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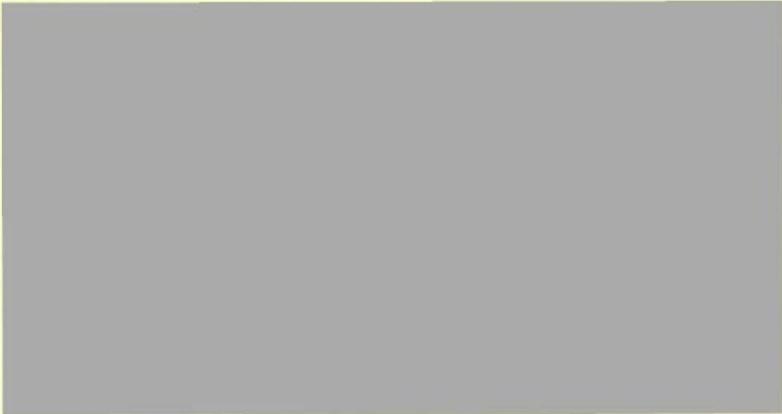
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Structural Adjustment Policies in Developing Economies

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Summary. — This paper examines structural adjustment policies in developing countries, undertaken with the purpose of regaining the growth path following internal and external shocks. The proposed policy package further aims at improving overall economic policies. Its components include production incentives, incentives to save and to invest, the choice of public investments as well as sectoral, budgetary and monetary policies. The interdependence of the proposed policy measure is also indicated and comments are offered on the international policy environment in which they operate.

1. INTRODUCTION

Structural adjustment policies may be defined as policy responses to external shocks, carried out with the objective of regaining the pre-shock growth path of the national economy. Regaining the growth path, in turn, will necessitate improvements in the balance of payments following the adverse effects of external shocks, since a country's balance-of-payments position constrains its economic growth.

The above definition reflects the importance of external shocks which developing economies have experienced in recent years. In the first half of the 1970s, these shocks included the quadrupling of oil prices in 1973–1974 and the world recession of 1974–1975. Over the next several years, the developing economies will have to adjust to the approximately 160% increase in oil prices since 1978.

A broader definition will also include adjustments to internal shocks which may find their origin in inappropriate policies, such as the excessively expansionary fiscal measures taken in Mexico after 1972, or in political events, such as the April 1974 revolution in Portugal. Like external shocks, internal shocks adversely affect economic growth and the balance of payments, requiring the application of structural adjustment policies.

The expression 'structural' in the definition reflects the need for discrete, as compared to marginal, changes in policies in response to discrete shocks. Responding to these shocks

will also necessitate a reordering of priorities as well as a reconsideration of policy instruments.

To begin with, growth objectives will need to be given greater weight as compared to income distributional objectives. This is because the shocks suffered impose limitations on the ability of the government to pursue several objectives simultaneously, and economic growth is necessary to provide the wherewithal for the alleviation of poverty that may be regarded as the appropriate income distributional objective.

The objective of regaining the pre-shock growth path also means that policies to alleviate poverty should give emphasis to measures that raise the productivity of the poor rather than increase consumption through the provision of public services or government subsidies. More generally, investment should be given priority over consumption as raising the share of investment in GNP will reduce the time needed to regain the growth path.

The time horizon of structural adjustment policies will depend on the particular case; it may generally be set at 4–5 years. This will permit avoidance of abrupt changes which have a considerable human cost and give rise to

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disruptions in production, without however unduly extending the period of adjustment. The application of a gradual approach can be facilitated by foreign borrowing, provided that the proceeds of foreign loans are used in self-liquidating investments.

The general considerations described here may be applied in a variety of ways, depending on the circumstances of the situation in the particular case. But, in every case, the objective of regaining the growth path will be served by devising a policy package. The principal elements of such a package include production incentives, incentives to save and to invest, public investments, sectoral policies (in particular, energy and agriculture), budgetary and monetary policies, as well as foreign borrowing.

These elements of a policy package derive from the arsenal of development policies. They require modifications, however, in response to the character of the external or internal shocks. At the same time, external shocks increase the urgency of policy reforms, and may provide the opportunity to carry out overdue reforms as was the case in Chile and Uruguay after 1973.

This paper will consider the principal elements of a policy package for the case prevalent in developing economies where optimal policies have not been applied. Thus, the recommendations made in the paper aim simultaneously at responding to external (or internal) shocks and undertaking policy reforms. At the same time, the paper will not concern itself with the ways and means of remedying market distortions.

Section 2 of this paper will examine the policy experience of 28 developing economies following the quadrupling of oil prices and the world recession. While this group also includes four countries that experienced favourable external shocks, policy measures appropriate for such countries will not subsequently be considered in this paper. Nor will this paper address itself to the case of countries in long-term economic decline, although the proposed policy reforms may find application in these cases, too.

The subsequent sections of this paper will consider reforms in production incentives (Section 3), incentives to save and to invest (Section 4), and public investments, sectoral policies (energy and agriculture), and budgetary and monetary policies (Section 5). In the conclusion, the interdependence of the various policy measures will be indicated, with further attention given to foreign borrowing. Also, comments will be offered on the international environment in which these policies operate.

2. THE POLICY EXPERIENCE OF DEVELOPING ECONOMIES AFTER 1973

(a) *External shocks and policy responses to external shocks*

The author has estimated the balance-of-payments effects of external shocks, in the form of the deterioration of the terms of trade and the slowdown in world demand after 1973, in 28 developing economies. He has further analysed policy responses to external shocks in these economies and estimated the balance-of-payments effects of the policies applied, including additional net external financing, export promotion, import substitution, and (temporarily) reducing the rate of economic growth.[1]

Among the 28 developing economies, 12 belong to the newly-industrializing group, defined to include economies that had *per capita* incomes in excess of $1100 in 1978 and where the share of the manufacturing sector in the gross domestic product was 20% or higher in 1977. The investigation covers all newly-industrializing economies other than Greece, Hong Kong and Spain.

All the newly-industrializing economies experienced adverse external shocks during the 1974—1978 period but they differed in terms of the policies applied. The three Far Eastern economies — Korea, Singapore and Taiwan — had adopted an outward-oriented development strategy, providing similar incentives to sales in domestic and in foreign markets, in the early 1960s and continued with this strategy after 1973. They were joined by Chile and Uruguay which had earlier applied an inward-oriented strategy, entailing the high protection of domestic markets and a bias against exports, but turned outward following the external shocks of 1974. In turn, after earlier efforts to reduce the bias of the incentive system against exports, Brazil, Israel, Portugal and Yugoslavia again increased the degree of inward orientation while Argentina, Mexico and Turkey maintained their relatively inward-oriented stance. At the same time, in three of the newly industrializing economies internal shocks predominated; they took the form of excessively expansionary policies in Argentina and Mexico and reflected the economic effects of the April 1974 revolution in Portugal.

Estimates have further been made for 12 less developed economies, covering the spectrum between newly-industrializing and least developed economies, which experienced adverse external shocks after 1973. Four of them —

Kenya, Mauritius, Thailand and Tunisia – may be characterized as having applied relatively outward-oriented policies while the remaining eight followed an inward-oriented development strategy. Within the latter group, Jamaica, Peru and Tanzania experienced internal shocks in the form of economic disruptions resulting from government policies; such was not the case in the other five members of the group, Egypt, India, Morocco, the Philippines and Zambia.

Finally, 4 of the 28 developing economies studied enjoyed favourable external shocks during the 1974–1978 period. In these cases, improvements in the terms of trade due to the rise in the price of petroleum (Indonesia and Nigeria), coffee (Colombia), and cocoa and coffee (the Ivory Coast) exceeded the adverse export volume effects due to the slowdown in world demand.

(b) Outward- vs inward-oriented development strategies

The findings of the investigation point to the advantages of outward-oriented policies for export performance and for economic growth in the face of external shocks. To begin with, outward-oriented developing economies experienced an average gain of 14%, and economies characterized by inward orientation an average loss of 8%, in their export market shares in the 1974–1978 period. A similar divergence in export performance was observed within the newly-industrializing and the less developed groups, with economies pursuing an outward-oriented development strategy experiencing gains in export shares of 15 and 10%, and inward-oriented economies losses of 7 and 11% in the two groups.

There is further a positive relationship between export performance and economic growth. While in outward-oriented economies GNP growth rates declined temporarily from 7.3% in 1963–1973 to 5.5% in 1973–1976 as several of them adopted deflationary policies, growth accelerated to 9.3% in 1976–1979, averaging 7.9% in the 1973–1979 period. By contrast, in inward-oriented economies, rates of economic growth fell from 5.9% in 1963–1973 to 4.9% in 1973–1976 and to 4.7% in 1976–1979, the average being 4.8%. A similar pattern is apparent within both the newly-industrializing and the less developed groups, except that increased investment shares and foreign borrowing permitted a temporary acceleration of rates of economic growth in inward-oriented less developed economies.

These conclusions are confirmed by correlation results for the group of 24 developing economies. In the 1973–1979 period, the Spearman rank correlation coefficient between the extent of reliance on export promotion in response to external shocks, defined as the ratio of export expansion associated with increases in export market shares to the balance-of-payments effects of external shocks,[2] and the rate of growth of GNP was 0.60 for this group. The estimate is statistically significant at the 1% level.

The results cannot be explained by differences in the extent of external shocks, market size, incomes per head, or the composition of exports (the share of manufactured goods in merchandise exports and the commodity concentration of exports). Thus, in the entire group of 24 economies, none of these variables has been found to be significantly correlated with reliance on export promotion in response to external shocks. At the same time, there is a positive correlation between the extent of reliance on export promotion and the rate of growth of GNP for both the newly-industrializing and the less developed economies. The Spearman rank correlation coefficients were 0.59 and 0.66 in the two groups, respectively.

Economies applying an outward-oriented development strategy had a favourable growth experience after 1973, notwithstanding the fact that they suffered considerably larger external shocks than countries characterized by inward orientation. In the 1974–1978 period, the balance-of-payments effects of these shocks averaged 7.5% of GNP in the first case and 3.8% in the second. A similar pattern is observed within the two groups, except that differences in the extent of external shocks as between outward- and inward-oriented economies was larger in the case of the newly-industrializing countries than for the less developed economies.

Various considerations may be introduced to explain these results. To begin with, imports include goods competing with domestic production under an outward-oriented strategy and extend from raw materials to final consumer goods. By contrast, economies pursuing inward-oriented policies generally preclude imports competing with domestic production and limit imports to material inputs and machinery. Correspondingly, there is greater latitude to reduce imports in response to external shocks under an outward-oriented than under an inward-oriented strategy, and the loss of production due to the decline in the capacity to import tends to be larger in the latter case than

Table 1. *Representative ratios of balance-of-payments effects of external shocks and of adjustment policies:* 28 developing countries
(averages for the years 1974–1978)

	External shocks as a percentage of		Terms of trade effects	Export volume effects	Additional net external financing	Increase in export market share	Import substi- tution	Effects of lower GNP growth rate	Gross external debt ratio	Gross debt service ratio	Growth rate of GNP 1973– 1979	Incre- mental capital output ratios 1973– 1979	Domestic savings ratios 1973– 1979 (%)
	GNP	Average trade											
					As a percentage of external shocks*					(%)			
Israel	11.9	56.6	82	18	57	−20	15	48	42.2	40.4	2.3	8.8	6.6
Singapore	23.3	22.5	72	28	68	23	−43	53	14.3	6.1	7.5	4.2	27.6
Yugoslavia	7.8	74.2	76	24	64	−10	18	28	15.2	29.7	5.7	4.4	26.5
Argentina	0.2	3.3	65	35	−207	−95	386	16	7.8	33.6	1.2	13.0	24.6
Portugal	12.7	82.3	84	16	61	−54	22	70	21.0	30.5	2.7	7.6	9.1
Uruguay	6.1	62.2	90	10	71	36	4	−11	17.0	26.7	3.9	3.4	12.1
Brazil	2.7	46.6	82	18	27	15	67	−10	20.6	53.6	6.3	3.6	20.9
Chile	8.0	61.1	89	11	−6	54	21	31	42.7	49.0	3.6	2.8	10.3
Taiwan	6.5	19.3	41	59	−76	10	35	131	15.7	6.7	7.6	3.2	32.6
Mexico	1.3	23.4	63	37	205	−28	−102	25	29.6	90.0	4.2	4.1	22.2
Turkey	5.4	111.0	93	7	110	−5	−2	−3	10.0	23.3	5.4	4.6	16.3
Korea	6.9	37.1	74	26	−92	89	135	−32	22.4	18.8	10.1	2.9	23.6
Jamaica	13.1	59.3	50	50	−14	−34	60	88	37.1	19.0	−3.3	−6.7	15.4
Tunisia	8.0	43.2	65	35	187	15	−84	−18	34.7	18.9	7.4	3.1	21.0
Colombia	−0.7	−8.8	−243	143	65	−19	−139	−7	15.8	24.4	5.5	3.2	22.1
Ivory Coast	−4.7	−23.1	−174	74	−132	85	−55	2	29.2	11.3	7.3	3.0	27.2
Mauritius	12.4	44.6	86	14	120	12	60	−92	12.1	2.8	7.1	4.5	27.6
Peru	5.4	41.9	60	40	158	−18	−45	5	49.7	56.3	0.4	5.9	13.9
Morocco	6.1	43.9	78	22	210	−21	−60	−29	28.5	15.9	6.8	3.4	15.3
Nigeria	−12.1	−96.2	−117	17	−30	−5	−64	−1	2.7	0.6	6.3	3.8	27.9
Philippines	8.4	68.0	78	22	113	7	−15	−4	22.8	29.9	5.9	3.5	24.3
Thailand	4.9	36.1	90	10	11	43	45	4	9.5	21.1	7.6	2.8	24.1
Zambia	13.2	37.5	78	22	35	−36	94	7	52.7	15.3	0.0	401.5	29.8
Egypt	16.5	78.9	87	13	250	−19	−133	3	63.7	63.9	9.2	2.9	11.1
Indonesia	−13.2	−117.6	−113	13	−101	17	−20	4	27.3	7.1	6.2	2.7	22.0
Kenya	8.1	50.5	80	20	45	−14	60	9	20.3	11.4	6.2	3.3	20.0
Tanzania	8.7	67.9	80	20	71	−48	68	8	28.9	9.9	5.1	4.1	11.6
India	2.1	48.8	71	29	134	−20	−13	−2	15.3	23.8	4.3	4.9	20.9

Source: Bela Balassa, 'The newly-industrializing developing countries after the oil crisis', *Weltwirtschaftliches Archiv*, Band 117, Heft 1; and 'The policy experience of twelve less developed countries, 1973–1979', World Bank Staff Working Paper No. 449 (March 1981). The two papers also provide the formulas used in the process of estimation. The table contains four countries not covered in the above two papers.
* The signs were reversed for Colombia, Indonesia, Ivory Coast and Nigeria.

Table 2. *Representative ratios of balance-of-payments effects of external shocks and policy responses to these shocks*

	External shocks as a percentage of		Terms of trade effects	Export volume effects	Additional net external financing	Increase in export market shares	Import substitution	Effects of lower GNP growth rates	Gross external debt ratio	Gross debt service ratio	GNP growth rate 1973-1979	Incremental capital output ratios 1973-1979	Domestic savings ratios 1973-1979 (%)
	GNP	Average trade											
			As a percentage of external shocks[*]						(%)				
Newly-industrializing countries (NICs)	4.3	42.3	78	22	38	6	33	23	19.5	31.7	5.4	4.4	21.2
Outward-oriented NICs	8.0	29.2	70	30	−34	50	54	30	23.3	14.1	8.4	3.4	23.5
Inward-oriented NICs	3.6	52.0	81	19	67	−11	24	20	18.8	47.0	4.9	4.6	20.7
NICs with internal shocks	2.0	31.5	77	23	94	−47	−1	54	19.7	53.9	2.9	6.1	22.9
Less developed countries (LDCs)	5.0	52.5	77	23	135	−10	−26	1	22.7	27.5	5.3	4.8	19.4
Outward-oriented LDCs	6.1	24.7	82	18	66	20	19	−5	15.5	18.0	7.6	3.1	22.5
Inward-oriented LDCs	4.9	56.2	76	24	151	−16	−36	1	24.0	30.7	4.9	5.2	18.9
LDCs with internal shocks	7.2	50.8	62	38	89	−29	11	29	43.5	38.7	1.6	10.1	13.7
NICs and LDCs	4.5	45.0	77	23	67	2	15	16	20.4	30.6	5.4	4.5	20.7
Outward-oriented NICs and LDCs	7.5	31.0	72	28	−13	44	47	22	21.3	14.7	7.9	3.3	23.3
Inward-oriented NICs and LDCs	3.9	53.4	79	27	95	−13	4	14	20.2	41.6	4.8	4.8	20.2
Countries with favourable external shocks	−10.0	−85.4	119	−19	63	−8	43	2	15.7	6.1	7.1	3.7	26.0

[*] Signs changed for countries with favourable shocks.

in the former. This observation is supported by an analysis of the effects of external shocks in archetypes of alternative development strategies in a general equilibrium framework.[3]

The flexibility of the national economy is also greater under an outward-oriented than under an inward-oriented strategy. In the former case, firms have been exposed to competition in world markets and have acquired experience in changing their product composition in response to shifts in foreign demand. By contrast, under inward orientation, there is generally limited competition in the confines of the narrow domestic market and firms have little inducement to innovate, which is necessary under outward orientation in order to meet competition from abroad.

Finally, the low extent of discrimination against primary activities, the relatively low degree of variation in incentive rates, and cost reductions through the exploitation of economies of scale in export industries contribute to efficient exporting and import substitution in outward-oriented economies. In turn, under inward-oriented policies, import substitition behind high protection − aggravated by the variability of incentive rates − becomes increasingly costly and brings diminishing returns in terms of net foreign exchange savings.

In fact, in the 1974−1978 period, economies pursuing an outward-oriented development strategy were more successful in import substitution than inward-oriented economies, with a 14% decline of import shares in the first case and 2% in the second. Again, broadly similar results are shown within the newly-industrializing and the less developed country groups.

At the same time, high-cost import substitution adversely affected the allocation of existing and incremental resources under inward-orientation while higher levels of efficiency were attained in economies pursuing outward-oriented development strategies. Efficiency differences have affected incremental capital−output ratios that averaged 3.3 in outward-oriented, and 4.8 in inward-oriented, economies during the 1973−1979 period. These figures represent a small increase, from 3.0 in 1963−1973, in the former group, and a rise from 3.5 in the latter.

A similar pattern is observed within the newly-industrializing and the less developed country groups. At the same time, in both groups, economies pursuing outward-oriented strategies reached higher levels of domestic savings ratios than economies characterized by inward orientation. Average savings ratios

increased from 18.2% in 1963−1973 to 23.3% in 1973−1979 in outward-oriented economies, taken together, while a change from 18.9 to 20.2% occurred in inward-oriented economies.

These results may be explained by reference to the fact that interest rate policies and investment incentives were generally more conducive to savings in the former group than in the latter. The experience of individual economies will be briefly considered later, following a discussion of exchange rate policies. Consideration will further be given to budgetary policies and foreign borrowing.

(c) Policies and performance

Note has been taken of the beneficial effects of outward-oriented policies for resource allocation and economic growth as compared to an inward-oriented strategy that entails a bias against exports and involves considerable dispersion in rates of incentives. The adoption of realistic exchange rates will also serve these objectives by improving the profitability of the production of internationally traded goods while the overvaluation of the currency leads to the opposite result.

Thus, the experience of the 24 developing economies studied shows that the overvaluation of the currency adversely affected exports as well as import substitution, unless compensating measures of export promotion or import protection were taken. During the period under consideration, the appreciation of the real exchange rate (the official exchange rate adjusted for changes in relative prices at home and abroad) gave rise to losses in export market shares and to increases in import shares in Colombia, Mexico, Egypt, Morocco, Peru, Nigeria and Turkey. In the same period, the effects of currency overvaluation on exports were largely offset by measures of export promotion in Korea, Thailand, Indonesia and the Ivory Coast while measures of import protection led to reductions in import shares in Israel, Yugoslavia, Kenya, Jamaica, Portugal, Tanzania and Zambia.

Domestic savings ratios are affected by changes in real interest rates that influence decision-making by consumers as well as by investment incentives that bear on firm decisions. In the group studied, the re-establishment of positive real interest rates immediately following the quadrupling of oil prices and increases in investment incentives led to a rise in the share of domestic savings in GDP

in Korea, Singapore, Taiwan and Thailand. Positive real interest rates also contributed to higher savings ratios in Chile, Uruguay, India and Tunisia. Conversely, negative real interest rates adversely affected domestic savings in Argentina, Brazil, Israel, Morocco, Jamaica, Nigeria, Peru, Portugal, Turkey and Zambia.

In Argentina, Israel, Mexico, Jamaica, Peru, Turkey and Zambia the rise in the government budget deficit contributed to inflation that was not fully offset by the devaluation of the exchange rate as interest groups attempted to maintain their real incomes unchanged. Apart from the adverse effects of the overvaluation of the currency on the production of traded goods, rapid rates of inflation in these countries created disruptions in the national economy. In turn, reductions in the government deficit contributed to lowering the rate of inflation and improved economic performance in Chile and in Uruguay.

In all the cases under consideration foreign borrowing increased immediately following the deterioration of the balance of payments due to the quadrupling of oil prices and the world recession. There were differences, however, as regards the extent of foreign borrowing and the uses to which it has been put. Among newly-industrializing economies, Singapore and Taiwan accepted a temporary decline in the rate of GNP growth in order to limit reliance on foreign loans and used the proceeds of these loans in productive investments. And, while Korea relied to a greater extent on foreign borrowing, it was subsequently able to reduce external financing as the amounts borrowed were productively used.

By contrast, in Brazil, Israel, Portugal and Turkey the proceeds of foreign borrowing were utilized in large part to maintain the rate of growth of consumption and a substantial share of new investments was channelled into high-cost import-substituting activities. The latter conclusion also applies to Mexico and Yugoslavia, where the rate of investment increased during the period under consideration. As a result, the debt service ratio rose to a considerable extent in all four countries while this ratio remained unchanged in the Far Eastern economies where the proceeds of foreign borrowing were more productively used.

The inflow of foreign capital was used largely to avoid (Tanzania) or to minimize (Jamaica and Peru) decreases in consumption per head in less developed economies experiencing internal shocks. In turn, with the exception of Zambia, foreign borrowing contributed to increases in investment shares in the other less developed economies studied, some of which experienced unfavourable and others favourable external shocks.

However, the beneficial effects of higher investment shares on economic growth were offset by the deterioration of the efficiency of investment in Morocco, Indonesia and Nigeria, and to a lesser extent in Egypt, Tunisia, the Philippines and the Ivory Coast, where public investments in high-cost capital-intensive industries were undertaken. As a result, the debt service ratio increased in these countries while the ratio declined in Kenya and changed little in Mauritius and Thailand that placed reliance largely on measures of domestic adjustment.

Apart from indicating the effects of particular policies, the findings obtained point to the usefulness of the simultaneous introduction of a package of policy measures. In this connection, reference may be made to the experience of Chile and Uruguay that have reformed their system of incentives, which had earlier been characterized by inward orientation, the use of non-market measures, and a considerable degree of government intervention in economic life. These countries reduced the bias against exports and in favour of import substitution by abolishing import restrictions, lowering tariffs, and/or providing export subsidies. They also devalued the exchange rate in real terms, abolished price control, set realistic prices for public utilities, established positive real interest rates, liberalized financial markets, practically eliminated budget deficits, and reduced the share of public consumption.

3. PRODUCTION INCENTIVES

Having reviewed the policy experience of 24 developing economies after 1973, in the remaining part of this paper a policy package for structural adjustment will be presented. Such a policy package should include, first of all, production incentives that affect the allocation of resources and of increments in resources. The relevant policy instruments comprise the exchange rate, import protection, export subsidies, and price control. Investment incentives also affect resource allocation but will be considered in Section 4 as they bear on the amount invested. In turn, public investment and sectoral policies will be taken up in Section 5.

(a) *Price control*

The *desiderata* in regard to price control are relatively straightforward, inasmuch as the freeing of controlled prices will contribute to improvements in resource allocation for economic growth. In the private sector, price control results in higher consumption and lower production from existing capacity and reduces incentives for future expansion, necessitating formal or informal rationing and/or higher imports (lower exports) to remove the resulting excess demand. Price control also leads to increased demand for the goods and services produced in the public sector, where the production needed to provide for this demand may be undertaken at a loss.

Examples of the adverse effects of price control on production abound. In countries as different as Ecuador and Ghana, the control of agricultural prices has led to a decline in *per capita* food production, entailing an increase in imports and a decline in exports, respectively. Furthermore, price control has given rise to a shift from exporting to importing cement in India and in Thailand as the expansion of cement production has become unprofitable, although it corresponds to the comparative advantage of the countries concerned. Finally, the underpricing of public utilities in many developing economies has had adverse effects through increases in the consumption of these highly capital-intensive commodities and the indirect subsidization of high-cost import-substituting industries that are important users of public utilities.

Nor can price control be regarded as an effective means to increase the welfare of the poor as it benefits all consumers. And, in cases when the prices of some agricultural staples have to be kept low for political or for social reasons, this should be done by subsidizing consumption while maintaining the price to the producer lest the growth of output be foregone.

The removal of price control in agriculture would also reduce distortions among alternative activities as well as in input—output relationships. In conjunction with the reform of the system of import protection and export subsidies discussed later, then, the prices of agricultural products and their inputs would approach world market levels.

The issue of price control is of particular importance in the case of energy. In a number of developing economies, domestic energy prices have fallen behind world market prices and prices often vary among energy sources and users. Yet, inappropriate pricing unduly promotes the consumption of energy in both its final and intermediate uses, discourages the development of energy-saving devices and alternative energy sources, and results in inefficiencies in the production and uses of energy.

Apart from adjusting domestic energy prices to world market prices, an additional tax should be imposed on energy to the extent that the shadow price of foreign exchange exceeds the actual exchange rate. This will be the case even if the balance of payments is in equilibrium as long as there is import protection (export subsidization). In this event, the shadow exchange rate will equal the weighted average of 'commodity exchange rates', which are defined as the actual exchange rate augmented by import tariffs or export subsidies.[4]

(b) *Exchange rates, import protection, and export subsidies*[5]

The exchange rate, import protection, and export subsidies are interdependent in their effects on productive activities, and they can be used in alternative ways to affect resource allocation and trade. For example, raising import tariffs (taxes) from 25 to 50% and granting a 20% export subsidy would have the same impact on productive activities as a 20% devaluation.

There are differences, however, in the international acceptability of these measures. While the exchange rate can be varied on the country's own volition and import protection is generally considered to be within the purview of every developing country, foreign nations may apply retaliatory measures in response to export subsidies. The chances for retaliation will depend on the extent of injury to the competing industries of the importing countries as well as on the obligations taken by the exporting countries. An extreme case is Brazil that has committed itself to forego the use of export subsidies, so that the import tariff—export subsidy alternative is not practicable.

In turn, countries may forego variations in exchange rates by *de jure* or *de facto* joining a currency area. An example is provided by the member countries of the Franc area that are obligated to maintain fixed exchange rate parities *vis-à-vis* the French franc and therefore have to use import tariffs and export subsidies in the place of a devaluation. At the same time, the application of export subsidies by these

countries is unlikely to trigger retaliation as the use of countervailing measures is conditional on the existence of material injury that will hardly result from the small exports of the countries concerned. More generally, small exporters have little to fear from retaliation in the event that they grant export subsidies.

An additional consideration is that complete equivalence between the two alternatives would require extending import taxes and export subsidies to all foreign transactions.[6] As noted later, this is of particular importance in countries where earning from services (e.g. tourism), workers' remittances, and foreign capital inflow are considerable.

(c) Reforming incentive policies

The described alternatives — a devaluation and an import tax—export subsidy scheme — may be utilized to remedy a balance-of-payments deficit due to an external or internal shock in a country that has followed optimal incentive policies prior to the shock. But, in most developing economies, there is excessive import protection of manufacturing activities, with a consequent bias against manufactured and primary exports and against primary activities in general. Reducing this bias, then, would result in improvements in resource allocation that would contribute to regaining the pre-shock growth path.[7]

Using tariff reductions for this purpose would, however, bring a further deterioration in the balance of payments, unless accompanied by compensating measures. Such measures may take the form of a devaluation that would offset the effects of tariff reductions on the domestic prices of imports while raising export prices. As an alternative procedure, it has been suggested to introduce explicit export subsidies while leaving import tariffs unchanged.

The two alternatives may be illustrated by an example. Assume that initially the exchange rate was 100 pesos to the dollar, all products were subject to a tariff of 50%, and export subsidies were not employed. Under the first alternative, a 25% tariff reduction, accompanied by a 20% devaluation, would leave the domestic prices of imports unchanged while raising export prices by 20%. Under the second alternative, the 20% increase in the prices of exports would be attained by granting a 20% export subsidy in the place of the partially-compensated devaluation (devaluation *cum* tariff reductions).

The described alternatives would also have identical effects on domestic prices and on the government budget. The inflationary effects of the devaluation would be mitigated by commensurate reductions in tariffs, so that these effects would be limited to increases in export prices as in the case of export subsidies. And, under both alternatives, there would be a cost to the government budget — the loss of tariff proceeds in the first case and the budgetary cost of export subsidies in the second — that would in part be recouped through tax receipts on higher incomes and consumption following the expansion of exports.

The comparison of the two alternatives needs to be modified if account is taken of the use of imported inputs in export production. A devaluation would now raise export prices as well as the prices of direct and indirect imported inputs used in export production. To obtain equivalent results, export subsidies would need to be set on the value added in exports — the difference between the fob export value and the cif value of imported inputs used directly and indirectly in the production process — rather than on the export value.

Deducting the cif value of direct and indirect imported inputs from the export value may involve administrative difficulties, thereby favouring a devaluation that operates automatically. Extending export subsidies to service earnings and to workers' remittances, in order to match the effects of a devaluation on these items, may also encounter administrative difficulties. Finally, the repatriated dividends of foreign companies would need to be taxed, so as to offset the benefits these companies would derive from an export subsidy.

A further advantage of a partially compensated devaluation is that it would reduce discrimination against productive activities that are subject to tariffs at rates lower than the devaluation or enter duty free.[8] This would be the case, in particular, in agriculture and in the production of energy, which are generally subject to low or nil tariffs in the developing countries. Efficient import substitution in these activities would be encouraged as a result.

(d) Export incentives

The earlier considerations point to the advantages of a devaluation *cum* tariff reductions over an (explicit) export subsidy. The latter alternative would have to be utilized, however, if fixed exchange rates are maintained as in the

Franc area or, on a temporary basis, if a devaluation is subject to political constraints. Finally, infant industry considerations may warrant subsidizing manufactured exports for a limited period.

In the event that export subsidies are to be employed, developing economies will wish to minimize the chance of retaliation on the part of developed countries. This objective may be served by applying measures that are accepted by GATT or have been used by the developed countries themselves.

Exempting exports and their domestic and imported inputs from indirect taxes and rebating duties on imported inputs are countenanced by GATT. At the same time, exemptions from indirect taxes do not represent an export subsidy; rather, the introduction of such exemptions is necessary to ensure tax neutrality by equalizing the tax burden on domestic and on foreign sales. This is accomplished under the so-called destination principle that entails levying indirect taxes on goods consumed domestically, irrespective of whether they are of domestic or foreign origin, and exempting exports from indirect taxes.

Rebates of indirect taxes paid at earlier stages of fabrication are countenanced by GATT which also permits rebating duties paid on imported inputs used directly (e.g. textile fabrics used in the production of clothing for export) or indirectly (e.g. thread and yarn used in the domestic production of textile fabrics embodied in exported clothing) in export production. Duty rebates on direct and indirect inputs reduce the bias against exports, although production for domestic markets continues to be favoured in practically all cases.[9]

Among subsidy measures that have been used by the developed countries themselves, and therefore are not likely to encounter retaliation, preferential export credits and credit guarantee schemes are of importance. Apart from matching the conditions offered by exporters in the developed countries, the application of such measures would reduce the disadvantages of developing country exporters that are due to the undeveloped stage of domestic credit facilities and the riskiness of entering export markets for manufactured goods. Similar considerations apply to the collection of information, market research, the organization of trade fairs by quasi-governmental bodies, and the sharing of the cost of entering new markets through tax concessions.

(e) Reforming import protection

A partially compensated devaluation would increase incentives to manufactured and to primary exports as well as to import substitution in productive activities, in particular agriculture and energy, which are subject to low or nil tariffs. At the same time, the profitability of import substitution activities which were subject to tariffs higher than, or equal to, the rate of devaluation would not be affected.[10]

In many developing economies, there is further need to reform the system of import protection, including reductions in tariffs, the rationalization of the tariff structure, and the replacement of quantitative restrictions by tariffs. In order to minimize dislocation, the reform of import protection should be carried out over a period of 4—5 years that is the time horizon of structural adjustment policies. At the same time, the measures to be applied should be made public in advance, so as to prepare firms for the necessary adjustments.

Rationalizing the structure of tariffs would involve reducing tariff disparities that entail a misdirection of resources and involve a cost to the national economy.[11] The rationalization of tariffs may be carried out in conjunction with tariff reductions that can be compensated by exchange rate depreciation if the balance-of-payments situation so requires.

Various considerations indicate the desirability of replacing quantitative import restrictions by tariffs in countries that rely on such restrictions to protect their domestic industry. While the extent of tariff protection can be easily ascertained, gauging the protective effects of quantitative restrictions, and their cost to national economy, would necessitate comparisons of domestic and foreign prices. Price comparisons, however, encounter practical difficulties in regard to differentiated products that assume increased importance in the process of industrial development. Case-by-case decision-making in the granting of import licenses thus involves a considerable degree of arbitrariness and increases uncertainty to the user of imported inputs.

Also, tariffs have a lower administrative cost than import licensing and add to government revenue while the difference between the domestic and the import price accures to the importer under licensing. Such quota profits, reflecting the scarcity of imports, may lead to 'overcrowding' in individual industries through

the establishment of firms for the purpose of sharing in these profits and provide inducements for bribery.[12]

The question arises whether tariffs should be raised in order to offset the loss of quota protection for domestic producers. This alternative is not recommended unless provisions are made for eliminating the additional tariff protection over a predetermined period. Failing this, there is the danger that the higher tariffs will become embedded in the system of import protection and will be difficult to reduce afterwards. Also, producers may clamour for tariffs in excess of the extent of protection provided by quotas, and their claims will be difficult to evaluate, given the problems encountered in measuring the tariff-equivalent of quotas.

It has further been suggested that the reform of the system of import protection be made conditional on industry studies undertaken for the purpose of gauging the possible adverse effects of the elimination of quotas and reductions in tariffs in individual industries. Given the time involved in carrying out industry studies, however, the danger is that the reform of the system of protection may be postponed by several years as a result. At the same time, the studies involve considerable uncertainty as one cannot anticipate the extent of improvements in efficiency on the firm level that would be made in response to increased import competition.

Industry studies may nevertheless be useful in carrying out reforms beyond the 4—5 year horizon of a structural adjustment programme as it will rarely be possible to reach desirable tariff levels duirng this period. Furthermore, use may be made of 'escape clauses', to be activated in the event of serious injury due to the elimination of quantitative restrictions or reductions in tariffs. Escape clause action should take the form of adjustment measures assisting the reconversion of the industry rather than the postponement of import liberalization.

Additional protection may be warranted on a temporary basis on infant industry grounds. At the same time, it would be desirable to provide infant industry protection to sales in domestic as well as in export markets, since reliance on tariffs alone carries the danger that small-scale, inefficient firms catering to the narrow domestic market be established, which will find it difficult to make the subsequent transition to exporting. Subsidies may take the form of investment incentives, to be discussed later.

4. INCENTIVES TO SAVE AND TO INVEST

In developing a policy package for structural adjustment, there will be need to review interest rate policy and investment incentives, which affect the volume of domestic savings and investment as well as the allocation of savings among alternative investments. The measures taken may further be accompanied by institutional reform aimed at improving the channelling of savings into investment.

(a) Interest rate policy

Empirical evidence from a number of countries at different levels of economic development suggests that savings and the demand for financial assets are responsive to real interest rates.[13] To begin with, low and negative real interest rates tend to discourage savings and the holding of financial assets. Thus, there will be an inducement to increase present consumption at the expense of future consumption, and the implicit tax on financial assets due to inflation will induce people to limit their holdings of such assets. Also, inventory accumulation and self-investment at low returns will be encouraged, diverting funds from higher-yielding uses. Finally, incentives will be provided for investing abroad where higher returns can be obtained, thereby lessening the availability of investible funds to the domestic economy.

While reductions in the holdings of domestic financial assets lessen the availability of funds to the banking system and to other financial intermediaries, low or negative real interest rates increase the demand for funds. The resulting excess demand will give rise to credit rationing, with the unsatisfied borrowers having to turn to unofficial or illegal curb markets where interest rates are substantially higher.

In developing economies, credit rationing by the banking system generally favours import-substituting investments, because of the lower risk due to the practical exclusion of foreign competition through high protection. Import-substituting investments often receive priority also in cases when credit allocation is undertaken, or influenced, by the government. At the same time, low or negative real interest rates provide inducement for the expansion of capital-intensive industries and for the use of capital-intensive production methods.

External shocks increase the urgency of reforming interest rate policies. Reductions in domestic consumption and the repatriation of foreign holdings in response to increases in real interest rates will augment the amounts available for investment and improve the balance of payments. Efficiency in resource allocation and economic growth will also be served as inventory holdings and self-investment are reduced, credit rationing is dispensed with, and the bias in favour of capital-intensive activities is removed. Finally, the lowering of consumption levels will increase the effectiveness of currency devaluations.

Portugal provides an example for the joint effects of a devaluation and increases in interest rates. Following the institution of these measures in May 1978, Portugal's balance-of-payments deficit declined from 8% of GNP to practically zero in the following year as exports rose rapidly and emigrants' remittances were repatriated. The expansion of exports further led to an increase in GNP by 3–4% while domestic aggregate expenditure remained unchanged as the rise of real interest rates contributed to increased savings.

(b) *Improving the financial system*

Portugal and other newly-industrializing countries have a relatively developed financial system. In many other developing countries, reaping the full benefits of interest rate reform would necessitate improving the operation of the financial system. Some of these improvements may involve removing government-imposed restrictions on financial intermediaries; others would require institutional change. While these changes may not be fully effected within the time horizon of structural adjustment policies, their general direction can be indicated.

Reforms of the financial system should serve the twin objectives to ensure that investors face identical credit conditions, with allowance made for differences in the riskiness of alternative investments, and that there is competition among banks and other financial intermediaries. Legalizing curb markets, easing the conditions of entry into commercial banking, and encouraging the establishment of other financial intermediaries would serve these objectives.

It would further be desirable to develop financial intermediation in long-term obligations, both to respond to the demand for such obligations on the part of savers and to provide loans for long-term investments. The

form this may take – the extension of the activities of commercial banks to long-term finance, the establishment of investment banks, and the development of bond and stock markets – will depend on the degree of economic development and the financial sophistication of the countries concerned.

(c) *Investment incentives*

While positive real interest rates would increase the amount of savings available for investment and improve the allocation of these savings, investment incentives would induce firms to increase the share of retained earnings for purpose of new investment. Also, investment incentives are eminently suitable for promoting infant industires as they do not discriminate in favour of import substitution and against export activities. This is the case, in particular, in industries producing durable producer and consumer goods, where economies of scale and cost reductions through specialization in the production of parts, components and accessories would be foregone, and the chances of subsequent exportation reduced, if measures of import protection were used to promote infant industries.

Infant industries apart, investment incentives should find general application, thus leaving the choice among alternative investments to private initiative. Investment promotion is not warranted, however, in the event of foreign market limitations, such as the application of quotas to textile exports from developing countries under the Multifibre Arrangement.

One should also avoid the bias often found in favour of capital-intensive activities. Accelerated depreciation provisions, low or nil tariffs on imported machinery and equipment, tax exemptions on domestically produced and imported machinery, and the imposition of minimum investment requirements as a condition for obtaining investment incentives create such a bias. These measures may be replaced by income tax exemptions that are neutral in their effects on factor intensity.

Finally, it would be desirable to provide equal treatment to domestic and to foreign investment. Foreign direct investment will benefit the national economy through the inflow of capital and the technological and marketing know-how associated with this inflow. Its balance-of-payments effects will also be favourable, unless profits are obtained through protection that raises domestic prices substantially above world market levels. This possibility,

then, provides an additional argument against high import protection.

5. PUBLIC INVESTMENTS, SECTORAL, BUDGETARY AND MONETARY POLICIES

(a) *Public investments*

Reliance on private incentives may not suffice in the case of large investments in basic industries, where the government can play a role as promoter and contribute to financing. In such instances, there will be need for economic project evaluation. This will also be necessary in regard to all public investments.

In countries where project evaluation machinery does not exist, it would be desirable to establish a separate entity charged with economic project evaluation. This would ensure uniformity in the methods and criteria applied in project evaluation and introduce a process of reviewing proposals prepared under the aegis of governmental agencies which would be concerned with the implementation of the project. Following a review of possible alternatives, final decisions on projects could then be made by an appropriate interministerial committee.

In the case of large projects, it would be desirable to make public the results of the evaluation prior to taking decisions, and to invite debate on the desirability of the projects in question. Information should also be made available on direct or indirect subsidies that may be provided to the project in the form of tariff protection, project-specific infrastructure, credit preferences, and the provision of inputs at less than world market prices.

Project evaluation is given special importance by reason of the need to rationalize the public investment programme in the framework of structural adjustment policies. In particular, plans made for the implementation of energy-intensive projects would need to be reviewed, taking account of the higher energy prices.

(b) *Sectoral policies*

The last point leads to the question of sectoral policies that supplement production and investment incentives, in particular in countries at lower levels of development. In these cases, institutional changes will contribute to the improved utilization of the country's productive powers and may be a condition for the efficient operation of the price system.

The following discussion will focus on two sectors, energy and agriculture, where policy reforms are of particular importance. For one thing, energy imports will have to be reduced in response to higher prices; for another thing, agricultural production will need to be increased in order to alleviate balance-of-payments difficulties and contribute to economic growth.

In the case of energy, governments may participate in the promotion and implementation of investments for increasing energy supply and take conservation measures while energy prices are being adjusted. However, over time the rationalization of energy prices discussed in Section 3 will provide the most effective tool to ensure efficiency in energy use.[14]

At lower levels of economic development, institutional measures will also supplement production incentives in agriculture. Such measures may take the form of government-sponsored agricultural research, the establishment of extension services, the provision of high-quality grains, and improvement in transportation, for example. However, public agencies assuming tasks traditionally performed by the private sector, such as marketing, processing and the sale of inputs, has often given rise to inefficiencies and high cost.

In fact, the role incentive measures may play in economies at lower levels of development should not be underestimated. Thus, the provision of appropriate production incentives largely explain the rapid growth of agriculture activities in the Ivory Coast whereas, under similar natural conditions, production failed to keep pace with population in neighbouring Ghana where the incentive system was strongly biased against exports and primary activities in general. As a result, *per capita* incomes, expressed in 1978 prices, increased from $540 to $840 between 1960 and 1978 in the Ivory Coast while a decline from $430 to $390 occurred in Ghana.

Reference may further be made to the example of Tanzania, where inadequate production incentives led to the stagnation of the production of several agricultural staples in the face of rapid population growth. At the same time, as the examples of Hungary and Yugoslavia indicate, production incentives can play an important role in a socialist economy also.

In Hungary and Yugoslavia, state-owned firms operate in a market system and respond to price signals, with domestic prices being linked to world market prices through the exchange rate, import tariffs, and export

subsidies.[15] Of greater relevance to economies of lower levels of development, China also attempts to decentralize the process of decision-making, with increased use made of the market mechanism.

These examples point to the importance of utilizing price signals with respect to state-owned firms, in countries at lower levels of development and in developing countries in general. Price signals are further necessary to ensure that decisions taken by private producers will conform to the requirements of the national economy, whatever the political system involved.

(c) Budgetary policies

Government budget deficits increase the money supply and the balance-of-payments deficit if financed by borrowing from the central bank; reduce the availability of funds for private investment if financed through domestic borrowing; and add to the debt service burden if financed from the proceeds of foreign loans. Reducing the deficit through lower public spending, then, would support the implementation of a devaluation and would increase the availability of funds for private investment.

In view of the need to accelerate investment for the purpose of regaining the pre-shock growth path, reductions in government spending should generally be concentrated in current expenditures. This should not be at the expense of maintenance and operations in public enterprises, howver, but should rather involve reducing public consumption.

At the same time, as noted earlier, the policy package should include a reappraisal of the public investment programme. Apart from the introduction of rigorous project evaluation for investments in the productive sector, the utility of investments in non-productive sectors would need to be reviewed. This review, and the review of public investments in general, would provide an opportunity to establish a link between investments programmes and budgeting procedures, for which multi-annual budgeting is a useful tool.

(d) Monetary policies

Reducing the government budget deficit would need to be complemented by limitations on public borrowing from the central bank. However, the pursuit of an appropriate interest rate policy may obviate the need for credit

ceilings for the private sector. At any rate, it is difficult to predict future credit needs, which depend on the rate of increase of real incomes, the rate of inflation, and changes in the income velocity of money. Relatively small errors in forecasting these variables can give rise to large errors in predicting required changes in the money supply. Nor can the inflow of capital be foreseen with any confidence.

The error possibilities of forecasting are particularly large following an interest rate reform that increases demand for financial assets. At the same time, to the extent that money creation responds to the increased demand for financial assets at higher real interest rates and provides the credit requirements of increased output, it will not have inflationary consequences. In turn, the imposition of strict credit ceilings in the private sector may hinder the expansion of output.

6. CONCLUSIONS

This paper has considered the elements of a policy package that may be applied in developing economies to reform their policies following external or internal shocks. These elements include production incentives, incentives to save and to invest, public investments, and sectoral, budgetary and monetary policies, when the particular combination chosen will depend on the circumstances of the country concerned.

Developing economies may also increase reliance on foreign borrowing to ease the adjustment to external shocks and to provide a cushion for undertaking the necessary reforms. However, in order to avoid undue increases in the debt service burden, foreign borrowing would need to be self-liquidating in the sense that it is invested at economic rates of return at least equal to the real rate of interest paid on the loans.

The changes suggested in this paper in regard to the various policy measures tend to reinforce each other in contributing to the efficient allocation of resources for economic growth. To begin with, in reducing the bias against manufactured and primary exports and against primary activities in general, and lessening disparities in rates of incentives among individual activities, the proposed reform of production incentives would contribute to exports as well as to efficient import substitution. At the same time, the exploitation of economies of scale through exports would permit lowering costs in production for foreign as well as for domestic markets.

Aligning domestic prices to world market price relationships would also contribute to efficient import substitution in agriculture and in energy. The expansion of production in these sectors may further be served through the implementation of institutional measures that are of particular importance in economies at lower levels of development.

Also, institutional reforms of the financial system would complement the proposed reform of interest rate policy and investment incentives. These measures would tend to increase the amount of savings available for investment and, together with production incentives, ensure greater efficiency in the allocation of savings among alternative investments.

Efficiency in investment allocation would further be served through the economic evaluation of investment projects promoted or financed by public authorities. In turn, reductions in the government budget deficit would increase the amount of investible funds and augment the effectiveness of exchange rate changes designed to improve the balance of payments. Reductions in the budget deficit would need to be complemented by credit ceilings for the public sector while the need for such ceilings for the private sector may be obviated through the adoption of realistic interest rates.

The recommendations made for reducing the bias against exports raise the question as to whether there will be sufficient foreign markets to absorb the expansion of exports that will be generated as a result. In particular, it has been suggested that protectionist measures taken by the industrial nations may obstruct the expansion of the exports of manufactured goods from developing economies.

Protection has indeed limited export expansion in some areas, such as textiles and clothing. Its effects should not be overstated, however. Thus, in the 1973–1978 period, the volume of the manufactured exports of the developing economies to the industrial nations increased at an average annual rate of 10.2%, exceeding the 2.5% rate of growth of GNP in the industrial nations by more than four times.

The author's projections for the 1978–1990 period call for further export increases of 12.5%/year on the assumption of a 3.9% GNP growth rate and unchanged trade policies by the industrial nations.[16] For one thing, in accordance with the 'stages' approach to comparative advantage, economies at lower levels of development may take the place of the newly-industrializing economies in exporting simple manufactured goods, requiring mostly unskilled labour. For another thing, the newly-industrializing economies may minimize the possibility of adverse reactions on the part of the industrial nations by upgrading and diversifying their exports.

The developing economies also have excellent possibilities to expand their manufactured exports to the OPEC countries. The markets of these countries will continue to increase rapidly and are not subject to protectionist or discriminatory measures. In this connection, reference may be made to recent reports, according to which Saudi Arabia expects to spend about $400 billion on economic development and defence during the period of its 5-year plan (1980–1985).[17]

There are further considerable possibilities for increased trade among the newly-industrializing economies as well as between these economies and economies at lower levels of development. Increased trade in manufactured goods will, at the same time, require reducing trade barriers that tend to be the most restrictive on the actual and potential exports of other developing economies.

In turn, trade in primary products among developing economies may expand in response to the growing raw material needs of the newly-industrializing economies and the demand for food on the part of those with a food deficit. There are also rapidly growing markets for food in the OPEC countries. In fact, the principal constraint to this trade often lies in limited supply capabilities that could be improved by reforming the system of incentives.

At the same time, as noted earlier, the reform of the system of production incentives will permit efficient import substitution to proceed *pari passu* with the expansion of exports. For one thing, a partially compensated devaluation will increase incentives to activities that are subject to low or nil tariffs, in particular in the agricultural and energy sectors. For another thing, export expansion in manufacturing will permit reducing costs through large-scale manufacturing for export as well as for domestic markets.

More generally, the proposed reforms aim at adjustment in the form of increases in production through improved resource allocation and increases in the share of savings and investment in total expenditure. Nevertheless, the reforms would also tend to improve the distribution of income by reducing the bias against exports and against agricultural activities, which are generally labour-intensive in the developing economies, and by lessening the bias in favour of capital-intensive activities.

NOTES

1. This section draws on the author's 'Adjustment to external shocks in developing economies', World Bank Staff Working Paper No. 472 (June 1981), which is itself based on his 'The newly-industrializing developing countries after the oil crisis', *Weltwirtshaftliches Archiv*, Band 117, Heft 1 (1981); and 'The policy experience of twelve less developed countries, 1973–1979', World Bank Staff Working Paper No. 449 (March 1981).

2. External shocks and the 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 a 1971–1973 basis. The relevant results are shown for individual economies in Table 1 and for the various groups in Table 2.

3. Jaime de Melo and Sherman Robinson, 'An economic and political analysis of alternative trade adjustment policies in three archetype developing economies', World Bank Staff Working Paper No. 442 (December 1980).

4. In the case of quantitative import restrictions, the tariff equivalent of these restrictions will be relevant for the calculation. On the meaning of the shadow exchange rate, see Bela Balassa, 'Estimating the shadow price of foreign exchange in project appraisal', *Oxford Economic Papers* (July 1974), pp. 147–168.

5. For a detailed discussion of alternative incentive schemes, see Bela Balassa, 'Reforming the system of incentives in developing countries', *World Development* (June 1976), pp. 365–382.

6. On the question of equivalence, cf. John F. Laker, 'Fiscal proxies for a devaluation: a general review' (Washington, D.C., International Monetary Fund, Fiscal Affairs Department, DM/8-/71, 21 October 1980).

7. The following discussion considers the case when import protection takes the form of tariffs or tariff-type measures, such as import taxes and advance-payment requirements. Quantitative restrictions will be dealt with later.

8. A product subject to no tariff would enjoy the full benefit of the devaluation, for example.

9. The opposite result obtains if the ratio of tariff rebates to product value exceeds the rate of tariff on the product itself.

10. The latter statement abstracts from the possibility that the expansion of activities benefiting from increased incentives would lead to higher prices of productive factors.

11. Thus, it has been shown that, for a given average tariff, the economic cost of protection rises substantially with the extent of tariff dispersion. See Harry G. Johnson, 'The cost of protection and the scientific tariff', *Journal of Political Economy* (August 1960), pp. 327–345; and Jeffrey Nugent, *Economic Integration in Central America: Empirical Investigation* (Baltimore, MD, Johns Hopkins University Press, 1974), pp. 60–67.

12. Anne O. Krueger, 'The political economy of the rent-seeking society', *American Economic Review* (June 1974), pp. 291–303.

13. Cf., for example, Maxwell J. Fry, 'Money and capital or financial deepening in economic development?', *Journal of Money, Credit and Banking* (November 1978), pp. 464–475.

14. In reporting on the findings of a World Bank study, Raymond Goodman concluded: 'An essential tool in most countries, developing and industrial, for increasing energy efficiency is a pricing policy which ensures that, as far as possible, the price of energy in various uses reflects its real economic cost . . . Governments can also use a variety of non-price controls, such as import restrictions, rationing or quotas for selective short-term intervention in the market for certain energy and energy-related products while fundamental price adjustments are being made', 'Managing the demand for energy in the developing world', *Finance & Development* (December 1980), p. 10.

15. On the Hungarian economic mechanism, see Bela Balassa, 'The economic reform in Hungary', *Economica* (February 1970), pp. 1–22; and 'The economic reform in Hungary ten years after', *European Economic Review* (December 1978), pp. 245–268.

16. Bela Balassa, 'Prospects for trade in manufactured goods between industrial and developing countries, 1978–1990', *Journal of Policy Modeling* (October 1980), pp. 437–455.

17. *The Financial Times* (12 November 1980).