Macro-Policies and Technology Choice in the Philippines

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Introduction

Direct ownership of production enterprises has not traditionally been a major form of government intervention in the Philippine economy. The dominant influence of government on technological choice in the Philippines can be found in the nature of policies adopted or, to use the terminology of Stewart,[1] the macro-policies that affect the external environment in which micro-level technological decisions are made. Although the focus of this paper is on macroeconomic, trade and public investment policies,other aspects of the government's role in influencing technology choice by private decision-makers will also be addressed, such as institutional and organizational sources of observed policy biases.

It is important to understand how technological decisions made by private 'micro-productive units' are affected by changes in the macro-environment resulting from government policies. In a positive (or objective) sense, this is necessary because of the intimate link between technological decisions and the pattern of technical change on the one hand and development processes on the other. The manner in which the scarce resources of a developing country are used in production not only affects the quantities and prices of goods produced, but also the present and future distribution of costs and benefits among the population. Normatively, technological choices need to be made that support a country's development objectives and strategy.

This paper first describes the general character of Philippine economic performance since 1949 and how it has been affected by the major policy developments during this period. The repercussions of government policies on various facets of the national economy that constrain the choice of technologies are then examined. These policies have affected industrial

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incentives, agriculture's share of economic activity, the trade structure, the potential for small-scale production and regional dispersal of industries, employment, income distribution, and the structure of demand. The paper ends with a discussion of the implications for appropriate technology policy and of the political economy factors influencing past and prospective changes in macro-policies and the external environment in which micro-level technological choices are made.

Postwar economic performance and economic policies

Until the late 1970s, the postwar performance of the Philippine economy seemed impressive, if judged solely in terms of growth of aggregate output. The gross national product in real terms increased at an average annual rate of about 6 per cent over the three decades from 1949 to 1979. Even with the country's rapid population growth, the average increase in per capita income slightly exceeded 3 per cent per annum.

Philippine economic growth slowed sharply in the 1980s. In fact, during the period from 1980 to 1985, real GNP registered an average annual growth rate of −0.5 per cent; in 1985 the country's per capita GNP had fallen to the 1975 level. Before the foreign exchange crisis in late 1983, the marked deceleration in national income growth was commonly attributed to recessionary conditions in the industrialized economies, the intensification of protectionism in those countries' markets and the steep fall in world commodity prices. The economies of neighbouring Asian countries, however, were not as severely affected by these same factors. The corresponding growth rates are significantly higher not only (as one might expect) for South Korea, Taiwan, Hong Kong and Singapore – the Asian Newly Industrializing Countries (NICs) – but also for the other ASEAN countries with which the Philippines can be more naturally compared, namely, Indonesia (3.5 per cent), Thailand (5.1 per cent), and Malaysia (5.5 per cent). Each of these neighbouring Southeast Asian economies also grew faster than the Philippines in each year since 1980.

In addition to the failure to sustain rapid growth through the 1980s, another major blemish in the postwar development record of the Philippines has been the highly unequal sharing of the benefits of economic growth. Family income distribution has remained heavily skewed (Table 1). Only a relatively small segment of the population benefited from the substantial postwar gains in national income. Income inequality reflected, in part, the severe underutilization of the labour force. High rates of unemployment and underemployment, which characterized the Philippine economy through the late 1970s,[2] worsened in the 1980s.

The increasing number of unemployed and underemployed has been accompanied by growing poverty in an already low-income economy.

Table 1 Distribution of household income, 1956–85

	Percentage of total household income			
Income distribution	*1956*	*1961*	*1971*	*1985*
Top 10 per cent	39.4	41.0	36.9	37.0
Top 20 per cent	55.1	56.4	53.9	52.6
Top 40 per cent	74.9	75.7	75.0	72.8
Bottom 20 per cent	4.5	4.2	3.8	5.2
Gini coefficient	0.48	0.50	0.49	—

Source: National Census and Statistics Office, *Family Income and Expenditure Surveys* (1956, 1961, and 1971), National Economic and Development Authority, *Medium-Term Philippine Development Plan 1987–1992.*

Indeed, poverty lies at the heart of the employment problem; the conventional measures of unemployment and underemployment are only imperfect indicators of the employment challenge facing Philippine policy-makers. According to government estimates, the incidence of poverty (defined as the proportion of families whose incomes are below specified poverty lines) among Filipino families increased over the period from 1971 to 1985 from 49.3 per cent to 59.3 per cent for the entire country and from 55.6 per cent to 63.7 per cent for rural areas.[3] Since the incidence of rural poverty is higher than urban poverty and nearly 70 per cent of the population live in rural areas, rural families account for nearly 75 per cent of the total poor.

There is also an important regional dimension to the income distribution problem in the Philippines. Historically, economic activity has been highly concentrated in Manila and the surrounding areas. Table 2 shows the income disparities among the country's 13 regions in terms of per capita gross regional domestic product (GRDP) at 1972 prices in 1978, 1980, 1982, and 1984. Metro Manila's per capita GRDP was more than double the next highest, and more than five times the lowest among the remaining regions in each year.

The above statistics suggest that AT in the Philippine context should be directed at three primary objectives: sustainable economic growth, employment and poverty alleviation. Past technology choices have generally not promoted these objectives.

Technological decisions are, of course, not made in a vacuum. As pointed out above, the environment in which technological choices are made is influenced by the macro-policies that the government adopts. The remainder of this section briefly describes the major changes in Philippine economic policy since 1949. Specific policies and the processes through

Table 2 Per capita gross domestic product by region: 1978–84 (in pesos at 1972 prices)

Region/Year	*1978*	*1980*	*1982*	*1984*
PHILIPPINES	*1,808*	*1,917*	*1,950*	*1,790*
Metro Manila	4,631	4,912	4,966	4,476
Ilocos Region	878	967	1,021	974
Cagayan Valley	1,106	1,175	1,128	960
Central Luzon	1,517	1,615	1,735	1,561
Southern Tagalog	2,060	2,100	2,075	1,947
Bicol Region	823	907	833	781
Western Visayas	1,612	1,684	1,769	1,596
Central Visayas	1,629	1,769	1,771	1,665
Eastern Visayas	770	823	832	733
Western Mindanao	1,104	1,227	1,233	1,111
Northern Mindanao	1,509	1,591	1,606	1,416
Southern Mindanao	1,876	1,863	1,784	1,727
Central Mindanao	1,237	1,305	1,483	1,411

Source: National Economic and Development Authority, *Philippine Statistical Yearbook, 1985.*

which they have affected technological choice will be discussed in more detail in subsequent sections of the paper.

Four phases in the postwar evolution of Philippine economic policy can be usefully distinguished, and they correspond closely to the four decades from the 1950s to the 1980s. The first, spanning the entire decade of the 1950s, was dominated by the comprehensive system of direct controls on imports and foreign exchange introduced in 1949–50 as a policy response to a severe balance of payments problem. In September of 1946, a legislative act had granted special tax exemptions to 'new and necessary industries'; however, it was not until the early 1950s, when the substantial benefits from import and exchange controls became evident, that a significant number of industrial firms registered for the exemptions. Another major aspect of economic policy in the 1950s was the severe overvaluation of the domestic currency (which retained its prewar exchange rate of 2 pesos per $US).

The resulting economic and political environment stimulated the production of import-substituting industrial consumer goods in the early years, but effectively penalized backward integration, agricultural production and exporting. The incentive structure also encouraged large-scale, capital-intensive production and geographic concentration of industries in and around Manila. The chronic trade deficits of the 1950s, particularly severe during the second half of the decade, reflected the

increasing import dependence of domestic industries and the inability to stimulate new exports.

The second phase began with the gradual lifting of import controls and exchange rate adjustment to 3.9 pesos per $US, in 1960–62. These policy changes did not qualitatively change the incentive structure, which favoured import-substituting industries, because a highly protective tariff system was enforced. This tariff system had been introduced in 1957 but was made redundant at that time by the import and foreign exchange controls. However, the policy reform gave small producers greater access to imported inputs. Before the reform, importers were able to charge higher prices for restricted import goods; after it, the government was able to collect more revenue from tariffs.

Two important sectoral policy developments occurred during the second half of the 1960s. One was the promotion of modern high-yielding varieties (HYVs) of rice through extension, credit and fertilizer programmes. After their introduction in 1966, the use of HYVs spread rapidly and helped markedly increase rice output through the end of the decade, reflecting a high degree of supply responsiveness among Filipino farmers to a new, demonstrably superior technology. The other significant policy development was the implementation of a new comprehensive approach to stimulate industrial investment, based on the Investment Incentives Act of 1967. This act also created the Board of Investments (BOI) which was empowered to determine preferred areas of investment through its Investment Priorities Plan and to grant incentives to BOI-registered enterprises. Still largely oriented to import-substitution, this approach was also biased toward capital-intensive manufacturing industries.[4]

Expansionary fiscal and monetary policies adopted by the new Marcos government during the second half of the decade resulted in a significant rise in the inflation rate and a sharp deterioration in the trade balance. In late 1969, a foreign exchange crisis again developed.

The third phase, occurring in the 1970s, represented a major effort by the government to adopt an outward-looking development policy while substantially increasing its role in the regulation of various sectors of the economy. In February 1970, a floating exchange rate system was introduced to cope with the balance of payments problem. The 61 per cent *de facto* devaluation over the year improved the price-competitiveness of export industries, which were given a further boost by the enactment of the Export Incentives Act of 1970. Under this act, manufacturing enterprises registered with the Board of Investments were accorded various sorts of tax exemptions, deductions from taxable income and tax credits. Selective financial and infrastructural supports were also provided to non-traditional export producers to compensate for the still pervasive policy bias against exporting. The highly protective and distorted tariff system was the primary source of this bias, but no attempt was made to

deal directly with it as part of the export promotion programme in the 1970s.

In response to the external shocks that buffeted the Philippine economy during the decade, the government increasingly regulated and directly participated in production and marketing activities. This was facilitated by the broad powers assumed by the martial law regime imposed in September 1972. The oil industry and the agricultural food and export crop sectors were particularly subject to government interventions in the 1970s. Beginning in 1974 the government resorted to heavy foreign borrowing in order to finance the mounting trade deficits and expansionary macro-economic policies implemented during the rest of the decade.

The fourth phase, beginning in the early 1980s and continuing to the present day, is marked by several policy developments that can be considered either transitional or emergency measures. In 1981, with technical and financial support from the World Bank, the government initiated a programme of industrial structural adjustment aimed at improving the international competitiveness of domestic industry. It included measures to significantly liberalize the foreign trade regime through tariff reform and relaxation of import licensing; to rationalize fiscal incentives; and to revitalize certain industries (eg, textiles) through technical and credit assistance. However, because of the foreign exchange crisis beginning in August 1983, some of its components (including the phasing out of import quotas) were superseded by policy actions such as direct controls on imports and foreign exchange designed to deal with short-term contingencies.[5] What remained relatively intact was the tariff liberalization scheme, which gradually reduced the effective tariff protection of domestic industry from 1981 to 1985.[6] Although a less distorted incentive structure resulted from the tariff reform, quantitative import restrictions and exchange rate overvaluation continued to favour manufacturing over agriculture, consumer goods over intermediate and capital goods production, and import-substitution over export industries.

The foreign exchange crisis itself was precipitated by the political turmoil and massive capital flight following the assassination of opposition leader Benigno Aquino. However, underlying economic factors, reflected in the burgeoning external debt and increasing real exchange rate overvaluation, made a balance-of-payments crisis inevitable.[7] IMF-prescribed stabilization measures adopted by the government during the years 1984–85 led to a 10 per cent reduction in real GNP. Given the highly skewed income distribution, the poor suffered more during the recent crisis that caused a 15 per cent decline in per capita income. A successful revolution took place in February 1986 putting an end to the Marcos regime and installing the new government of Corazon Aquino – lending support to the notion that economic forces can critically influence political developments.

The new political leadership has begun to influence the direction of economic policy. Promotion of employment-oriented agricultural and rural growth was announced in mid-1986 as the centrepiece of an 'Agenda for a People-Powered Development'. A sharp increase in public spending on rural infrastructure and improved prices for agricultural producers are being promoted to raise farm productivity and rural incomes. Further efforts at trade liberalization are also underway. However, opposition is emerging from vested interests, government and non-government, and may significantly impede movement in the direction of policy reform.

Industrial incentives and relative factor use

As in most developing countries, rapid industrialization has been a major goal of postwar economic policy in the Philippines. Despite the wide variety of policy instruments used over the years to provide incentives for manufacturing investment, the general direction of factor use bias has remained the same.

In the 1950s, the 'essentiality' rule governing the allocation of foreign exchange conferred a large windfall on industries importing capital equipment, which was obtainable at artificially low prices due to the unrealistic exchange rate. Thus, not only were capital-intensive industries favoured, but within these industries the choice of production techniques was skewed toward the use of capital. This bias was reinforced by preferential access to low-interest loans from government financial institutions. Finally, some of the tax exemptions granted to 'new and necessary industries' (for a period of 4 years from date of organization) were related to the acquisition of capital and hence also biased the incentive structure against labour use.

With the lifting of import and foreign exchange controls and exchange rate adjustment in the early 1960s the burden of industrial promotion fell on tariff policy and government lending. However, the highly distorted tariff structure only served to perpetuate the low effective rate of protection on capital goods.[8]

The Investment Incentives Act of 1967 and the Export Incentives Act of 1970 represent two of the most important pieces of postwar economic legislation concerning inducements for industrial investments. The following items in the fiscal incentives package given to manufacturing enterprises registered with the Board of Investments have an obviously capital cheapening effect:

1. Tax exemption on capital equipment imported within seven years from the date of registration of the enterprise. This reduced the cost of acquiring imported capital from 10 to 20 per cent depending on the type of capital good;

2. Tax credit on domestic capital equipment equivalent to 100 per cent of customs duties and compensating taxes that would have been paid on imports of such items;
3. Accelerated depreciation allowances, deducted from taxable income. This permits fixed assets to be depreciated up to twice as fast as the normal rate if expected life is 10 years or less, or depreciated over at least 5 years if expected life is more than 10 years;
4. Tax deduction for expansion reinvestment of 25 to 50 per cent for non-pioneer projects and 50 to 100 per cent for pioneer projects.

Some incentives favour labour use, such as the deduction from taxable income of one-half of the expenses for labour training, but not exceeding 10 per cent of direct wages. Exporting firms, moreover, are provided a wage subsidy equal to the direct labour cost in the manufacture of export products but not to exceed 25 per cent of the export revenue.

In a systematic analysis of the overall effects of fiscal incentives to BOI-registered firms, Gregorio finds that the user cost of capital is reduced from 49 to 71 per cent (depending on whether the project is pioneer or non-pioneer, it is a new or an expansion project, capital is imported or domestically produced, it is exporting or not etc.) while labour cost declines 3.5 per cent for non-exporting firms and as much as 22 per cent for exporting firms.[9] At the assumed economic lifespan of the project, the capital/output ratio fell 35.6 per cent and employment declined by 26.1 thousand workers for the BOI-registered non-exporting firms and by 6.9 per cent and 8.4 thousand workers for exporting firms. These calculated values are based on assumptions of unitary elasticity of the factor substitution, 20-year project lifespan, and 15 per cent discount rate.

Two influences on relative factor prices are not reflected in these estimates. One is the preferential access of BOI-registered firms to low-interest credit – which also has a capital cheapening effect, reducing the cost of capital 9 to 35 per cent.[10] The other is that the required minimum wage and supplementary allowances for workers make the actual wage rate for unskilled labour higher than its social opportunity cost. Based on Medalla's findings, the BOI subsidy on labour use does not fully match the difference between the market wage rate and the estimated shadow price of labour.[11] Significant disincentives to employment caused by minimum wage legislation have been documented by Armas at the firm level (in the pineapple industry) and for two-digit ISIC manufacturing industries.[12, 13]

Changes in the composition of manufacturing output in the 1950s and 1960s are consistent with the hypothesis that the incentive system encouraged the growth of capital-intensive industries more than those using the country's abundant labour resources. Production in the more labour-using industries, eg, garments, footwear, other leather products, wood products and printed materials, did not grow as rapidly during those

two decades as in the rest of the manufacturing sector, as evidenced by the declining relative contribution of these industries to total manufacturing value added (Table 2 in Bautista, Power *et al*[14]). In the 1970s the trend was reversed for some labour-intensive industries, largely because of the rapid growth of non-traditional manufactured products accorded various benefits under the Export Incentives Act.

Based on Hooley's estimates of partial factor productivities in Philippine manufacturing, Table 3 shows the quantitative changes in labour employment relative to the use of capital and intermediate inputs, distinguishing among three sub-periods during the period from 1956 to 80.[15] Apparently use of labour per unit of either capital or intermediate input was decreasing from 1956 to 1970, especially in the years when foreign exchange and import controls were in effect (1956–60). By contrast, from 1970 to 1980 when the exchange rate was allowed to float and labour-intensive manufactured exports were being promoted, labour employment increased relative to the use of intermediate inputs and (particularly) of capital.

Table 3 Average annual growth in relative input use, 1956–80 (per cent)

	1956–60	*1960–70*	*1970–80*
Labour/Capital	−4.77	−1.15	3.98
Labour/Intermediate Input	−6.06	−5.49	.25

Source: Basic data from Hooley (1985).

No discussion of postwar industrial policies in the Philippines would be complete without including the so-called eleven major industrial projects (MIPs) which were actively supported by the government from the mid-1970s to late 1983. The projects included a copper smelter, a phosphate fertilizer plant, a diesel engine manufacturing plant, an integrated steel mill, and a petrochemical complex. Two of the arguments used by the Ministry of Trade and Industry in heavily promoting these large-scale, capital-intensive projects were that they 'would produce commodities and intermediate inputs at internationally competitive prices' and that they would 'induce the establishment of downstream, labour-intensive industries'.[16] It was also announced that the projects would be financed mainly from private (domestic and foreign) funds and that they would be implemented only if they were economically viable. Unfortunately, insufficient information was made publicly available to provide a basis for an independent evaluation of the economic feasibility of these projects.

The total cost of setting up the 11 projects was estimated to be close to US$4 bn (at 1981 prices) or about 10 per cent of the 1981 GNP. This would

seem a large enough sum to warrant a close examination of the macro-economic implications, especially on demand management and the inflation rate. Another source of anxiety was that, given the country's increasingly limited overall borrowing capacity, these large-scale capital-intensive projects would 'crowd out' imports of capital goods for light industry.

The MIPs were not likely to generate much employment. Some of them, like the aluminium smelter and petrochemical complex, would even import their principal raw materials. Very few, perhaps only those relying on domestic raw materials and not subject to rapid technological change, stood a chance of becoming commercially viable without heavy protection. With shelter from foreign competition, these projects would inevitably produce higher priced and lower quality intermediate and capital goods (compared to what could be imported), which would hinder rather than stimulate the development of downstream user industries. Besides being less energy-using, the downstream user industries are more labour-intensive, more regionally dispersed and have a greater export potential.

The only project completed was the copper smelter, which converts the copper concentrates from all but one of the local copper mining companies into copper cathodes. These companies must contribute about 30 per cent of their current concentrate production. Foreign loans provided 75 per cent of the funding. Of the equity, 32 per cent came from a Japanese consortium (that was guaranteed a 9 per cent minimum annual dividend rate), 29 per cent from the local mining companies, and 5 per cent from the International Finance Corporation. A careful evaluation of this project has indicated that it is at best 'little better than marginal from an economic point of view'.[17]

When the external debt-related foreign exchange crisis began in late 1983, the government's active pursuit of the MIPs had to be dropped, preventing the economy from being saddled with numerous white elephants.

Incentive biases and the trade structure

While the thrust of economic policy throughout most of the postwar period was to encourage manufacturing, those industries producing import-substitution consumer goods were the principal beneficiaries. In effect, domestic industries producing intermediate and capital goods, and those oriented to the export market, were discriminated against.

In the 1950s changes in the domestic price structure resulting from peso overvaluation and direct controls on imports and foreign exchange created a strong bias toward the domestic production of import substitutes, especially for industrial consumer goods, at the expense of capital goods and export products. In the 1960s, a highly distorted and protective tariff

system sustained the qualitative biases against backward integration and export expansion. Tariff escalation, making import duties higher on semi-finished products and higher still on finished products, encouraged assembly and packing operations that depended heavily on imported materials and capital equipment. Manufacturing value added increased very little and industrial employment even less, because of the absence of strong inter-industry linkages normally expected among manufacturing industries. It is not surprising, therefore, that the contribution of the manufacturing sector to total employment in the Philippines remained virtually constant at about 12 per cent through the late 1960s.[18]

An aggregate measure of trade bias (between importables and exportables) caused by domestic price policies is given by $(P_x/P_m)/(P^*_x/P^*_m)$ where P_x and P_m are the domestic prices of exported and imported goods and P^*_x and P^*_m are their respective foreign prices. A proportionate change in this ratio of relative prices would reflect the net movement of the relative domestic price of exportables *vis-à-vis* importables after taking into account the concurrent change in the relative foreign price; hence it can be interpreted to represent the change in the domestic price ratio due to domestic policies. Empirical estimation of the trade bias measure has yielded average values of 0.39 for 1950–61 and 0.60 for 1962–69.[7] Both figures are less than 1.0, indicating that domestic pricing policies favoured producers of import-competing goods over export producers during the two decades. The magnitude of the bias against exports was significantly reduced, however, from the 1950s to the 1960s.

In the 1970s when exporting was being actively promoted by the government, the trade bias measure increased to an average value of 0.76. Since it was still less than one (and significantly so), a substantial price bias existed in favour of import-competing production even during that export promotion phase, in spite of the fiscal and other incentives granted to export producers.

It is useful to distinguish between 'essential' and 'non-essential' consumer goods imports and between 'traditional' and 'new' exports. Most food imports are in the essential consumer good category. On the other hand, imports of most industrial consumer goods are considered non-essential, their domestic production having been promoted through direct trade controls in the 1950s and by high tariffs since the early 1960s. Agricultural and mining exports are classified as traditional; since 1970 the expansion of non-traditional or new exports, largely labour-intensive manufactured products, has been officially encouraged.

A useful indicator of relative production incentives between two categories of tradable goods through domestic policies is the ratio of their effective exchange rates (EERs). EER is the number of units of domestic currency actually paid by importers or received by exporters per unit of foreign exchange, including related taxes and subsidies. Based on the

annual EER estimates derived by Baldwin for 1950–71[19] and updated by Senga through 1980,[20] the calculated ratios of the effective exchange rates between traditional exports (TX), new exports (NX) and non-essential consumer (NEC) imports are shown in Table 4. The first two columns indicate a continuing bias in favour of import-competing industrial consumer goods production to the detriment of new exports, especially traditional exports. Also, the last column shows that new exports have

Table 4 Ratios of effective exchange rates, by product category, 1950–80

	Effective Exchange Rate Ratio		
Year	*TX/NEC*	*NX/NEC*	*NX/TX*
1950	0.976	1.093	1.120
1951	0.590	0.661	1.120
1952	0.590	0.661	1.120
1953	0.590	0.684	1.160
1954	0.599	0.695	1.160
1955	0.543	0.630	1.160
1956	0.518	0.601	1.160
1957	0.485	0.563	1.160
1958	0.480	0.556	1.160
1959	0.395	0.455	1.150
1960	0.319	0.360	1.131
1961	0.382	0.420	1.101
1962	0.314	0.336	1.070
1963	0.313	0.331	1.057
1964	0.317	0.335	1.057
1965	0.326	0.346	1.059
1966	0.334	0.353	1.059
1967	0.331	0.354	1.069
1968	0.327	0.350	1.069
1969	0.327	0.349	1.069
1970	0.291	0.370	1.270
1971	0.299	0.377	1.260
1972	0.312	0.367	1.174
1973	0.290	0.339	1.169
1974	0.280	0.366	1.308
1975	0.280	0.356	1.274
1976	0.279	0.312	1.116
1977	0.279	0.328	1.173
1978	0.280	0.342	1.225
1979	0.279	0.337	1.208
1980	0.279	0.337	1.207

Source: Basic data from Baldwin (1975) and Senga (1983).
Note: TX is traditional exports; NX is new exports; and NEC is nonessential consumer good imports.

been consistently favoured by domestic policies relative to traditional exports, particularly during the 1970s.

The price competitiveness of exportables and importables, relative to home goods (non-tradables), is reflected in the real exchange rate. The relative profitability of producing tradable goods was impaired, especially by Philippine trade policies and, from 1975 to 1983, by aggregate demand management, which continuously overvalued the domestic currency.[7] The first half of the 1970s was the least unfavourable period for producers of tradable goods; even at that time, however, the real exchange rate was overvalued by about 20 per cent.

In significantly reducing the price competitiveness of export production, domestic policies have encouraged an inward orientation of the industrial structure and effectively placed a limit on the size of the market for the products of the favoured industries. The sudden profitability of manufacturing investment directed to the protected domestic market serves to explain the initial spurt of rapid growth in the first half of the 1950s – which dwindled just as quickly when the limits of the narrow market base for the products of import-substituting industries were reached toward the end of the decade. (Thus, the average annual growth rate of manufacturing value added (in real terms) was 12.6 per cent during 1949–56, the so-called exuberant stage of import-substitution, but it plunged to 6.3 per cent during 1957–61.) The inability of those industries to compete in the foreign market reflects the inefficiencies in resource allocation and use that resulted from the control system of the 1950s and the protective tariff policy instituted in the early 1960s.

Despite the labour-surplus character of the Philippine economy, the contribution of labour-intensive manufactured products to total exports throughout the 1950s and 1960s was very small. It may also seem paradoxical, but can be attributed to the nature of economic policies adopted, that export industries with lower (direct and indirect) labour content increased their share in total exports relative to the more labour-using sectors.[21] While labour-intensive manufactured exports expanded rapidly in the 1970s, the incentive structure favoured heavy reliance on imported inputs, reducing the possibilities for intersectoral backward linkages.

Not only would growth have been more sustainable had the foreign trade regime been more neutral, but labour employment and use of locally-produced inputs would have been greater, in view of the country's comparative advantage in labour-intensive production. The choice of products and the choice of productive techniques would have favoured a greater utilization of the unskilled labour force and, because the poor comprise the bulk of the unemployed and underemployed, greater participation by the poor in the growth process.

Location choice and size structure

Two related consequences of postwar trade and industrial policies are the regional concentration of industries and the underdevelopment of small- and medium-scale enterprises. The system of import and foreign exchange controls in the 1950s, in particular, favoured large enterprises in and around Manila, effectively discriminating against the relatively small and regionally dispersed manufacturing firms. The latter similarly did not benefit much from the tax exemption privileges for 'new and necessary industries' and the wider fiscal incentives granted to BOI-registered firms. Indeed it is difficult for the small and the remote to deal with the requirements of bureaucratic controls and to receive the attention from government offices that come easily to large, Manila-based firms.

Because the favoured industries relied heavily on imported intermediate inputs and capital equipment, there was a strong inducement to locate plants near the source of supply, ie, Manila, the principal port. Infrastructure policy that promoted the idea of Manila as a 'metropolis of international stature' also meant a disproportionately larger allocation of public investment funds relative to the other regions, making Metro Manila more attractive to industries and migrants.[23] Reinforcing these tendencies was the need to obtain tax and credit favours from the centrally-run financial and government institutions in Metro Manila. Indeed even the mining and lumber companies based in the outlying regions found it necessary to maintain large offices there.

Manufacturing growth has been very uneven, therefore, among the country's 13 regions. According to census data, Metro Manila and the adjoining Southern Tagalog region accounted for 49.1 per cent of total manufacturing value added in 1948; this increased to 64.0 per cent in the next census year 1961, and to 81.6 per cent in 1978. The inability of the other regions to substantially expand manufacturing production has contributed to the persistence of large disparities in regional per capita incomes.[24]

In the early 1970s, the government attempted to disperse industrial activity away from the Metro Manila area through various policy measures. For example, a locational ban on new industrial establishments within a 50 km radius of Manila was imposed. Its impact was greatly weakened, however, by the numerous exceptions allowed by the Human Settlements Commission. The exceptions to the rule were based on such criteria as conformity with the development plan of the Metro Manila municipality or city, location within the identified growth centres, and need for the firm to be near an international airport.

Another regional dispersal policy made export enterprises locating in designated areas eligible to receive a tax deduction equal to the sum of the local raw materials costs and double the direct labour costs, but with a

maximum allowable deduction of 25 per cent of export revenue. Also, a tax credit was offered covering the entire amount of infrastructure expenses incurred by the firm. Neither of these two fiscal incentives proved effective, as a survey on location choice of industrial firms established after 1970 has indicated.[25] The survey found that a large number of sample firms were unaware of those incentives, as well as the available technical, financial and management assistance, while most of the other firms considered the economic benefits to be relatively insignificant. Most firms indicated that market factors related to output supply and product markets overwhelmingly dominated their location decisions. Not surprisingly, therefore, close to 80 per cent of new firms that registered with the Board of Investments during 1970–71 chose to locate in Metro Manila and the Southern Tagalog region.[26] The findings of another survey conducted in 1985 also indicate 'that the more recently established firms based their location decision on much the same set of factors as did the old firms, whether local or foreign ... (and that) direct government intervention(s) ... do not seem to have mattered at all'.[27]

To promote small industry development, as many as twelve government agencies were directly involved in the provision of credit, labour training and technical assistance to small- and medium-scale enterprises as of 1974 – when the Commission of Small and Medium Industries was created to integrate their efforts. A subsequent survey assessing the impact of government assistance programmes for small industries found that:

1. Less than 25 per cent of the firms surveyed were aware of such programmes (except for the credit programme of the Development Bank of the Philippines which was known to 72 per cent of the respondents);
2. Of these, less than 10 per cent actually sought or received assistance; and
3. Those that received assistance had relatively poor performance in terms of efficiency and growth as compared to the whole group.[28]

It was concluded, therefore, that government assistance tended to promote weak firms and that in the future it should be directed toward industries identified as labour-intensive and efficient in the use of capital.

Indeed the relationships between firm size on the one hand and labour intensity and capital productivity on the other are not uniform. Estimates of capital per worker and average capital productivity (ratio of value added to capital) are shown in Table 5, distinguishing among 3-digit ISIC manufacturing industries, and in each industry, four different employment size groups of establishments. It is clear that there are wide variations in both capital intensity and capital productivity across industries within the manufacturing sector and across various size groups of establishments within an industry. Moreover, a mixed pattern is seen with respect to the size structure: small scale appears more labour-intensive and more efficient in capital use in some industries but not in others.

Table 5 Capital intensity and productivity in manufacturing by industry group and employment size, 1970 (in pesos)

Industry	*Kr/N*				*VA/Kr*			
	20–49 workers	*50–99 workers*	*100–199 workers*	*200+ workers*	*20–49 workers*	*50–99 workers*	*100–199 workers*	*200+ workers*
Food	24611	19229	50990	32913	0.118	0.343	0.205	0.347
Beverages	14303	45994	20613	25448	0.311	0.401	1.406	1.234
Tobacco	3923	18005	81818	17066	0.578	0.301	0.053	0.655
Textiles	23650	30127	17014	4665	0.090	0.060	0.145	0.501
Footwear	9157	8875	10789	16439	0.329	0.495	0.316	0.208
Wood products	10104	7690	12765	5014	0.464	0.921	0.494	1.210
Furniture	7559	5970	22521	—	0.355	0.484	0.158	—
Paper	51747	36711	45488	87209	0.097	0.177	0.192	0.118
Printing	21745	15224	12781	—	0.362	0.740	0.701	—
Leather products	17443	15161	36534	—	0.061	0.072	0.039	—
Rubber products	21903	24554	33449	39934	0.489	0.187	0.195	0.498
Chemicals	50800	43847	53224	55009	0.333	0.492	0.408	0.603
Petroleum products	109650	—	—	—	0.454	—	—	—
Non-metallic products	55924	157975	21729	46201	0.049	0.002	0.229	0.253
Basic metals	6831	30772	29833	96586	0.655	0.289	0.280	0.147
Metal products	19992	26439	—	—	0.138	0.177	—	—
Machinery	19240	—	18739	—	0.277	—	0.517	—
Electrical machinery	29987	35717	30930	30175	0.107	0.081	0.127	0.220
Transport equipment	16694	20876	14422	49554	0.164	0.129	0.112	0.154
Miscellaneous	19399	27835	14935	14945	0.102	—	0.156	0.207

Note: VA = value added; N = employment; Kr = replacement value of fixed and inventory capital.
Source: Table 26 in ILO (1974; p. 145).

No blanket endorsement of either large- or small-scale can rationally be made, therefore, in the promotion of manufacturing industries. What is needed are 'policies that encourage the development of the most efficient industries and the most efficient firms, regardless of size. Blunt policies that are strongly biased toward one size or another are not capable of doing this'.[4] It must be emphasized, however, that the macro-policy biases in the Philippines have favoured the large enterprises relative to the small and the capital intensive relative to the labour-intensive. Therefore, removal of such policy biases would enable efficient small-scale and labour-intensive production in many lines that have not yet been developed.

Agricultural incentives, public investment and resource transfer

Agriculture has traditionally been a major source of employment, income and foreign exchange earnings in the Philippines. More than two-thirds of the country's population still live in the rural areas, where agriculture and related production activities represent the principal means of livelihood. Although its relative importance has declined over the years, agriculture still accounts for about 50 per cent of the total employment and 25 per cent of the country's gross national product. Also, it provides some 40 per cent of total export receipts (from raw and simply processed agricultural products), while agricultural imports account for less than 10 per cent of the total import bill.

Poverty has been and continues to be widespead among the rural population, which includes over 80 per cent of all families in the poorest 30 per cent of the total population. Rural poverty is attributable to the low agricultural labour productivity and related lack of employment opportunities in the rural areas and to the inability of the industrial sector to expand labour demand rapidly enough. The large size of the rural labour force and high degree of its underutilization argue strongly for the necessity to generate productive employment within the rural sector. This did not take place in the past, owing at least in part to postwar biases against agriculture in the form of price disincentives and inadequate infrastructural investments.

Because agricultural output has a high degree of tradability, the real exchange rate overvaluation that resulted from the restrictive trade regime and occasionally imprudent macroeconomic policies during the postwar period decreased the relative profitability of agricultural production. Trade restrictions and policy-induced exchange rate distortions reduced domestic agicultural prices relative to home goods by 42 per cent during the 'control period' of the 1950s, by 19 per cent in the 1960s, by 11 per cent during 1970–74 and by 12 per cent during 1975–80. For non-agricultural products the corresponding figures are 104, 45, 22 and 20 per cent.[29] Agricultural exports have been more heavily penalized compared to

import-competing food products not only in terms of product price disincentives but also in terms of input subsidies and infrastructure support.

In reaction to shortfalls in rice production during 1971–73, which coincided with soaring world foodgrain prices, the government undertook a major effort to promote rice self-sufficiency. Adoption of new technology was encouraged by the Masagana 99 programme, which provided farmers with non-collateral, low-interest loans to purchase fertilizer and seeds at subsidized prices. Public investment in irrigation also expanded substantially from 1973 to 1977, to ten times the 1966–70 level in constant peso terms.[30] Furthermore, irrigation water was made available to food crop producers at subsidized rates ranging from 60 to 90 per cent.[31] These input subsidies were provided at the same time that the domestic prices of rice and corn were being maintained below world prices through government trade monopoly of the staple food grains.

A credit subsidy (of about 12 per cent), low tariff rates on power tillers (19 per cent) and tractors (0 per cent), and currency overvaluation had the unsalutary effect of encouraging rapid farm mechanization to the detriment of rural employment.[32] Also, the small-scale farm implements (portable threshers, hand tractors, etc) available from the IRRI proved economically attractive to rice farmers at prevailing market prices.

Another aspect of the 'green revolution' that has influenced technology choice is the inequitable distribution of the benefits of the new technology. Large producers obtained greater access to the infrastructure investments and effective subsidies on irrigation water and credit.[31,33] Small-scale and rain-fed agriculture has been bypassed to a significant extent. This is unfortunate because small farms and low-income rural households have stronger linkages with labour-intensive domestic industry and the services sector than the large-scale, more prosperous agricultural producers.

Export crop agriculture has also been profoundly affected by postwar policy developments. Trade in coconut and sugar – the country's dominant export crops – has been particularly subject to government regulation since the eary 1970s. An export quota system for sugar has been in effect since 1962 and, beginning in 1970, sugar trading in both domestic and export markets has been taken over by state corporations. During the period from 1974 to 1980, producers received an average of only 77 per cent of the world price.[34] It has been estimated that, due to the domestic and foreign trade monopoly, sugar producers suffered a net loss of between 1 and 14bn pesos over the crop years 1974–75 to 1982–83.[35] Moreover, the additional link in the marketing chain and inefficiencies in government marketing operations meant additional markups and a substantially increased marketing margin.[7]

In the case of coconut, in 1971 the government introduced a production levy that established a dominant coconut milling company and began a

programme of coconut replanting. The nominal protection rate for copra (dried coconut meat) was estimated at −8 per cent during the years 1970 to 1972 and 'it became more negative, −24 per cent fom 1973 to 1979 reflecting the introduction of the levy'.[36]

These unfavourable policy-induced price distortions for agricultural products must have significantly reduced farm incomes. It has been estimated, for example, that in the absence of government price interventions agricultural crop income in the Philippines would have been as much as 31 per cent higher during the 1970s.[37] This represented an effective resource transfer out of agriculture. Offsetting this was the amount transferred into the agricultural sector through government spending, which was, however, comparatively small. Calculations of net resource transfers out of agriculture showed an annual average of 15 to 21 per cent of agricultural value added from 1967 to 1982.[33]

Although the extraction of agricultural surplus to finance industrial capital formation is frequently assumed to be concomitant to structural transformation during development, one can question the efficiency with which the transferred resources are used outside agriculture. In the Philippine case, as in most other developing countries where the industrial sector has been highly protected, policy-induced distortions in product and factor markets have led to the inefficient use of investment resources for manufacturing. Nevertheless, agricultural productivity could increase rapidly if the needed capital were provided for rural infrastructure. In addition, non-agricultural production would also be stimulated by increased rural incomes resulting from rising agricultural prices and productivity. This form of rural growth linkage is at the heart of recent proposals for the adoption of an employment-oriented, agriculture-based development strategy in the Philippines.[38,39]

Demand structure and growth linkages

The anti-employment and anti-equity biases of postwar economic policies must have had a significant effect on the structure and growth of effective demand, so that imported goods and capital intensive products were favoured over locally-produced and labour-intensive goods. This in turn can be associated with weaker intermediate and final demand effects on the domestic economy and an unsustainable growth process. The sudden slowdown in the growth of the manufacturing sector after the first half of the 1950s (representing the exuberant stage of import substitution) demonstrates this hypothesis very well.

A similar relationship applies to agricultural growth. Increases in agricultural output stimulate demand for production related products like fertilizer and farm equipment. However, as observed by Ranis and Stewart,[40] based on the survey findings of four independent studies on rural

non-agricultural industries in the Philippines,[40-43] the strongest agricultural growth linkage is with consumer goods industries. From 63 to 80 per cent of the total increase in non-agricultural employment was found to be in consumption-related activities. Overall taking into account both production and consumption linkages, 'the elasticity of nonagricultural employment with respect to growth in agricultural output is greater than one, according to Philippine evidence'.[40]

There are obviously some further ramifications of agricultural growth beyond the local economy. Even in the first-round effects, there are goods produced outside the local economy that will be demanded by farmers and rural households for production and consumption. Among the second-round effects, the forward and backward linkages outside the rural economy, as well as the final demand effects of increased incomes, need to be taken into account. Clearly, to be able to capture the full complexity of agricultural growth linkages, one has to go beyond the effects on the local rural economy. It can also be presumed that the macroeconomic effect will be of interest to policy-makers at the national level.

The economy-wide repercussions of rising agricultural productivity are examined quantitatively in Bautista using a multisectoral, general equilibrium model of the Philippine economy.[44] This model simulation assumes an initial static equilibrium, approximated by the observed conditions in 1978, which is disturbed by a 10 per cent increase in total factor productivity in each of the four agricultural and food processing sectors distinguished in the model. Results of the simulation, reflecting the adjustment of the economy to a new equilibrium position, indicate that simultaneous productivity increases in these four sectors would lead to a significant response in sectoral output, ranging from 3.6 per cent for food crops to 17.1 per cent for livestock and fishery. Macroeconomic effects on government income, total investment, the trade balance and especially national income are significantly positive. The resulting 2.2 per cent rise in national income represents about 40 per cent of the actual national income growth in the Philippines for the benchmark year (1978).

The multiplier effects of a given increase in rural income will be greater the more skewed the consumption pattern is toward labour-intensive products. Households of the less affluent, small agricultural producers are more likely to fit this pattern, whereas families of the more prosperous owners of large farms tend to spend more on capital intensive goods, whether locally produced or imported. Although the structure of the model used in the above-mentioned simulations does not make distinctions between small and large agricultural producers between low- and high-income rural households, it is a safe presumption that the resulting benefits to the national economy would be greater if a larger share of the increases in productivity and income went to the smaller farms and lower-income households. Conversely, to the extent that the

productivity and income improvements have favoured the large and the prosperous, the simulation results would have overstated the positive macroeconomic effects.

The magnitude of rural growth linkages is also determined by the labour intensity of agricultural production. As more agricultural labourers are employed and/or as their real wage rates rise, the purchasing power of the low-income rural labouring class increases – which has favourable final demand effects. Labour intensity, in turn, is determined partly by the size of farms. Smaller farms generally use relatively more labour because they are typically less mechanized and adopt more labour-using farm equipment, eg, power tillers rather than four-wheel tractors. There is ample evidence that the adoption of agricultural machinery in the Philippines has had both labour-displacing and wage depressing effects.[40] Unfortunately, it has been effectively promoted by cheap credit and exchange rate overvaluation, as pointed out above. Correction of the policy distortions that subsidize mechanization will serve to enhance the linkage effects of agricultural growth.

The important role of farm size in influencing mechanization and labour absorption was evident in the Philippines during the implementation of a land reform programme affecting rice and corn producers during the 1970s. For example, there was a marked increase in the ratio of power tiller to four-wheel tractors from 1.26 in 1972 to 8.32 in 1976. Additional land reform measures that will further reduce the average size of landholdings are therefore likely to strengthen agricultural growth linkages and enhance labour employment. Apart from this there are other considerations that would associate an effective land reform in the Philippines with greater social and political stability.

The more developed the rural infrastructure the stronger are the growth linkages, other things being equal. Transport, electrification, and other infrastructural facilities reduce marketing costs, increase the access of rural households to marketable products, and generally promote market integration (involving not only rural but also urban and export markets) forming a basis for the development of a wide range of rural activities. Rural infrastructure in the Philippines has unfortunately not been given enough consideration by the government, especially over the last decade. 'Most indicators show that provision of rural infrastructure in Taiwan has been substantially greater than in the Philippines'.[40] The share of utilities and infrastructure' in national government expenditures declined significantly from more than 30 per cent in 1978–79 to less than 20 per cent in the years 1983–85. During the period from 1979 to 1983 less than 25 per cent of total investment in roads and bridges was in the rural sector. The deterioration in rural infrastructure has been such that the Community Employment Development Programme, launched by the new government last year to generate rural employment and increase the purchasing

power of the rural population, had infrastructure maintenance as a major activity.

Despite comparably rapid agricultural growth in the Philippines and Taiwan during the 1960s, a much greater impetus was given to non-agricultural activities in Taiwan, encouraging rural industrialization and leading to more rapid GDP growth. This was due to the stronger growth linkages and larger labour absorption in Taiwanese agriculture, which in turn was due to the interrelated influences of smaller landholdings, mechanization, and greater use of more labour-intensive farm machinery and more favourable rural infrastructure policies, interest rates, tariffs, the exchange rate and fuel prices.[40]

Policy implications and political economy considerations

It is evident from the above discussion that the three primary objectives identified earlier as relevant in the assessment of technology choice in the Philippines, namely, poverty reduction, increased employment and sustainable economic growth, are not independent and to a large extent are complementary. How might government policies affecting the environment at the micro-level be redirected so that they advance these objectives and promote the choice of appropriate technologies? Three main areas for policy reform, which are also not independent but mutually reinforcing are suggested by the theoretical and empirical considerations addressed above. They are discussed below with reference to the political economy forces that have constrained policy-making in the past and the new set of constraints facing Philippine policy-makers at this time.

Liberalization of trade

Depending on the pattern of domestic demand and in the absence of trade restrictions, a labour-abundant country can be expected to export labour-intensive products and import capital-intensive ones, because of international differences in relative factor prices. It is clear from the preceding discussion that excessive import substitution policies, resulting in significant domestic price distortions (among other things), have violated the comparative advantage principle. Foreign trade restrictions, designed to protect domestic industry, have led not only to a lower utilization of the labour force but also made tradable goods production less competitive internationally, contributing to the country's chronic balance of payments problem.

Apart from the direct effect of raising domestic prices of protected industrial products, import restrictions have the general equilibrium effect of reducing the demand for foreign exchange, leading to real exchange rate overvaluation. This artificially cheapens imports that are allowed to come in, especially capital equipment and machinery. Also, exports are

penalized by the lower peso price of foreign exchange; consequently, agriculture and other labour-intensive, export-oriented sectors and firms are discriminated against. Both the industry mix and the composition of micro-units (firms) within each industry, as well as the production technique (capital–labour ratio), therefore become biased toward greater use of the country's scarce capital resources relative to labour employment.

The introduction of import and foreign exchange controls in 1949–50 and maintenance of the prewar exchange rate of 2 pesos per $US (despite the high wartime inflation rate) through the end of the decade, can be partly attributed to external influence. A provision in the Philippine Trade Act of 1946, passed by the US Congress and accepted by the newly-independent Philippine government as an executive agreement, required the permission of the US President for any change in the peso–dollar exchange rate. (A period of applicability until 1973 was stipulated. (This provision was repealed subsequently by a revision of the Act in 1955.) Other onerous provisions in the Act infringing on Philippine sovereignty were also accepted by the government, presumably because a companion legislative piece provided for substantial US compensation for war damages.[45] It was thought that a peso devaluation would be opposed by American investment interests in the Philippines. Because there was an existing free-trade agreement between the two countries and the USA was the source of about 80 per cent of Philippine imports, increasing tariff rates would not have provided an effective means to curtail imports.

Continuing balance of payments difficulties, charges of corruption and poor administration of the control system, and political pressure from traditional exporters for a favourable exchange rate, forced the lifting of controls and peso devaluation in the early 1960s. It was, however, made clear 'to the business community that the government . . . wished merely to substitute tariff protection for the protection provided by the control system'.[46] This reflected a strong political presence of the 'import-substitution' industrialists; indeed, this class of entrepreneurs was well represented in the Cabinet of the government at the time.

Greater attention was given to promoting exports by the Marcos government that assumed power in 1966. The favourable experiences of some East Asian countries (eg, Hong Kong and Taiwan) with outward-looking, labour-intensive industrial development were beginning to be appreciated in the Philippines at that time. Government policy was also being influenced by contemporary academic discussions about the penalties being imposed on export-oriented, small-scale, and regionally dispersed industries.[8]

Indeed, in the late 1960s and in the following decade, the number of senior government officials with strong academic backgrounds (and post-graduate degrees from leading US universities) increased significantly. These 'technocrats', possessing an international perspective on economic

development issues, were sympathetic to the idea of export-led industrial growth, and they became the *de facto* political representatives of export producers, especially of non-traditional labour-intensive manufactured products in which the country was thought to have comparative advantage. Export producers comprised a very small class of industrial entrepreneurs at that time, relative to other producer groups being favoured by the protectionist trade regime.

The technocrats were successful, especially during the first half of the 1970s, in implementing policies that selectively subsidized export production of labour-intensive goods. However, such subsidies fell far short of compensating for the pervasive bias against exports caused by the existing import restrictions and indirect tax system. As described above, the attempt to liberalize the foreign trade regime in the early 1980s with World Bank assistance was derailed by the external debt-related foreign exchange crisis beginning in late 1983.

The new government of Corazon Aquino, under pressure from the IMF and the World Bank, has planned to gradually liberalize imports, scheduling 1,232 import items for removal from quantitative controls from April 1986 to May 1988 and substituting tariff rates of up to 50 per cent which are slated for adjustment to a uniform low level over a 5-year period. No exact indication of the eventual level of uniform tariff has yet been officially given, although 10 to 30 per cent rates have been mentioned in policy discussions. However, the programme's implementation has been delayed, leading to doubts about the government's commitment to trade liberalization (cf Medalla[47]). A few key officials are known to be associated with business interests (specifically, in some heavily protected industries producing import-substitutes) that would lose from policy reforms toward a more open trade regime. A frequent journalistic commentary is that the February 1986 revolution has not brought a new ruling class into power that can quickly do away with economic corruption. The opportunities for rent-seeking are reduced by economic liberalization, so it is understandable that there are efforts within the government to resist the movement toward freer trade.

Outside the government, opposition to a liberalized trade regime comes from producer interests in the affected industries, ie, those faced with significant reductions in effective protection. They are more powerful, economically and politically, than other producer groups and general consumer interests. The latter are not well organized and are largely unaware of how they could gain from trade liberalization. Also, self-styled 'economic nationalists' have long been naively arguing for the protection of any and all domestic industries against foreign competition. Some of them are ideologues who, because of past colonial rule, reject anything foreign as anathema to national development. Others, and the more vociferous, have personal and family interests in promoting particular industries.

Prospects for trade liberalization can be improved significantly if the public and the newly elected Congress are persuasively informed of the heavy cost of protecting sectoral interests and subsidizing inefficient industries.The extent of additional pressure on Philippine policy-makers exerted by the IMF and the World Bank is also likely to prove critical in any sustained drive toward trade liberalization.

Promotion of labour-intensive industries

The economic rationale for policy action in the Philippines favouring labour-intensive industry derives from two sources:

1. There are existing biases against relative labour use in the industrial incentive system; and
2. Private profitability understates the social desirability of labour intensive projects in a developing country with a severe underutilization of the labour force.

The latter justifies the promotion of labour-intensive industry even at a cost to the rest of the economy. However, since the social marginal productivity of labour-intensive industry relative to other economic activities is not infinite, the cost-effectiveness of policy measures to promote labour-intensive industry also needs to be explored.

There is a need, first of all, to gradually eliminate the various sources of market distortions that hinder the natural development of labour-intensive industry. As discussed above, substantial disparities in effective protection rates due to trade restrictions have encouraged allocative inefficiency within the manufacturing sector. It has been shown that the more highly protected industries are characterized by less labour employment and a greater proportion are largely located in Metro Manila (Center for Policy and Development Studies, 1986). Trade liberalization measures would then be likely to encourage greater labour use and regional dispersal of manufacturing industries. Improvements in real exchange rate management (including the trade and macroeconomic policies that determine the real exchange rate) will also serve to enhance the international competitiveness of labour-intensive industry.

Fiscal incentives for industrial promotion in the Philippines have an anti-employment bias, as discussed above. Relatively neutral ways of stimulating industrial investments should replace those having distortionary effects on factor use and size structure. The identification of preferred industries in the BOI's present system of industrial priorities, which ostensibly seeks to promote industries with long-term social profitability, is fraught with difficulties. Careful evaluation with the use of shadow price and domestic resource cost measures would help, bearing in mind the need to take into account long-run considerations of future factor supplies, scale economies, learning effects and other externalities. In any case, subsidies to 'priority

industries' will serve their purpose only if they are given for a specified, limited duration; otherwise, the cost to the economy is likely to become excessive.

The granting of fiscal and other incentives by the BOI has been rationalized on 'second-best policy' grounds, given existing distortions in the protection system. The system of BOI incentives, however, was relatively insubstantial, favoured capital-intensive industies and failed to significantly reach the small and regionally dispersed enterprises. Indeed the determination of investment priority areas by the BOI necessarily narrows the range of industries for which the offsetting incentives can be provided. As the protection structure becomes more uniform and the various biases diminish with reforms in trade and exchange rate policies, the phasing out of BOI incentives merits serious consideration. The new government can more usefully give greater attention to the provision of industrial infrastructure, particularly credit and technical and marketing assistance to small- and medium-scale industries; this would help meet the need to more rapidly create productive jobs in manufacturing and to promote a wider participation in economic growth, both by income classes and by regions, increasing the upward mobility of the poor.

There were some earlier suggestions to dismantle the system of BOI incentives, including those under the Investment Incentives Act of 1967 and Export Incentives Act of 1970. The widely discussed report of the 'comprehensive employment strategy mission,' sponsored by the ILO at the request of the Philippine Government, specifically recommended 'the gradual dismantling of the system of investment incentives'.[4] The question raised implicitly was whether government bureaucrats were capable of predicting the success of future industries.

The proposal to gradually remove BOI incentives was naturally not received favourably by the engineers and business-trained managers who dominated the bureaucracy at the Board of Investments. It is a reflection of their strong influence on policy-making that this recommendation was not even seriously considered. Existing penalties to labour-intensive and export-oriented enterprises were seen by the BOI as manageable on a case-to-case basis (contrary to conclusions from economic analysis) and the Board continued to promote industrial investments in areas indicated in its annual priorities plans.

Along with the Department of Trade and Industry, the BOI provided active support for the large-scale, capital intensive MIPs (major industrial projects), illustrating the large-industry orientation of the Board. Support from the Department for small industries was lacking, prompting the ILO mission to recommend a 'full-scale Department of Industries, with two co-ordinate divisions – one for larger-scale and the other for medium- and smaller-scale manufacturing'.[4] This proposal again fell on deaf ears.

There is no indication that the Aquino government has eliminated the

large-industry bias at the BOI and the Department of Trade and Industry, whose organizational structures have remained intact. Senior officials in both places have been changed, but their replacements come from the same elite social class strongly associated with large-scale industry and its supporting services.

Policies to improve agricultural incentives and productivity

An important implication of the preceding discussion on demand structure and growth linkages is that expansion of the real incomes of rural households could provide the stimulus to broad-based, employment-oriented economic development. (This is at the heart of recent proposals for an agriculture-based development strategy; see Mellor for an early statement.[48]) A direct effect would be an increased demand for food and other agricultural products as well as for labour-intensive industrial goods and services, setting in motion a sequence of employment and income multiplier effects on the rural, regional and national economies. In countries such as the Philippines, that are predominantly rural and have a high incidence of rural poverty, increasing rural incomes might well be the most effective means to stimulate and, through multiplier effects, sustain 'economic growth with equity'.

Initially at least, the expansion of rural income must depend on growth in agricultural production, which 'is a vital precondition for expansion of nonagricultural activities in the rural areas'.[40] Rural industries in turn are associated with appropriate technology in that they contribute to poverty reduction, labour employment and sustainable growth. This is because the technologies used in rural industries are in general smaller-scale, less capital-intensive, and make greater use of indigenous materials – in comparison with their urban counterparts.

The implication for appropriate technology policy in the Philippines is that rapid growth in agricultural output should be actively promoted. Viewed from the supply side, agricultural output can be increased through movements along the supply function via improvements in agricultural price incentives, and shifts in the supply function via increases in total factor productivity. To provide price incentives, the many sources of policy-induced price biases against agriculture need to be eliminated, perhaps gradually. During this time of historically low world commodity prices, it may even be appropriate to provide protection to some agricultural crops, depending on their long-run comparative advantage, in order to ensure that farmers receive adequate price incentives.

It should be emphasized that the real exchange rate is an important determinant of domestic agricultural prices relative to the prices of both home goods and non-agricultural products. 'Getting prices right' for agriculture then requires that the conduct of trade and macroeconomic policies also be examined for their effects on the real exchange rate.

Officials at the Department of Agriculture should play a broader role in promoting farmers' interests. They should be concerned not only with sector-specific policies, but also with the industrial protection system, monetary policy, government expenditure, nominal exchange rate policy, and other aspects of macroeconomic management which, through their effects on the real exchange rate, have a potentially strong influence on agricultural production incentives. It will be necessary to prevent the real exchange rate from being overvalued, so as not to impair the price competitiveness of agricultural tradable goods. This would require liberalization of import restrictions unduly protective of domestic industry and maintenance of a sustainable trade balance.[7,29]

Increases in agricultural productivity can be achieved by shifting the structure of public investment toward the rural areas and away from the past bias toward urban-based, capital intensive industries. Improvements in rural transport facilities, electrification, agricultural credit and irrigation will also serve to increase the agricultural supply response to price incentives.

Greater government support for agricultural research and extension that will generate, adapt and disseminate improved technologies can also be expected to have a very high payoff. Provision of these critically needed 'public goods' has been largely neglected in the past. Philippine government expenditures on agricultural research as a proportion of agricultural value added are known to be one of the lowest among developing countries. The government cannot continue to rely primarily on IRRI's contribution to rice research. Biases in the existing structure of research and extension – by crop, type of farm (eg, irrigated *vs* rainfed), farm size, etc – need to be corrected. Increased decentralization of the research and extension system is also necessary to better assess local needs and potentials. Finally, it also bears emphasis that farmers will adopt new technologies only if they can expect their incomes to improve. It is therefore important for agricultural technology diffusion and productivity growth that price incentives be in place.

Beyond the direct promotion of agricultural growth, strengthening the multiplier or linkage effects on the rest of the economy will also be necessary. Because food and other labour-intensive goods are major items in the consumption patterns of rural households, sectors efficiently producing such products (presumably, small-scale producers in regionally dispersed areas) will be favoured by the rise in rural expenditure. 'Whether supply will be able to match the increased demand for those products would depend on the availability of production inputs and their prices'.[38] For instance, if intermediate inputs to agricultural and non-agricultural production are made artificially scarce or expensive by a restrictive foreign trade regime and/or an underdeveloped domestic transport system, the full benefits from increased final demand in terms of output growth and labour

absorption will not be realized. It is also clear that the development of rural infrastructure will be critical not only to generate and diffuse improved agricultural technologies, but also to develop and integrate rural markets.

The total employment effect of rising rural income will be greater, and output growth more broadly based, the more skewed the consumption pattern is toward food and other labour-intensive products. Because households of the small agricultural and non-agricultural producer are most likely to fit this pattern, it is important that improvements in price incentives, production technologies and infrastructure facilities reach the small producers in regionally dispersed areas. It should also be emphasized that adequate support services are needed to implement an agrarian land reform programme.

Agricultural producers traditionally do not have a strong political voice in the Philippines. Even the much touted 'sugar bloc', supposedly the strongest economic and political interest group in the country, was not able to obtain a favourable exchange rate in the immediate postwar years or prevent the maintenance of a massive peso overvaluation throughout the 1950s. The decontrol measures and gradual exchange rate adjustment were implemented in the early 1960s largely because the 'control system' could not solve the country's balance of payments problem; political pressure from the sugar bloc was not the critical factor. In the 1970s, sugar and coconut farmers were exploited financially by government-installed trading and milling monopolies run by Marcos 'cronies'.[35] It is hardly a coincidence that the Communist insurgency found wide support during the 1970s and 1980s in the regions which grow most of the coconut, sugar and other export crops.

The Aquino Government, as noted above, has taken some significant steps to reduce the policy bias against agriculture. Export taxes were eliminated in mid-1986; for too long they were a direct burden to agricultural producers. Government monopolies in sugar, coconut, grains, and fertilizer have also been abolished. Furthermore, the recently launched programme to markedly increase infrastructure expenditures in the rural areas is not only addressing existing deficiencies in aggregate demand but also promoting growth in agricultural productivity and increasing the purchasing power of rural households. General guidelines for a new agrarian land reform programme have also been written into an Executive Order, the details of which are still to be formulated by the legislature.

What has yet to emerge is the 'true colour' of the new Congress. Only about 30 per cent of the members are newcomers, the rest either belong to 'political dynasties' and/or held legislative positions in the pre-martial law period or the interim national assembly. This may indicate strong conservative leanings and a weak commitment to agrarian reform, which is widely regarded as an important credibility test for the new Congress.

President Aquino has yet to use her considerable prestige and political influence to actively push her administration's economic agenda in the legislature.

Financing the rural infrastructure and agrarian land reform programmes may be a problem, because of the fiscal and monetary restraint necessitated by the heavy external debt-service burden. The country's ability to expand export earnings and economize on imports, as well as to negotiate favourable repayment terms (with debt relief, it is hoped) with foreign lenders, will be additional factors bearing on the implementation of government policies to promote agricultural growth and, given the nature of the growth linkages discussed above, the overall development prospects of the Philippine economy.

Postscript

Because of the debt service and foreign exchange difficulties faced by the Philippines, the external environment has a major influence on the ability of the government to undertake policy reforms, but external factors are not entirely exogenous. Although nothing can be done to prevent deteriorating terms of trade or rising interest rates, the government can (and should) negotiate with foreign governments for improved access to export markets, with the IMF for a less severe macroeconomic adjustment programme, and with commercial bank creditors for concessionary debt repayment. Austere macroeconomic policies, such as those adopted during the recession years of 1984 and 1985 at the insistence of the IMF, are self-defeating because they impair the country's capacity to sustain any improvement in the balance of payments. They are also politically risky because the heavy burden of adjustment falls on low-income groups.

Switching policy regimes entails some transitional costs. Short-run problems in the current account, of revenue loss from trade taxes, and in financing expanded government spending (especially on rural infrastructure to help overcome agricultural supply constraints) associated with trade liberalization and rural development have to be addressed. The large amount of foreign resources pledged recently (in July 1989) by developed country governments and multilateral organizations as additional development assistance to the Philippines may or may not lead to long-run economic benefits. In the past, foreign resources were used to improve the economy's short-term growth performance, to inappropriately increase the capital intensity of domestic industry, and worst of all, to confer illicit economic gains to 'crony capitalists'. If the present administration is to succeed where its predecessors have failed, it should use the increased financial assistance to ensure a speedy implementation of needed policy reforms, and not minimize the urgency of making domestic industries more internationally competitive, promoting labour-intensive industry development and improving agricultural incentives, productivity and income.

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