2
Net external debt ratio . .	—	—	4.6	—	4.3	5.4	6.3	4.3	2.9	7.6	7.1	6.8	7.1	10.9	13.7	13.6	15.6	17.6
<i>Colombia</i>																		
Gross debt service	285	315	358	319	465	471	486	484	551	788	876	1 390	1 018	1 398	1 929	2 933	4 398	7 040
Net debt service	276	297	334	302	400	415	421	419	428	723	796	1 293	937	1 245	1 812	2 809	4 230	6 795
Merchandise exports . . .	689	863	1 176	909	1 417	1 465	1 745	2 443	3 010	1 363	1 665	2 071	1 700	2 850	2 861	3 316	4 418	6 217
Gross debt service ratio . .	41.4	36.5	30.4	35.1	32.8	32.2	27.9	19.8	18.3	57.8	52.6	67.1	59.9	49.1	67.4	88.4	99.5	113.2
Net debt service ratio . . .	40.1	34.4	28.4	33.2	28.2	28.3	24.1	17.2	14.2	53.0	47.8	62.4	55.1	43.7	63.3	84.7	95.7	109.3
Gross external debt ^a	—	—	2 102	—	2 370	2 693	2 806	3 019	3 361	—	—	8 310	—	12 389	17 263	22 000	26 785	32 622
Net external debt ^b	—	—	1 568	—	1 921	2 172	1 648	1 198	905	—	—	6 955	—	10 996	15 724	20 973	25 366	30 675
Gross national product . . .	9 447	10 613	12 078	10 713	14 124	16 030	17 615	19 645	22 993	41 284	46 102	52 391	46 592	60 478	68 624	73 159	80 402	91 914
Gross external debt ratio . .	—	—	17.4	—	16.8	16.8	15.9	15.4	14.6	—	—	15.9	—	20.5	25.2	30.1	33.3	35.5
Net external debt ratio . . .	—	—	13.0	—	13.6	13.5	9.4	6.1	3.9	—	—	13.3	—	18.2	22.0	28.7	31.5	33.4
<i>Chile</i>																		
Gross debt service	283	391	522	399	888	805	985	1 153	1 416	46	71	106	74	63	138	140	149	207
Net debt service	271	390	517	393	864	800	975	1 135	1 377	45	70	100	72	58	134	133	137	189
Merchandise exports	961	855	1 249	1 022	2 481	1 552	2 083	2 190	2 408	206	214	322	247	382	384	547	608	688
Gross debt service ratio . .	29.4	45.7	41.8	39.0	35.8	51.9	47.3	52.6	58.8	22.3	33.2	32.9	30.1	16.5	35.9	25.6	24.5	30.1
Net debt service ratio . . .	28.2	45.6	41.4	38.4	34.8	51.5	46.8	51.8	57.2	21.8	32.7	31.1	29.0	15.2	34.9	24.3	22.5	27.5
Gross external debt ^a	—	—	4 048	—	4 774	5 263	5 195	5 434	6 911	—	—	369	—	557	667	750	791	866
Net external debt ^b	—	—	3 964	—	4 868	5 540	5 201	5 315	6 109	—	—	168	—	403	392	405	168	17
Gross national product . . .	9 275	9 708	9 851	9 611	11 398	10 980	12 010	13 819	16 442	2 823	2 829	3 027	2 893	3 430	3 906	4 212	4 629	5 157
Gross external debt ratio . .	—	—	41.1	—	41.9	47.9	43.3	39.3	42.0	—	—	12.2	—	16.2	17.1	17.8	17.1	16.8
Net external debt ratio . . .	—	—	40.2	—	42.7	50.5	43.3	38.5	47.2	—	—	5.6	—	11.7	10.0	9.6	3.6	0.3
<i>Uruguay</i>																		
Gross debt service	283	391	522	399	888	805	985	1 153	1 416	46	71	106	74	63	138	140	149	207
Net debt service	271	390	517	393	864	800	975	1 135	1 377	45	70	100	72	58	134	133	137	189
Merchandise exports	961	855	1 249	1 022	2 481	1 552	2 083	2 190	2 408	206	214	322	247	382	384	547	608	688
Gross debt service ratio . .	29.4	45.7	41.8	39.0	35.8	51.9	47.3	52.6	58.8	22.3	33.2	32.9	30.1	16.5	35.9	25.6	24.5	30.1
Net debt service ratio . . .	28.2	45.6	41.4	38.4	34.8	51.5	46.8	51.8	57.2	21.8	32.7	31.1	29.0	15.2	34.9	24.3	22.5	27.5
Gross external debt ^a	—	—	4 048	—	4 774	5 263	5 195	5 434	6 911	—	—	369	—	557	667	750	791	866
Net external debt ^b	—	—	3 964	—	4 868	5 540	5 201	5 315	6 109	—	—	168	—	403	392	405	168	17
Gross national product . . .	9 275	9 708	9 851	9 611	11 398	10 980	12 010	13 819	16 442	2 823	2 829	3 027	2 893	3 430	3 906	4 212	4 629	5 157
Gross external debt ratio . .	—	—	41.1	—	41.9	47.9	43.3	39.3	42.0	—	—	12.2	—	16.2	17.1	17.8	17.1	16.8
Net external debt ratio . . .	—	—	40.2	—	42.7	50.5	43.3	38.5	47.2	—	—	5.6	—	11.7	10.0	9.6	3.6	0.3

	India										Korea									
Gross debt service	644	605	784	678	2 717	789	769	961	908	332	491	531	421	751	958	1 359	1 848	2 561		
Net debt service	596	562	733	630	2 623	659	574	687	440	309	380	490	393	660	911	1 289	1 714	2 278		
Merchandise exports	2 037	2 415	2 961	2 471	3 899	4 355	5 323	5 980	6 252	1 060	1 616	3 215	1 904	4 453	5 071	7 693	9 986	12 654		
Gross debt service ratio	31.6	25.1	26.5	27.4	69.7	18.1	14.4	16.1	14.5	31.3	24.8	16.5	21.5	16.9	18.9	17.7	18.5	20.2		
Net debt service ratio	29.3	23.3	24.8	25.5	67.3	15.3	10.8	11.5	7.0	29.2	23.5	15.2	20.0	15.0	18.0	16.8	17.2	18.0		
Gross external debt ^a	—	—	11 252	—	12 386	13 178	14 263	15 534	16 432	—	—	3 556	—	4 693	6 047	7 370	8 622	11 992		
Net external debt ^b	—	—	10 181	—	11 743	12 703	11 738	10 579	9 744	—	—	2 667	—	4 546	5 515	5 746	5 989	9 461		
Gross national product	57 001	58 930	64 766	60 232	71 374	85 327	91 516	104 389	117 520	15 089	16 616	20 159	17 288	23 775	27 894	33 516	40 070	47 996		
Gross external debt ratio	—	—	17.4	—	17.4	15.4	15.6	14.9	14.0	—	—	17.6	—	19.7	21.7	22.0	21.5	25.0		
Net external debt ratio	—	—	15.7	—	16.5	14.9	12.8	10.1	8.3	—	—	13.2	—	19.1	19.8	17.1	14.9	19.7		
	Singapore										Taiwan									
Gross debt service	44	156	316	172	389	322	377	406	711	138	176	250	188	256	300	624	659	855		
Net debt service	39	60	179	67	207	111	169	133	328	98	130	139	122	92	211	470	447	479		
Merchandise exports	1 755	2 181	3 610	2 515	5 785	5 377	6 586	8 242	10 134	1 998	2 914	4 375	3 095	5 518	5 302	8 156	9 349	12 644		
Gross debt service ratio	2.5	7.2	8.8	6.8	6.7	6.0	5.7	4.9	7.0	6.9	6.0	5.7	6.1	4.6	6.8	7.7	7.0	6.8		
Net debt service ratio	-2.2	2.8	5.0	2.7	3.6	2.1	2.6	1.6	3.2	4.9	4.5	3.2	4.0	1.7	4.0	5.8	4.8	3.8		
Gross external debt ^a	—	—	459	—	558	600	772	1 089	1 120	—	—	1 281	—	1 535	2 252	3 030	3 521	3 993		
Net external debt ^b	—	—	-1 827	—	-2 254	-2 407	-2 592	-2 769	-4 183	—	—	158	—	346	1 083	1 420	2 074	2 394		
Gross national product	2 739	3 209	3 686	3 211	4 304	5 028	5 620	6 478	7 597	8 793	10 250	12 138	10 394	13 391	15 033	17 636	20 260	24 527		
Gross external debt ratio	—	—	12.5	—	13.0	11.9	13.7	16.8	14.7	—	—	10.6	—	11.5	15.0	17.2	17.4	15.9		
Net external debt ratio	—	—	-49.6	—	-52.4	-47.9	-46.1	-42.7	-55.1	—	—	1.3	—	2.6	7.2	8.1	10.2	9.8		
	Israel										Yugoslavia									
Gross debt service	403	557	612	524	797	838	1 102	1 141	1 449	485	672	838	665	1 014	1 358	1 267	1 431	1 855		
Net debt service	283	420	374	359	462	516	739	771	953	468	655	788	637	921	1 296	1 177	1 308	1 705		
Merchandise exports	960	1 149	1 509	1 206	1 825	1 941	2 416	3 083	3 924	1 836	2 237	3 020	2 364	3 805	4 072	4 806	4 896	5 668		
Gross debt service ratio	42.0	48.5	40.6	43.4	43.7	43.2	45.6	37.0	36.9	26.4	30.0	27.7	28.1	26.6	33.3	25.9	29.2	32.7		
Net debt service ratio	29.5	36.6	24.8	29.8	25.3	26.6	30.6	25.0	24.3	25.5	29.3	26.1	26.9	24.2	31.8	24.0	26.7	30.1		
Gross external debt ^a	3 395	4 081	5 093	4 190	6 210	7 373	9 040	10 760	12 529	—	—	2 443	—	3 193	5 476	6 896	8 589	10 323		
Net external debt ^b	2 698	2 862	3 278	2 946	5 049	6 435	7 998	9 535	10 204	—	—	1 131	—	2 216	4 784	5 215	6 740	8 104		
Gross national product	7 307	8 559	9 412	8 426	10 968	12 340	12 856	13 652	15 332	24 392	26 595	29 226	26 738	36 100	39 882	43 679	50 137	57 032		
Gross external debt ratio	46.9	47.7	54.1	49.7	56.6	59.7	70.3	78.8	81.7	—	—	8.4	—	8.8	13.7	15.8	17.1	18.1		
Net external debt ratio	36.9	33.4	34.8	34.9	46.0	51.1	62.2	69.8	66.6	—	—	3.9	—	6.1	12.0	11.9	13.4	14.2		

^a Includes public as well as private debt. — ^b Net reserves are defined as the sum of foreign exchange holdings, gold reserves as valued by national authorities, SDR holdings, reserve position with the International Monetary Fund, less use of Fund credit.

Source: Exports, interest payments and receipts: Table 1. — Amortization reserve holdings: IMF [International Financial Statistics, various issues]. — GNP in current prices: World Bank data base. — Gross external debt: Non-OPEC LDCs [January 1980]. — Israel's gross external debt: Bank of Israel.

Further devaluations in 1975 were accompanied by price and wage controls, giving rise to the depreciation of the real exchange rate in that year. This proved temporary, however, as prices and wages rebounded once the controls were lifted. The increase in the ratio of the governmental budget deficit to 12 percent of GNP in 1975 further contributed to inflation, with the wholesale price index rising at an average annual rate of 300 percent between the fourth quarters of 1974 and 1975 and approaching 1,000 percent in early 1976.

Rapid inflation caused considerable dislocation, leading to the fall of GNP in 1975 and, again, in the first quarter of 1976. With declines in export market shares aggravating the effects of external shocks, Argentina also suffered large losses in foreign exchange reserves that raised questions about its creditworthiness. The new government, which came to power in March 1976, attempted to remedy the situation by introducing a policy package including deflationary monetary measures, increases in interest rates, reductions in the deficit in the government budget, wage control, and devaluation accompanied by reductions in export taxes on traditional primary exports.

Reductions in export taxes and the depreciation of the real exchange rate, attendant on the doubling of the peso-dollar rate in the last quarter of 1976, had their full impact on exports only in 1977. The expansion of exports was concentrated in traditional and nontraditional primary commodities, while Argentina continued to lose market shares in manufactured goods where export incentives were below their pre-1973 level. It also experienced continued import substitution as reductions in tariffs had little effect, given the high level of tariff redundancy.

Increases in exports and import substitution, together with the rise of investment activity reflecting greater confidence, contributed to economic expansion in 1977. But, the government was unable to restrain wages and it continued to run a budget deficit, albeit at a reduced rate. Following a four-month "price truce," in which the largest industrial firms participated, prices responded to the rising cost of labor. While earlier rates of inflation were not again reached, wholesale prices rose at an average annual rate of 150 percent in both 1977 and 1978.

The distortions caused by high rates of inflation contributed to the fall of GNP in 1978, thereby lessening import requirements. With reduced pressure on domestic capacity, import shares also declined but this was offset by a fall in export shares as the real exchange rate appreciated again. At the same time, Argentina benefited from favorable external shocks in the form of improvements in its terms of trade and increases in foreign demand for its traditional exports. As a result of these influences, additional net external financing increasingly turned negative. With the negative trend value of the resource gap, reflecting the assumption that earlier trade surpluses continued, actual net external financing became even more negative, giving rise to considerable reserve accumulation and the repayment of loans.

Loan repayments explain the high gross debt service ratio in 1978 (49 percent) that followed a decline from the peak reached in 1975 (34 percent)

to 23 percent in 1977, when it equalled the 1973 figure. In turn, the gross external debt ratio increased from 7 percent in 1973 to 10 percent in 1978 while the net external debt ratio declined from 5 percent to 3 percent, reflecting the accumulation of reserves.

The accumulation of reserves facilitated the task of the government to introduce a new economic program. This was done at the end of December 1978, involving a slowdown in increases in wages, public utility prices, money creation, and the depreciation of the exchange rate, together with the opening of capital markets to foreign transactions and a five-year tariff reduction plan. The effects of this program were not apparent, however, until the end of 1979.

3. Israel and Yugoslavia

In 1974, the combined balance-of-payments effects of external shocks amounted to 11 percent of GNP in Israel and 6 percent in Yugoslavia. In both countries, the adverse effects of these shocks increased in 1975, declined in 1976, and increased again afterwards. In 1978, they equalled 15 percent of the gross national product in Israel and 10 percent in Yugoslavia.

The Israeli economy further suffered the shock of the 1973 Yom Kippur war that was followed by increases in the importation of military equipment from \$ 0.5 billion in 1972 to \$ 1.9 billion in 1975, approaching one-half of nonmilitary imports in that year. Military imports represented about one-half of total defense expenditures that amounted to three-tenths of the gross national product in 1975.

Israel as well as Yugoslavia raised the level of import protection, thereby increasing the bias against exports, and let the real exchange rate appreciate. In Israel, the real exchange rate vis-à-vis the U.S. dollar declined to 83 percent of the "1972" level in 1974 and stabilized at 91 percent in subsequent years. In Yugoslavia, a 10 percent appreciation occurred.

Israel also adopted deflationary policies in response to the shocks it experienced. Following increases of 16 percent in 1972 and 11 percent in 1973, the real value of the money supply fell by 22 percent in 1974 and by 14 percent in 1975, declining further by 3 percent in 1976. And, after increases from 13 percent in 1972 to 29 percent in 1975, the government budget deficit, expressed as a proportion of the gross national product, declined to 24 percent in 1974 and to 21 percent in 1975 and 1976.

The policies applied led to losses in exports, a fall in the rate of investment, and the deceleration of economic growth. Israel's export market shares decreased by 21 percent between "1972" and 1976; the share of investment in aggregate expenditure declined from 26 percent in 1971—1973 to 23 percent in 1974—1976; and the growth rate of GNP fell from 8.2 percent in 1963—1973 to 2.6 percent in 1973—1976. Lower GNP growth rates, in turn, resulted in import savings amounting to 3 percent of total imports in 1974, increasing to 11 percent in 1975 and to 22 percent in 1976.

Savings in imports permitted reducing additional net external financing from 13 percent of GNP in 1974 to 10 percent in 1975 and 4 percent in 1976.

Table 6 — Domestic Expenditure Shares, Incremental Capital-Output Ratios, and Growth Rates

	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
<i>Argentina</i>															
<i>Domestic expenditure shares (in current prices)</i> ^a															
Private consumption	65.5	52.5	48.6	45.4	47.4	71.4	67.8	67.2	68.5	67.9	71.4	67.8	67.2	68.5	67.9
Public consumption	13.7	22.9	28.5	27.4	28.1	10.6	9.6	9.3	9.5	9.3	10.6	9.6	9.3	9.5	9.3
Total consumption	79.2	75.5	77.2	72.8	75.5	82.0	77.4	76.6	77.9	77.2	82.0	77.4	76.6	77.9	77.2
Gross domestic fixed investment	20.3	24.0	22.7	27.2	24.5	18.0	22.6	23.4	22.8	22.8	18.0	22.6	23.4	22.8	22.8
Change in stocks	0.5	0.5	0.1	-0.2	0.0	n.a.									
Gross domestic investment	20.8	24.5	22.8	27.2	24.5	18.0	22.6	23.4	22.1	22.1	18.0	22.6	23.4	22.1	22.8
<i>Incremental capital-output ratios</i> ^b	4.3	5.5	20.4	9.9	13.0	2.3	1.7	3.1	4.3	3.6	2.3	1.7	3.1	4.3	3.6
<i>Growth rates (constant prices)</i>															
Gross national product	4.7	4.8	0.9	1.9	1.2	8.0	12.1	7.3	5.3	6.3	4.7	4.8	0.9	1.9	1.2
Population	1.4	1.3	1.3	1.3	1.3	2.9	2.8	2.8	2.8	2.8	1.4	1.3	1.3	1.3	1.3
Per capita GNP	3.3	3.5	-0.4	0.6	-0.1	5.2	9.2	4.5	2.4	3.4	3.3	3.5	-0.4	0.6	-0.1
<i>Colombia</i>															
<i>Domestic expenditure shares (in current prices)</i> ^a															
Private consumption	73.2	72.3	72.3	68.9	70.6	72.3	72.1	65.1	64.5	64.9	72.3	72.3	72.3	68.9	70.6
Public consumption	7.2	8.1	7.2	7.1	7.2	7.8	8.5	10.6	11.0	11.0	7.2	8.1	7.2	7.1	7.2
Total consumption	80.4	80.3	79.5	76.0	77.8	80.1	80.6	75.7	76.1	75.9	80.4	80.3	79.5	76.0	77.8
Gross domestic fixed investment	18.0	18.7	18.9	20.5	19.7	11.1	19.0	21.3	21.2	21.3	18.0	18.7	18.9	20.5	19.7
Change in stocks	1.6	1.0	2.6	3.5	3.0	n.a.	0.4	2.9	2.7	2.9	1.6	1.0	2.6	3.5	3.0
Gross domestic investment	19.6	19.7	20.5	24.0	22.2	10.9	19.4	24.3	23.9	24.1	19.6	19.7	20.5	24.0	22.2
<i>Incremental capital-output ratios</i> ^b	3.6	2.8	3.8	2.9	3.2	3.1	3.0	3.8	5.5	4.1	3.6	2.8	3.8	2.9	3.2
<i>Growth rates (constant prices)</i>															
Gross national product	5.6	7.0	4.6	6.6	5.5	6.4	6.0	3.3	5.8	4.2	5.6	7.0	4.6	6.6	5.5
Population	2.7	2.3	2.3	2.2	2.3	3.2	3.2	3.3	3.3	3.3	2.7	2.3	2.3	2.2	2.3
Per capita GNP	2.9	4.7	2.3	4.4	3.2	3.2	2.7	0.0	2.5	0.9	2.9	4.7	2.3	4.4	3.2
<i>Chile</i>															
<i>Domestic expenditure shares (in current prices)</i> ^a															
Private consumption	73.6	73.5	73.5	77.6	78.2	75.5	73.5	73.6	73.3	73.4	73.6	73.5	73.5	77.6	78.2
Public consumption	11.2	14.1	13.2	12.4	12.8	13.7	14.2	14.2	13.6	13.5	11.2	14.1	13.2	12.4	12.8
Total consumption	86.0	87.6	86.7	89.9	90.9	89.2	87.7	87.7	86.9	86.9	86.0	87.6	86.7	89.9	90.9
Gross domestic fixed investment	14.0	12.4	10.4	10.1	9.1	16.8	10.0	12.1	14.2	12.9	14.0	12.4	10.4	10.1	9.1
Change in stocks	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2.3	0.2	-0.1	0.1	n.a.	n.a.	n.a.	n.a.	n.a.
Gross domestic investment	14.0	12.4	10.4	10.1	9.1	16.8	12.3	12.3	14.1	13.0	14.0	12.4	10.4	10.1	9.1
<i>Incremental capital-output ratios</i> ^b	6.2	6.7	-15.3	1.2	2.8	9.6	-11.0	3.6	3.3	3.4	6.2	6.7	-15.3	1.2	2.8
<i>Growth rates (constant prices)</i>															
Gross national product	3.7	1.6	2.4	9.0	3.6	1.2	-1.5	3.3	5.0	3.9	3.7	1.6	2.4	9.0	3.6
Population	1.9	1.7	1.7	1.7	1.7	0.8	0.2	0.2	0.7	0.5	1.9	1.7	1.7	1.7	1.7
Per capita GNP	1.8	-0.1	-4.1	7.3	1.9	0.4	-1.6	3.1	4.3	3.4	1.8	-0.1	-4.1	7.3	1.9
<i>Uruguay</i>															

<i>Domestic expenditure shares (in current prices)^a</i>	<i>India</i>					<i>Korea</i>				
Private consumption	73.1	72.7	69.6	68.0	68.8	69.8	67.2	63.3	59.1	61.2
Public consumption	9.2	9.4	9.4	9.7	9.5	9.2	9.8	10.0	10.9	10.4
Total consumption	82.3	82.1	78.9	77.7	78.4	79.0	77.0	73.2	70.1	71.6
Gross domestic fixed investment	17.7	15.3	17.0	20.0	18.2	19.4	21.2	23.6	28.0	25.7
Change in stocks	n. a.	2.6	4.2	2.3	3.5	1.6	1.8	3.2	1.9	2.6
Gross domestic investment	17.7	17.9	21.1	22.3	21.6	21.0	23.0	26.8	29.9	28.4
<i>Incremental capital-output ratios^c</i>	5.8	8.9	4.4	5.3	4.9	2.1	2.4	2.7	3.1	2.9
<i>Growth rates (constant prices)</i>										
Gross national product	3.4	1.5	4.2	3.7	4.3	9.1	8.9	8.9	10.1	10.1
Population	2.3	2.1	2.0	2.0	2.0	2.2	2.0	1.9	1.8	1.9
Per capita GNP ^b	1.1	-0.6	2.2	1.7	2.3	6.9	6.8	7.0	8.3	8.3
<i>Domestic expenditure shares (in current prices)^a</i>	<i>Singapore</i>					<i>Taiwan</i>				
Private consumption	68.9	55.4	54.9	56.6	55.7	57.9	54.6	52.9	52.6	52.8
Public consumption	10.8	10.2	9.4	10.1	9.7	17.5	16.9	14.5	16.2	15.3
Total consumption	79.7	65.6	64.3	66.8	65.5	75.4	71.5	67.3	68.9	68.1
Gross domestic fixed investment	20.3	30.9	32.1	31.4	31.7	24.0	25.3	28.6	27.9	28.2
Change in stocks	n. a.	3.4	3.6	1.9	2.7	n. a.	3.4	4.2	3.3	3.8
Gross domestic investment	20.3	34.4	35.7	33.2	34.5	24.6	28.5	32.7	31.1	31.9
<i>Incremental capital-output ratios^c</i>	1.8	2.6	5.5	3.4	4.2	2.5	1.8	4.1	2.7	3.2
<i>Growth rates (constant prices)</i>										
Gross national product	10.5	10.4	6.3	8.8	7.5	9.6	11.2	4.4	9.6	7.6
Population	1.9	1.7	1.5	1.1	1.3	2.3	2.1	1.9	1.9	2.0
Per capita GNP	8.6	8.6	4.8	7.6	6.1	7.3	9.1	2.5	7.7	5.5
<i>Domestic expenditure shares (in current prices)^a</i>	<i>Israel</i>					<i>Yugoslavia^b</i>				
Private consumption	52.8	45.6	45.7	49.7	47.6	53.2	55.5	53.6	50.0	52.2
Public consumption	24.4	28.5	31.3	29.5	30.5	16.9	15.9	16.6	16.6	16.6
Total consumption	77.2	74.0	77.1	79.1	78.1	70.1	71.4	70.2	66.6	68.7
Gross domestic fixed investment	22.8	24.8	21.9	19.5	20.8	29.9	26.7	27.7	31.4	29.2
Change in stocks	n. a.	1.3	1.0	1.4	1.2	n. a.	1.9	2.3	2.2	2.2
Gross domestic investment	22.8	26.0	22.9	20.9	21.9	29.9	28.6	29.8	33.4	31.3
<i>Incremental capital-output ratios^c</i>	2.7	3.3	11.0	7.1	8.8	5.3	5.9	4.3	4.4	4.4
<i>Growth rates (constant prices)</i>										
Gross national product	8.2	8.9	2.6	3.3	2.3	6.2	5.8	5.1	6.5	5.7
Population	3.1	3.2	2.5	2.2	2.3	1.0	1.0	0.9	0.9	0.9
Per capita GNP	5.1	5.7	0.1	1.2	0.0	5.2	4.9	4.2	5.6	4.7

^a Expenditure shares exclude data for the first year of period. — ^b 1979 data not available on expenditure shares. — ^c Incremental capital-output ratios have been calculated by assuming a one year lag between investment and output; the ratio for 1971-1973, for example, has been derived by dividing the sum of gross fixed capital formation in 1970, 1971, 1972 by the increment in GNP between 1970 and 1973, both measured in constant prices.

Source: World Bank data base.

Actual net external financing was substantially higher, however, because of increases in military imports that have not been included in the trade figures. Although about one-half of the financing took the form of official grants, Israel's gross external debt increased from \$ 5.1 billion in 1973 to \$ 9.0 billion in 1976, equalling 70 percent of GNP in that year.

In response to the slowdown of economic growth, an expansionary monetary policy was adopted in 1977, with the nominal money supply rising by 39 percent in 1977 as compared to increases of 22 percent in 1975 and 27 percent in 1976. Given the indexing of wages and other incomes, monetary expansion was translated into higher prices, however, so that the real value of the money supply and the real exchange rate remained unchanged. With constant real exchange rates, export and import shares, on balance, did not vary and GNP stagnated.

A substantial devaluation was undertaken in the third quarter of 1977, followed by further devaluations in 1978, resulting in a depreciation of the real exchange rate by 17 percent. The depreciation was only partly offset by reductions in export subsidies and in import tariffs, so that net incentives to exports and to import replacing activities increased. Greater incentives in turn, led to increases in export market shares and to import substitution.

The resulting expansion in the production of traded goods contributed to economic growth in 1978. This was, however, accomplished at the cost of accelerating inflation, with the wholesale price index rising by 53 percent in 1978, following increases of 35—40 percent in previous years. Also, the uncertainty created by rapid inflation led to a further decline in the rate of investment while the resulting distortions raised incremental capital-output ratios.

With the gross national product remaining substantially below the level it would have reached if earlier trends continued, import savings amounted to nearly two-fifths of actual imports in 1978. Increased import savings, together with higher export shares and import substitution, offset in large part the increase in the balance-of-payments effects of adverse external shocks in that year. But, with military imports more than doubling between 1977 and 1978, actual net external financing reached \$ 1.9 billion in that year while total external financing was \$ 2.8 billion. Furthermore, with increased indebtedness, the gross external debt ratio rose from 54 percent in 1973 to 82 percent in 1978. In turn, the gross debt service ratio was maintained below 40 percent only because Israel could obtain long-term loans in the United States.

Yugoslavia responded to the external shocks it suffered in 1974 by adopting deflationary monetary policies that gave rise to a 4 percent decline in the real value of the money supply in 1974 after increases of over 20 percent in the preceding two years. However, the external shocks were not met by a devaluation; rather, the nominal exchange rate appreciated vis-à-vis the U.S. dollar and the real exchange rate fell by 11 percent.

The appreciation of the real exchange rate led to losses in export market shares and to negative import substitution in *Yugoslavia*. The adverse

impact of these changes on the balance of payments was not fully offset by import savings associated with the decline in the rate of economic growth resulting from the application of deflationary policies. Correspondingly, additional net external financial requirements exceeded the balance-of-payments effects of external shocks in 1974 and, despite increases in workers' remittances, Yugoslavia had to borrow \$ 1.0 billion to finance its resource gap. Borrowing requirements changed little in 1975, when import savings at low GNP growth rates and reductions in import shares due to the application of import restrictions approximately offset the increase in the adverse balance-of-payments effects of external shocks.

In response to the slowdown of economic growth, expansionary policies were adopted in 1976, entailing a 51 percent rise in the real value of the money supply. These policies were accompanied by further restrictions on imports. The resulting decline in import shares, together with decreases in the adverse balance-of-payments effects of external shocks, lowered additional net external financial requirements to a considerable extent and Yugoslavia accumulated reserves in 1976.

Reserve accumulation remained temporary, however, and Yugoslavia had to borrow \$ 1.5 billion in 1977 and \$ 1.3 billion in 1978 as the adverse balance-of-payments effects of external shocks increased. At the same time, with the acceleration of the rate of economic growth, further import savings did not occur while import substitution due to import restrictions was offset by declines in export market shares. These declines occurred as the exchange rate remained overvalued and there was increased discrimination against export activities through import protection and preferential credit allocation to import-substituting industries.

The loss in market shares occurred in traditional primary exports as well as in manufactured goods. Within the latter category, the losses were concentrated in developed country markets where Yugoslavia's export share declined by one-half between "1972" and 1978. This compares with a gain in market shares in exports to the centrally planned economies.

Yugoslavia's poor performance in developed country markets led to increased indebtedness in convertible currencies. The gross external debt ratio rose from 8 percent in 1973 to 18 percent in 1978 while the gross debt service ratio increased from 28 percent to 33 percent. The gross debt service ratio is raised further if it is compared to merchandise exports in terms of convertible currencies alone while it is reduced if workers' remittances are added to merchandise exports. With these adjustments, the gross debt service ratio was 30 percent in 1978. At the same time, a substantial part of foreign borrowing went into investment, increasing its share in aggregate expenditure from 29 percent in 1971—1973 to 30 percent in 1974—1976 and 33 percent in 1977—1979.

4. India, Chile, and Uruguay

Among countries that followed inward-looking policies during the preceding decade, the combined balance-of-payments effects of external shocks in 1974 equalled 2 percent of the gross national product in India, 5 percent in Uruguay, and was practically nil in Chile. In India, the ratio increased in 1975, declined in 1976 and 1977, and returned to approximately the 1974 level in 1978. These adverse effects were more than offset, however, by increases in workers' remittances from the Middle East and in tourist receipts.

In turn, adverse balance-of-payments effects of external shocks increased to a considerable extent in Chile and in Uruguay. The rate of these effects on GNP reached 10 percent in 1975 in Chile and, after a slight decline in 1976, increased further in subsequent years, reaching 13 percent in 1978. The increase was smaller in Uruguay, where the ratio fluctuated between 6 percent and 7 percent, with the former figure applying in 1978.

India and the two Latin American countries of the group also had contrasting experiences as far as incentive policies are concerned. While substantive changes in the system of incentives were not made in India, Chile and Uruguay introduced major reforms during the period under consideration. These reforms involved substantially reducing the bias against exports, raising real exchange rates and real interest rates, reducing budget deficits and increasing the role of market forces in general.

In response to the external shocks suffered in 1974, *India* adopted deflationary policies, with the real value of the money supply falling by 14 percent in that year. Nevertheless, inflation continued at a higher rate than in the United States and it was not fully offset by a devaluation. The appreciation of the real exchange rate vis-à-vis the U.S. dollar contributed to losses in export market shares and to negative import substitution, the adverse balance-of-payments effects of which were offset only in part by the import savings associated with the decline in the rate of economic growth resulting from the deflationary policies applied. Correspondingly, additional net external financing requirements exceeded the adverse balance-of-payments effects of external shocks by a considerable margin.

This situation continued in subsequent years, except for 1976 when a substantial devaluation in real terms led to import substitution in India. However, the actual resource gap was much smaller and it turned into a surplus of \$ 1.4 billion in 1976 and \$ 1.9 billion in 1977, largely because of the rise in workers' remittances and tourist receipts. The surplus was translated into reserve accumulation in 1976 (\$ 2.2 billion) as well as in 1977 (\$ 2.4 billion) that continued at a slightly reduced rate of (\$ 1.7 billion) in 1978. Although preliminary data indicate that the surplus in India's resource gap declined to \$ 0.4 billion in that year, this was in part offset by increases in official grants. With the accumulation of reserves, the net external debt ratio declined from 16 percent in 1973 to 8 percent in 1978; in the same

period, the gross external debt ratio decreased from 17 percent to 14 percent and the gross debt service ratio from 27 percent to 15 percent.

The conservative policies of reserve accumulation were not conducive to the acceleration of economic growth. Nevertheless, GNP growth rates rose somewhat compared to the 1963—1973 period as the performance of agriculture improved and the rate of domestic savings increased in response to the rise of real interest rates. There was also negative import substitution in response to the trade liberalization measures introduced towards the end of the period.

Import liberalization was, however, limited to noncompeting imports. This benefited, in particular, production for domestic markets through the easier availability of imported inputs while exporters already had such privileges beforehand. Also, the practical application of export promotion measures continued to be plagued by administrative difficulties and the incentives actually granted fell far short of the rates of import protection as domestically-produced goods faced practically no foreign competition. In particular, labor-intensive manufactures received few export incentives, although they conform to India's comparative advantage. Correspondingly, India continued to lose export market shares, especially in manufactured goods, where actual exports fell to 70 percent of hypothetical exports, calculated on the assumption of unchanged market shares, in 1978.

Chile, in turn, abandoned its inward-oriented strategy in favor of outward orientation. It abolished all import restrictions and reduced tariffs over a five-year period to 10 percent in June 1979, the only exception being the automobile industry. Tariff reductions were part of a package of economic policies that included a substantial devaluation in real terms, the abolition of price control, the establishment of realistic prices for public utilities, the elimination of budget deficits, the establishment of positive real interest rates, and the liberalization of financial markets.

The course of the economy in the years immediately following the fall of Allende in September 1973 was, however, determined by the deflationary policies of the newly-installed Pinochet government. These policies aimed at lowering the rate of inflation that reached 500 percent a year; they became even more severe in 1975 in response to the terms-of-trade loss Chile suffered in that year.

The policies applied led to a decline in the real value of the money supply by 15 percent in 1974 and by 25 percent in 1975 while the government budget deficit gave place to a surplus. The continued indexing of wages held back the decline in the rate of inflation, however. As measured by the adjusted consumer price index prepared by the World Bank, December-to-December price increases were 405 percent in 1973, 376 percent in 1974 and 341 percent in 1975.

With the indexing of wages, the brunt of the adjustment fell on the unemployed. In conjunction with the 7 percent fall of GNP between 1973 and 1975, unemployment rose from 5 percent of the labor force in December 1973 to 14 percent in December 1975 in the Greater Santiago area. Un-

employment rates fell to 10 percent in December 1976 but declined slowly afterwards as much of the subsequent rise in the gross national product was attained through increases in the productivity of labor and capital.

The gross national product rose by 13 percent between 1975 and 1977 and by 20 percent between 1977 and 1978, although investment rates remained unchanged, reflecting a decline in incremental capital-output ratios. At the same time, inflation rates, measured from December to December, fell from 341 percent in 1975 to 174 percent in 1976, 63 percent in 1977, and 30 percent in 1978. The decrease in the rate of growth of the money supply was smaller, so that real money balances held by firms and individuals were replenished.

The policies applied further involved substantial increases in the real exchange rate, although the extent of appreciation between 1975 and 1977 is overstated by the use of the (adjusted) consumer price index used in the calculations, by reason of declines in retail margins. Still, this index has been utilized because it incorporates adjustments for suppressed inflation in the early seventies that have not been made in the wholesale price index.

The depreciation of the real exchange rate in 1978 led to rapid increases in export market shares, with the resulting expansion representing 31 percent of total exports in that year. Increases in market shares were particularly pronounced in manufactured goods; in 1978 these exports reached three times the level that would have been attained if Chile maintained its "1972" market shares. There was also considerable import substitution in response to the depreciation of the real exchange rate between 1972 and 1975, but this came to a standstill in 1977, and declined afterwards, as tariff reductions increasingly weighed upon import-substituting industries. Import savings associated with lower GNP growth rates also declined as economic growth accelerated.

At the same time, the balance-of-payments effects of external shocks increased to a considerable extent, necessitating additional net external financing. Nevertheless, with rapid increases in GNP, the gross external debt ratio hardly surpassed the 1973 level in 1978 (42 percent) while its peak level was 48 percent in 1975. The improvement was even greater in terms of the net external debt ratio as Chile accumulated reserves. The rise in the gross debt service ratio from 42 percent in 1973 to 59 percent in 1978, in turn, is fully explained by increased loan repayments that are included under amortization.

In response to the quadrupling of oil prices, deflationary monetary policies were adopted in *Uruguay*, with the real value of the money supply falling by 8 percent between 1973 and 1974. The high rate of inflation also led to reductions in the real value of government revenues, however, and the budget deficit increased. Also, *Uruguay* failed to devalue *pari passu* with inflation, and the real exchange rate vis-à-vis the U.S. dollar appreciated by 8 percent.

With the fall in the real exchange rate, there was little change in export shares and in import substitution, so that *Uruguay* had to rely on foreign borrowing, complemented by reductions in reserves, to finance its rising

resource gap. Rather than attempting to remedy its external situation by deflating further the economy, however, the government opted for a "fuite en avant" by introducing reforms that represented a break with the policies followed in the preceding decades.

The policy changes introduced in July 1974 included decontrolling domestic prices, eliminating import restrictions, reducing tariffs, and abolishing minimum foreign financing requirements for imports, with exceptions made for capital goods in the latter case. Also, interest rates were raised, foreign capital movements liberalized, and the system of minidevaluations adjusted so as to depreciate the peso in real terms.

The real exchange rate increased by 20 percent in 1975, rose further in 1976 and, notwithstanding a decline in 1977 and 1978, it remained 5 percent above the 1973 level and only slightly below the "1972" average. And while tariff reductions remained limited in scope, nontraditional exports received tax and tariff rebates, preferential credits, and tax relief, thereby reducing the longstanding bias against exports.

The measures applied gave impetus to the rapid expansion of exports. Increases were especially large in manufactured exports that exceeded the hypothetical level, calculated on the assumption of unchanged market shares, more than three times in 1978. Improvements in the system of incentives, together with the establishment of positive real interest rates and reductions in the budget deficit, further contributed to decreases in incremental capital-output ratios, a rise in the share of investment in GNP, and ultimately to the acceleration of economic growth. The gross national product increased at an average annual rate of 3.3 percent between 1973 and 1976 and 5.0 percent between 1976 and 1979, following a decline in the early seventies and virtual stagnation in the previous decades.

While the rise in imports associated with the acceleration of economic growth in part offset increases in export shares, and there was little import substitution, the net effect of domestic economic policies was to reduce external financial requirements attendant upon external shocks. Correspondingly, the rise in the gross debt service ratio from 33 percent in 1973 to 36 percent in 1975 was followed by a decline to 25 percent in 1977. And while increases in external shocks and the fall in beef exports due to the imposition of restrictions in the Common Market¹ occasioned a rise in this ratio to 30 percent in 1978, the 1973 level was not again reached.

Uruguay's external debt increased to a considerable extent following the oil crisis, with the gross external debt ratio reaching 16 percent in 1974. It remained at this level afterwards while the net external debt ratio declined from 6 percent in 1973 to nil in 1978. The latter figure takes account of increases in the national valuation of gold holdings; the ratio was 6 percent if such an adjustment is not made.

¹ Under the methods applied, the latter appears as a loss in market shares in traditional exports that in part offset the gains Uruguay made in nontraditional exports.

V. Conclusions and Evaluation

Among newly-industrializing developing countries in the years 1974 to 1978, on the average the ratio of the balance-of-payments effects of external shocks to the gross national product was the highest in Singapore (23 percent). The same ratio is obtained in relating the effects of external shocks to the average value of exports and imports, which provides an indication of the adjustment in trade flows necessary to offset the adverse balance-of-payments impact of external shocks. The corresponding ratios were 7 percent and 37 percent in Korea and 7 percent and 19 percent in Taiwan (Table 7)¹.

The three Far Eastern countries did not modify their outward-oriented strategies in response to external shocks and, correspondingly, experienced further increases in export market shares during the period under consideration. These countries also provided increased investment incentives and re-established positive real interest rates, leading to a rise in the rate of domestic savings and investment.

The policies applied enabled the three Far Eastern countries to maintain rates of economic growth higher than any other newly-industrializing developing country. This was the case notwithstanding the fact that Taiwan and, to a lesser extent, Singapore accepted reductions in the rate of economic growth in the years 1974 and 1975 for the sake of limiting their foreign indebtedness and lowering the rate of inflation.

Korea, in turn, increased reliance on foreign capital so as to maintain rapid rates of economic growth following the external shocks it suffered in 1974. Correspondingly, Korea's external debt reached 25 percent of GNP in 1978, although rapid increases in exports made it possible to limit the gross debt service ratio to 20 percent, substantially below the levels observed in the early seventies. The situation deteriorated in 1979, when exports declined as the exchange rate became increasingly overvalued and some large, capital-intensive investments were undertaken.

In the second group of Latin American countries, the balance-of-payments effects of external shocks were negligible in Argentina and in Colombia, which did not suffer from increases in petroleum prices. Colombia further enjoyed the favorable effects of increased coffee prices. The opportunities provided by improvements in the balance of payments were not utilized, however, to accelerate the rate of economic growth. Rather, Colombia let its real exchange rate appreciate and reduced export subsidies, with adverse effects on exports as well as on import substitution.

Brazil also increased the bias against exports by raising the level of import protection and favoring import-substituting industries in the allocation of credits. Furthermore, it substantially increased foreign borrowing, with a view to maintaining high rates of economic expansion in the

¹ It should be recalled that, in calculating these ratios, the gross national product and the average value of exports and imports (average value of trade) have been expressed in "1972" prices.

Table 7 — Representative Ratios of Balance-of-Payments Effects of External Shocks and Policy Responses to these Shocks
 (average 1974—1978)

	External shocks		Terms of trade effects	Export volume effects	Additional net external financing	Increase in export market shares	Import substitution	Import effects of lower GNP growth rate	Gross debt service ratio	Growth rate of GNP		Incremental capital-output ratio		Domestic savings ratio			
	as a percentage of										per cent	1973	1975	1973	1975	1973	1975
	GNP	average trade	external shocks ^a							1979		1979	1979	1979	1978	1978	
Argentina	0.2	3.8	65	35	-207	-95	386	16	33.6	1.2	1.3	13.0	16.6	24.6	26.9		
Brazil	2.7	46.6	82	18	27	15	67	-10	53.6	6.3	5.8	3.6	3.9	20.9	21.4		
Chile	8.0	61.1	89	11	-6	54	21	31	49.0	3.6	8.0	2.8	1.4	10.3	8.9		
Colombia	-0.7	-8.8	-243	143	65	-19	-139	7	24.4	5.5	6.1	3.2	3.1	22.1	23.2		
Mexico	1.3	23.4	63	37	205	-28	-102	25	90.0	4.2	4.7	4.1	4.0	22.2	22.7		
Uruguay	6.1	62.2	90	10	71	36	4	-11	26.7	3.9	4.3	3.4	3.6	12.1	12.5		
India	2.1	48.8	71	29	134	-20	-13	2	23.8	4.3	3.7	4.9	5.7	20.9	21.9		
Israel	11.9	56.6	82	18	57	-20	15	48	40.4	2.3	2.2	8.8	10.8	6.6	6.1		
Yugoslavia	7.8	74.2	76	24	64	-10	18	28	29.7	5.7	6.1	4.4	4.7	26.5	28.3		
Korea	6.9	37.1	74	26	-92	89	135	-32	18.8	10.1	11.0	2.9	2.8	23.6	24.0		
Singapore	23.3	22.5	72	28	68	23	-43	53	6.1	7.5	8.2	4.2	3.6	27.6	28.2		
Taiwan	6.5	19.3	41	59	-76	10	35	131	6.7	7.6	9.8	3.2	2.6	32.6	32.3		

^a Signs have been reversed in the case of Colombia.

Source: See Table 1, 5, and 6.

face of the adverse balance-of-payments effects of external shocks that equalled 3 percent of GNP and 47 percent of the average value of trade in the 1974—1978 period. Given the high capital intensity of import-substituting industries, however, incremental capital-output ratios increased to a considerable extent, leading to a slowdown in economic growth as Brazil failed to utilize the proceeds of foreign credits to raise the share of investment in GNP. At the same time, the gross debt service ratio increased from 43 percent to 68 percent, and the ratio of external indebtedness to GNP from 14 percent to 24 percent, between 1973 and 1978.

The application of expansionary fiscal policies led to the deterioration of Mexico's competitive position, necessitating foreign borrowing far in excess of the balance-of-payments effects of external shocks that averaged 1 percent of GNP and 23 percent of the average value of trade during the period under consideration. As a result, Mexico's gross external debt reached 35 percent of its GNP in 1978, notwithstanding large increases in oil earnings, and the gross debt service ratio surpassed 100 percent. At the same time, with decreases in (non-oil) export shares and negative import substitution, the rate of economic growth did not reach the levels observed in the 1963—1973 period and growth involved a high cost in terms of investment inasmuch as the incremental capital-output ratio nearly doubled after 1973.

In Argentina, expansionary policies led to rapid inflation as resistance to a decline in real incomes on the part of labor unions and other groups generated a wage-price spiral. Rapid inflation, in turn, caused considerable dislocation and the rate of economic growth declined from 4.7 percent in 1963—1973 to 1.2 percent in 1973—1979. But, import savings at lower GNP growth rates and favorable external shocks at the end of the period led to reserve accumulation that facilitated the introduction of economic reforms in December 1978.

In the third group of countries, the balance-of-payments effects of external shocks averaged 12 percent of GNP in the years 1974 to 1978 in Israel and 8 percent in Yugoslavia; the corresponding ratios with respect to the average value of trade were 57 percent and 74 percent, respectively. In response to these shocks, Israel and, in particular, Yugoslavia increased the bias against exports through higher import protection, resulting in losses in export market shares.

During much of the period under consideration, Israel applied deflationary policies and let the exchange rate appreciate, resulting in a decline in the rate of economic growth from 8.2 percent in 1963—1973 to 2.3 percent in 1973—1979. And while the devaluation of the exchange rate towards the end of the period led to the expansion of exports and GNP, this was accomplished at the cost of accelerating inflation. Also, the ratio of the gross external debt to GNP increased from 54 percent in 1973 to 82 percent in 1978, and the gross debt service ratio was maintained below 40 percent only because Israel was able to obtain long-term loans in the United States.

In Yugoslavia, the gross external debt ratio rose from 8 percent to 18 percent, and the gross debt service ratio from 28 percent to 33 percent,

between 1973 and 1978. Much of the inflow of capital went into investment, permitting the maintenance of relatively high GNP growth rates (5.7 percent between 1973 and 1979). Yugoslavia's poor export performance in developed country markets, however, creates dangers for the future, and the efficiency of some of the capital-intensive import-substituting investments is open to doubt.

The average balance-of-payments effects of external shocks equalled 2 percent of India's GNP and 49 percent of the average value of its trade during the 1974—1978 period, but these effects were largely offset by earnings derived from workers' remittances and tourism. By contrast, the balance-of-payments effects of adverse external shocks equalled 8 percent of GNP and 61 percent of the average value of trade in Chile and 6 percent and 62 percent in Uruguay. And, whereas the two Latin American countries adopted outward-oriented policies in response to these shocks, India did not substantially modify the system of incentives and chose to accumulate reserves. As a result, India experienced further losses in export market shares and its GNP growth rate did not substantially rise above the level experienced in the previous decade, notwithstanding the improved performance of agriculture and increases in the rate of domestic savings.

The turn towards outward orientation was accompanied by severe deflationary policies in Chile that was not the case in Uruguay where tariff reductions also proceeded at a slower rate. The effects of the differences in the policies applied are apparent in the pattern of economic growth in the two countries. In Chile, an average rate of GNP growth of 1.6 percent between 1971 and 1973 was followed by a decline of 2.4 percent between 1973 and 1976 and an increase of 9.0 percent between 1976 and 1979; in Uruguay, the corresponding growth rates were — 1.5 percent, 3.3 percent, and 5.0 percent, respectively.

The acceleration of economic growth in the two countries was associated with a substantial decline in incremental capital-output ratios. They also experienced a fall in the ratio of external debt, net of reserve accumulation, to GNP. Finally, the debt service ratio fell in Uruguay while the increase in this ratio in Chile is explained by the repayment of foreign loans that is included under amortization.

The findings point to the advantages of outward-oriented policies for export performance and for economic growth in the face of external shocks. Countries applying such policies experienced increases in their export market shares while losses in market shares occurred in countries characterized by inward orientation (Table 7)¹. Reliance on export promotion in response to external shocks under an outward-oriented strategy, in turn, favorably affected economic growth.

¹ The only exception was Brazil where the share of exports increased, notwithstanding the rise in the anti-export bias due to higher protection. But, export shares declined towards the end of the period and a number of industrial firms were subject to contractual export obligations, giving rise to exports below cost.

In the group of twelve newly-industrializing developing countries, the rank correlation coefficient between the extent of reliance on export promotion in response to external shocks, defined as the ratio of the increment in exports associated with increases in market shares to the balance-of-payments effects of external shocks, and the rate of growth of GNP was 0.48 during the 1973—1979 period¹. This result is statistically significant at the 1 percent level².

The extent of correlation between the two variables is reduced by reason of the fact that in the two countries, Chile and Uruguay, which adopted outward-oriented policies during the period under consideration, the favorable effects of these policies on economic growth were observable with a time lag. To allow for this lag, the extent of reliance on export promotion in response to external shocks was also correlated with the rate of GNP growth in the period 1975—1979; a Spearman rank correlation coefficient of 0.70 was obtained in this case.

The favorable experience of countries applying an outward-oriented development strategy may be explained by the efficient use of resources and rapid technological change under such a strategy that provides similar incentives to exports and to import substitution. This proposition receives support from the observed high correlation between the extent of reliance on export promotion and the incremental capital-output ratio. Using the reciprocal of the incremental capital-output ratio in the calculations, the Spearman rank correlation coefficient between the two variables was 0.75 in the 1973—1979 period. Practically the same result, a coefficient of 0.77, is obtained if incremental capital-output ratios for the 1975—1979 period are used in the calculations, in order to allow for the possibility of lags in the adjustment.

The introduction of lags will affect the results, however, in attempting to explain intercountry differences in GNP growth rates in terms of the incremental capital-output ratio and the domestic savings ratio. Thus, in replacing data for 1973—1979 by data for 1975—1979, the Spearman rank correlation coefficient increases from 0.43 to 0.82 if the reciprocal of the incremental capital-output ratio, and it declines from 0.59 to 0.46 if the domestic savings ratio, is correlated with the rate of growth of GNP³. The results obtained for the years 1975—1979 closely correspond to estimates

¹ External shocks and ratios of policy responses to external shocks, including additional net external financing, increases in export market shares, import substitution and lowering the rate of economic growth are averages for the years 1974—1978, calculated on 1971—1973 basis. The relevant data are shown in Table 7.

² Extrapolating the value of statistical significance calculated for ten observations, a Spearman rank correlation coefficient of 0.29 or higher will be significant at the 1 percent level in the case of twelve observations.

³ The results are not appreciably affected if the share of gross domestic investment, or that of gross domestic fixed investment, is used in the calculation in the place of the domestic savings ratio. (Data on the share of investment in aggregate expenditure are shown in Table 6.)

for the 1960—1973 period in a 113 country sample where rank correlation coefficients of 0.72 and 0.40 were obtained in the two cases, respectively [Hopkins and Hooven, 1980].

In order to separate the effects of the incremental capital-output ratio and of the domestic savings ratio on economic growth, multiple regression techniques have further been applied. The results shown in equations (1) and (2) indicate that the rate of economic growth is affected by both variables, which are highly significant statistically and explain about four-fifths of intercountry variations in GNP growth rates¹. It is also apparent that, in an intercountry context, a 10 percent increase in the reciprocal of the incremental capital-output ratio is associated with a 9—10 percent increase in the GNP growth rate and a 10 percent increase in the domestic savings ratio is associated with a 3—4 percent increase in the GNP growth rate.

$$(1) \quad 1973-1979: \log y = 1.806 + 0.972 \log \Delta Y/I + 0.385 \log S/Y$$

$$\quad \quad \quad (2.594) \quad (4.866) \quad (1.973)$$

$$R^2 = 0.782$$

$$(2) \quad 1975-1979: \log y = 1.935 + 0.852 \log \Delta Y/I + 0.311 \log S/Y$$

$$\quad \quad \quad (4.145) \quad (7.454) \quad (2.157)$$

$$R^2 = 0.872$$

The importance of policy choices is further indicated by the lack of a negative correlation between the balance-of-payments effects of external shocks, expressed as a proportion of GNP, and the rate of economic growth. In fact, the correlation between the two variables was slightly positive, 0.19, statistically significant at the 10 percent level. This result is compatible with the hypothesis that external shocks provided inducement for policy improvements as was the case in Chile and Uruguay.

There was no significant statistical relationship between reliance on additional net external financing in response to external shocks and the rate of growth of GNP, with the Spearman correlation coefficient between the two variables being —0.08. The result reflects the fact that the effects of foreign borrowing on economic growth depend on the uses to which the proceeds of foreign loans are put. In Brazil, for example, where the proceeds were used largely for raising consumption levels and for investment in high-cost import-substituting industries, the rate of economic growth declined while foreign debt increased.

At the same time, servicing the foreign debt entails a cost for the national economy, lowering the rate of economic growth under *ceteris paribus* assumption. In fact, in the twelve newly-industrializing developing countries, the correlation between the gross debt service ratio and the rate of growth of GNP, as measured by the Spearman rank correlation coefficient, was —0.59 during the 1973—1979 period.

¹ Explanation of symbols: Y = gross national product; y = average annual rate of growth of GNP; I = gross domestic investment; S/Y = gross domestic savings ratio; t-values are shown in parentheses.

The experience of the newly-industrializing developing countries during the period under consideration also provides evidence on the responsiveness of exports and of import substitution to changes in real exchange rates as well as on the effects of changes in real interest rates and investment incentives on domestic savings and investment. It further appears that overvalued exchange rates and negative real interest rates, as well as large budget deficits and the resulting rapid inflation, tend to depress the rate of economic activity.

These findings have implications for the policy measures that may be taken in response to recent increases in oil prices. They indicate, first of all, the need to lessen the bias in the system of incentives against exports and in favor of import substitution. They further point to the need to maintain realistic exchange rates and interest rates, limit the budget deficit, and avoid using the proceeds of foreign borrowing to increase consumption and to carry out investments in industries that do not correspond to the country's comparative advantage. More generally, the findings suggest the need to reduce distortions in product and factor markets and to increase reliance on the market mechanism.

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Appendix Table I — *Balance-of-Payments Effects of External Shocks and of Policy Responses to these Shocks, 1974—1978 average*
(\$ million)

	Argen- tina	Brazil	Colom- bia	Mexico	Chile	Uru- guay	India	Korea	Singa- pore	Taiwan	Israel	Yugo- slavia
<i>I. External shocks</i>												
Effects of increased import prices	1 727	7 102	780	2 442	1 248	351	3 168	4 742	4 393	3 720	2 061	3 913
fuels	351	3 257	63	210	235	134	1 224	1 388	1 909	995	518	814
non fuels	1 376	3 845	717	2 232	1 014	217	1 945	3 354	2 484	2 725	1 543	3 099
Effects of increased export prices	1 665	4 729	1 011	1 995	589	178	2 115	3 424	3 669	3 357	1 111	1 904
traditional primary	624	2 345	740	473	235	31	365	154	0	0	44	76
fuels	20	150	79	617	3	0	24	79	1 559	94	0	64
other nontraditional primary	566	1 113	36	264	182	73	636	335	847	403	221	467
manufactured	450	1 121	156	640	170	75	1 090	2 856	1 264	2 860	845	1 297
Difference (terms of trade effects)	61	2 373	231	447	659	173	1 053	1 319	724	363	950	2 009
pure terms of trade effects	1 067	1 203	354	794	1 707	265	1 077	890	762	847	136	559
unbalanced trade effect	-1 006	1 170	123	1 242	1 048	-92	-24	429	1 486	484	815	1 451
Trend value of exports, in "1972" prices	3 026	5 658	1 159	2 393	1 233	294	3 765	3 424	3 612	5 266	1 976	3 669
Hypothetical exports, in "1972" prices	2 993	5 134	1 023	2 136	1 157	274	3 336	2 973	3 328	4 744	1 762	3 022
Difference (export volume effects)	33	523	136	257	76	20	429	451	284	522	215	646
traditional primary	-23	324	99	105	56	9	80	19	0	0	3	23
fuels	2	14	18	7	1	0	6	6	158	3	0	6
other nontraditional primary	47	93	4	41	20	8	60	24	104	60	29	65
manufactured	6	93	15	105	1	4	283	402	21	458	183	552
growth effects	68	192	42	195	6	7	306	571	178	762	164	342
income elasticity effects	-61	-99	26	-90	7	3	-23	-169	-157	-304	-81	211
<i>II. Policy responses</i>												
Actual resource gap, in current prices	-1 156	3 880	-341	1 098	44	67	-564	854	660	-390	1 973	654
Trend value of resource gap, in "1972" prices	-962	3 089	-403	-345	87	-70	-2 556	2 483	-21	283	-1 309	-1 032
Difference (additional net external financing)	195	791	62	1 442	-43	137	1 992	-1 630	682	-673	664	1 686
Actual exports, in "1972" prices	2 905	5 577	1 005	1 938	1 554	344	3 047	4 548	3 556	4 837	1 527	2 763
Hypothetical exports, in "1972" prices	2 993	5 134	1 023	2 136	1 157	274	3 336	2 973	3 329	4 744	1 762	3 022
Difference (increase in export market shares)	-89	442	-18	-198	397	70	-289	1 575	227	93	-234	-259
traditional primary	-100	168	102	-154	204	3	7	69	0	0	-5	-98
fuels	-2	-8	-47	148	-1	0	-17	1	19	14	0	-4
other nontraditional primary	134	332	8	-80	38	5	165	142	121	181	-26	-34
manufactured	-120	287	-80	-111	157	68	-444	1 363	87	102	-203	-123
Hypothetical imports, in "1972" prices	2 360	8 798	1 029	3 380	1 007	283	2 827	7 381	4 986	4 640	2 768	4 881
Actual imports, in "1972" prices	1 997	6 857	1 161	4 098	553	277	3 024	4 990	5 419	4 331	2 591	4 395
Difference (import substitution)	363	1 941	-132	-719	154	7	-197	2 391	-433	309	177	486
fuels	-40	250	-14	134	-51	9	-8	188	102	-77	-26	41
non fuels	403	1 691	-118	-852	205	-3	-189	2 203	-535	386	203	445
Trend value of imports, in "1972" prices	2 374	8 520	1 022	3 558	1 234	263	2 803	6 841	5 519	5 797	3 326	5 624
Hypothetical imports, in "1972" prices	2 360	8 798	1 029	3 380	1 007	283	2 827	7 381	4 986	4 640	2 768	4 881
Difference (import effects of lower GNP)	15	-278	-6	178	227	-20	-25	-567	532	1 157	558	742
fuels	6	-39	-1	24	35	-11	-1	-40	79	46	26	73
non fuels	9	-239	-7	155	192	-9	24	-527	454	1 111	532	670

Source: International and national statistics.

Appendix Table II — Trade Effects of External Shocks and Policy Responses to these Shocks, Commodity Groups
(1974—1978 average ratio)

	Argentina	Brazil	Colombia	Mexico	Chile	Uruguay	India	Korea	Singapore	Taiwan	Israel	Yugoslavia
<i>I. Exports</i>												
Traditional primary products												
hypothetical/trend	101.3	89.9	85.8	87.2	94.0	95.1	89.8	83.9			97.0	93.2
actual/hypothetical	94.3	94.2	117.0	78.4	123.0	98.2	100.9	168.3			94.0	69.2
Fuels												
hypothetical/trend	79.6	79.6	79.6	79.6	79.6	0	79.6	79.6	79.6	79.6	79.6	79.6
actual/hypothetical	77.9	84.4	34.0	624.3	46.0	0	130.4	103.6	103.1	213.0	35.3	83.7
Nontraditional primary products												
hypothetical/trend	90.3	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2	90.2
actual/hypothetical	130.6	138.7	122.0	78.5	119.9	107.1	129.8	165.3	112.5	132.6	90.1	94.4
Manufactured goods												
hypothetical/trend	99.2	93.5	95.5	90.7	101.2	90.7	87.9	86.7	98.8	90.1	88.5	79.0
actual/hypothetical	84.6	121.5	74.9	89.1	292.8	288.3	78.4	151.8	105.0	97.6	85.6	94.1
Total												
hypothetical/trend	98.9	90.7	88.3	89.2	93.8	93.1	88.6	86.8	92.1	90.1	89.1	82.4
actual/hypothetical	97.0	108.6	98.2	90.7	134.3	125.6	91.3	153.0	106.8	102.0	86.7	91.4
<i>II. Imports</i>												
Fuels												
hypothetical/trend	96.0	103.5	90.1	88.5	70.7	126.5	100.2	107.6	89.2	83.4	84.1	82.8
actual/hypothetical	131.0	77.9	437.8	26.9	160.5	82.5	102.3	66.7	84.2	133.3	118.8	88.3
Non fuels												
hypothetical/trend	99.6	103.2	100.7	95.4	82.7	104.2	101.0	108.4	90.5	79.9	83.2	87.1
actual/hypothetical	81.9	77.9	111.5	126.6	77.8	101.1	107.6	67.7	112.3	91.2	92.3	90.2
Total												
hypothetical/trend	99.4	103.3	100.6	95.0	81.6	107.6	100.9	108.3	90.4	80.0	83.2	86.8
actual/hypothetical	84.6	77.9	112.9	121.3	84.7	97.7	107.0	67.6	108.7	93.3	93.6	90.1

Source: International and national statistics.