PREFACE

This report was prepared by an industrial policy mission that visited Thailand in July 1979. The mission consisted of Bela Balassa (chief of mission), John D. Shilling (deputy chief of mission), Benjamin Cu Kok (economist), David Loevner (economist), and Demetrios Papageorgiou (economist). The preliminary conclusions of the mission were discussed with the Thai Government in March 1980.
INDUSTRIAL DEVELOPMENT STRATEGY IN THAILAND

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INTRODUCTION

1. Thailand had an outstanding economic record during the postwar period. Its gross domestic product increased at an average annual rate of 7.8% between 1960 and 1973; with population rising 3.2% a year, the rate of growth of per capita incomes was 4.5%. This result was achieved in an open economy, with relatively low tariffs and few quantitative import restrictions, under a free enterprise system involving limited government interventions.

2. Economic growth benefited from the rapid expansion of exports, averaging 7.2% a year in volume terms between 1960 and 1973. However, the volume of imports grew even more rapidly, in particular after the mid-sixties, with annual increases averaging 10.2% for the entire period. Notwithstanding improvements in the terms of trade, Thailand's balance of trade deteriorated as a result, with the trade deficit amounting to 5.0% of GDP in 1973. This deficit was in large part offset by a surplus in the service account (in particular, US military expenditures related to the Vietnam war) and by private transfers.

3. High economic growth rates were maintained during the period following the oil crisis, with GDP rising at an average annual rate of 7.5% between 1973 and 1978. The acceleration of the growth of exports importantly contributed to this result. The volume of exports rose 14.0% a year, with approximately equal increases shown for primary and for manufactured exports. Expansion was especially rapid in the exports of tapioca, sugar and canned pineapple among processed primary products, and in the exports of textiles and clothing, electronics, and jewelry among manufactured goods.

4. The volume of imports rose at a much lower rate, averaging 4.3% a year between 1973 and 1978. But, as a result of the quadrupling of oil prices, Thailand experienced a one-third decline in its terms of trade, so that the value of exports and imports grew at about the same rate (19% a year) during this period. With export and import values rising more rapidly than the current value of GDP, the ratio of the trade deficit to the gross domestic product increased from 5.0% in 1973 to 6.4% in 1978. Furthermore, the balance of payments were adversely affected by declines in earnings from services and transfers, due largely to the disappearance of foreign exchange earnings related to the Vietnam war and the decrease of private transfers. Thus, while the surplus in the service account and in transfer payments offset nearly nine-tenths of the trade deficit in 1973, this ratio fell to less than one-fifth in 1978.

5. Rapid economic expansion and the decline in the rate of domestic savings contributed to an acceleration of the growth of imports in 1977 and
in 1978, when the current account deficit exceeded 5% of GDP. Preliminary data show a further deterioration in 1979, with the deficit amounting to about 8% of GDP, in large part due to increases in oil prices. Moreover, the approximate doubling of oil prices between 1978 and 1980 will increase Thailand's oil bill by over B 20 billion above its 1978 level, representing a terms-of-trade loss of about 3% of GDP and raising the ratio of the current account deficit to GDP to 9-10% in 1980.

6. At the same time various factors point to a slow-down in the growth of Thai exports. The near exhaustion of uncultivated land constrains the possibilities for future expansion of agricultural exports; the exports of tapioca are limited to their 1978 level in the European Common Market; sugar exports are regulated by the International Sugar Agreement; canned pineapple faces market limitations in the United States; and textile and clothing exports are subject to quotas under the International Multi-fiber Arrangement. Furthermore, exports will be unfavorably affected by recent increases in domestic prices in excess of inflation rates in Thailand's major markets and competitors, as well as by the depreciation of the Japanese yen. Measures taken recently to increase import protection, too, are bound to have adverse effects on export performance by increasing the profitability of import substitution as compared to export production.

Recent Changes in Industrial Incentives

7. While Thailand traditionally had an open economy, with relatively low levels of import protection, protection has increased in recent years. Between 1974 and 1978, tariffs were raised on 53 industrial categories and reduced on only 19 categories. In the same period, business taxes on a number of imports were increased above the rates applicable to competing domestic products.

8. These changes are reflected in the rise of nominal protection of import-substituting activities. Between 1974 and 1978, average rates of nominal protection of these activities increased from 34.6% to 50.8% for products with a low degree of import competition (imports accounting for less than 10% of domestic consumption) and from 24.8% to 35.7% for products with higher import competition. Import surcharges imposed by the BOI, reductions in import duties and business taxes on the inputs of a number of BOI-promoted firms, reductions in business tax rates in intermediate products, and increases in the scope of the import control law have further raised the protection of import-substituting activities. Finally, protection has increased as a result of the imposition of domestic content requirements on several products, including automobiles and motorcycles.

9. Import protection has not been compensated by export incentives. Duty and tax exemptions, amounting to 3.5 percent of the value of manufactured exports, only partially relieve the burden of customs duties and indirect taxes on export production, and encounter considerable difficulties of administration. Export credits are limited in scope and the subsidy equivalent of preferential interest rates does not attain one percent of the
value of manufactured exports. Also, the growth of the exports of several products is restrained by the application of export controls. Finally, the extent of additional benefits under BOI promotion is limited.

10. Increased import protection has often been rationalized on the grounds that it saves foreign exchange. The establishment of large import substituting projects has also been suggested on these grounds. But, taking account of the need for imported materials and machinery, the net import saving is often small; according to one estimate, it is negative in the case of automobiles, involving a net loss of foreign exchange.

11. At the same time, import protection, uncompensated by export incentives, permits the expansion of import-substituting activities where the cost to the national economy of saving a dollar is higher than the cost of earning a dollar in export activities. High costs may be due to the relatively capital-intensive nature of import substitution and the lack of exploitation of economies of scale in producing for the small domestic market. The capital-intensity of the production process also limits employment creation, with the number of jobs created per unit of value added being three times as high in nonresource-based export industries than in import-substituting activities. And, domestic production costs are reported to be two to three and a half times as high as the cost of comparable imports in the case of automobile parts and components, where economies of scale are important.

12. Exemptions and reductions of import duties on machinery and the application of minimum capital requirements as a condition of BOI promotion, too, favor capital-intensive activities. Together with discretionary decision-making in granting incentives, the measures in question tend to favor large-scale industry over small- and medium-size firms as well as firms located in Bangkok over those in outlying regions. In fact, the share of firms in Bangkok among the beneficiaries of BOI-promotion was more than 50 percent, although they accounted for less than 40 percent of new industrial investment. Finally, negative real interest rates due to rapid inflation not being fully compensated by increases in nominal interest rates favor capital-intensive activities, while credit rationing by banks attendant on the excess demand for loans at these rates tends to discriminate against small and medium-size firms and firms located in outlying regions.

Objectives and Instruments of Industrial Policy

13. These considerations indicate the actual and potential adverse consequences of some of the policy measures introduced in recent years. In favoring high-cost import substitution and capital-intensive activities, these measures hinder efficient industrial growth and export expansion. They also tend to limit the expansion of industrial employment, the growth of small- and medium-scale industry, and regional industrial development.

14. The purpose of the recommendations contained in this report is to avoid these adverse consequences and to contribute to the formulation of a coherent industrial development strategy in Thailand. The proposed measures aim at furthering efficient industrial growth, together with increases in
industrial employment, the expansion of small- and medium-size firms, improvements in the living standards of the poor, and an improved regional distribution of industry.

15. The pursuit of the stated objectives will require taking a variety of measures. They include (a) increasing incentives to exports relative to import substitution and rationalizing the system of protection; (b) avoiding the establishment of high cost, inefficient capital-intensive investment projects; (c) generalizing and simplifying the system of investment incentives while eliminating its existing biases in favor of large firms and of capital-intensive and import-intensive activities; and (d) promoting industrial growth outside of Bangkok. Recommendations are further made for general supporting policy measures, aimed at maintaining internal and external economic stability; increasing the availability of investment funds to the manufacturing sector; ensuring the transfer of technology; providing the skilled labor necessary for industrial expansion; and improving the industrial structure.

16. Increasing incentives to exports relative to import substitution and rationalizing the system of protection are central to the promotion of efficient industrial growth. Lessening discrimination against exports contributes to improved resource allocation according to comparative advantage and the exploitation of economies of scale. As Thailand's comparative advantage lies in labor-intensive and natural-resource intensive products, industrial employment and regional development will also benefit as a result, thereby improving the lot of the poor. Further gains can be obtained by reducing existing differences in protection rates that encourage the expansion of high-cost activities.

17. Discrimination against exports may be reduced by increasing export incentives and/or lowering import protection in the manufacturing sector. The report recommends a two-pronged approach, with emphasis given to reducing import protection. This is because the scope of export subsidization is limited under GATT; high protection in manufacturing industries discriminates against primary activities; and lowering protection rates provides an opportunity for their rationalization and simplification.

18. Nevertheless, under present conditions, it is recommended to start with the application of export promotion measures, in particular reforming the duty and tax rebate scheme and extending the preferential export credit scheme to pre-export credits and to loans for investment in export activities. This recommendation is made, in part to ease the transition in import-substituting industries and in part to cushion the balance-of-payments effects of lowering import protection.

19. While export promotion measures may be introduced immediately, it is recommended that the reform of import protection be implemented over a period of five years. The principal elements of the proposed reform include replacing quantitative measures by tariffs, lowering and harmonizing tariffs, and reducing domestic content requirements for automobiles and motorcycles.
The process of tariff reductions should begin by reducing to 50% duties that are above this level, and offsetting the reduction by an excise tax in the case of consumer goods which constitute most of the highly-protected goods. Tariff reform would also involve raising some tariffs which are low or zero.

20. The introduction of economic project evaluation for large government-sponsored investment projects, too, is an urgent task. At the same time, preparatory work should begin on the revision of the investment law, aimed at rationalizing and simplifying existing investment incentives. A plan for regional industrial development should also be prepared, with priority given to the establishment of a new growth pole linked to the port of Sattahip.

21. Among general supporting policies, macro-economic policy measures are of greatest importance. These measures should aim at alleviating the adverse effects of increases in oil prices on the balance of payments and reducing the rate of inflation. Lower rates of inflation would also lessen distortions in investment allocation and contribute to domestic savings through higher real interest rates. More generally, by relieving pressure for import protection on balance of payments grounds, the application of appropriate macro-economic policies represents a precondition for the successful pursuit of an industrial development strategy.

22. This review has highlighted the relative importance and urgency of the proposed policy measures. Next, these measures and their rationale will be briefly described in summarizing the contents of the individual chapters of the report. Subsequently, the effects of the proposed measures on industrial employment, small- and medium-size firms, the incomes of the poor, and regional industrial development will be indicated. Attention will further be given to the budgetary and the balance-of-payments effects of the proposed measures, their interrelationships, and the coordination of decision-making necessary for their implementation.

**Investment Incentives (Ch. 2)**

23. It is proposed to enlarge the scope of investment promotion and to increase automaticity in decision-making by replacing the present "positive list" of BOI-promoted activities by a "negative list," containing activities the promotion of which is not considered desirable because of the existence of market limitations. Investment projects that are not on the negative list should automatically receive promotion privileges (para. 2.14). At the same time, the establishment of the negative list and the Ministry of Industry controls of entry and expansion should be coordinated, with a view to avoiding establishment of monopolistic positions and discouraging exports (para. 2.23).

24. Duty exemptions and reductions on imported machinery and materials granted under the Investment Promotion Act raise the protection of BOI-promoted firms while exemptions and reductions of import duties and business taxes on machinery favor capital-intensive activities. In view of these adverse consequences, it is proposed that such duty and tax exemptions and reductions be eliminated (para. 2.18).
25. Capital-intensive activities are also favored by the imposition of minimum investment requirements under the Investment Promotion Act. While such requirements may have a rationale in industries producing intermediate products where economies of scale can be obtained, this is not generally the case for machinery and consumer goods industries. At the same time, minimum investment requirements favor large firms over small- and medium-size establishments. A review of these requirements is recommended, with a view to limiting their scope (para. 2.17).

26. At the same time, BOI should expand its promotional activities for domestic as well as for foreign investment. This would involve the preparation of preinvestment studies as well as an extended effort to ease administrative obstacles to investors. Simplifying administrative requirements would also necessitate the cooperation of other governmental agencies and modifications in existing legislation, various aspects of which do not conform to the needs of modern industry (para. 2.19).

27. While the above recommendations call for generalizing the scope of application of BOI incentives as well as increasing automaticity in granting these incentives, lending by the IFCT necessarily involves a choice among alternatives. This choice should be guided by the economic evaluation of projects (para. 2.27). In turn, measures should be taken to increase lending to small-scale industry, preferably involving commercial banks in the process (para. 2.29).

Economic Evaluation of Proposed Large Investment Projects (Ch. 3)

28. The proposed large, capital-intensive investment projects would require careful review in order to avoid the establishment of high-cost activities that would entail the inefficient use of scarce capital and natural resources (in particular natural gas) in Thailand and reduce the competitiveness of user industries. These projects should be subjected to economic project evaluation at world market prices, the results of which should be made public, together with information on the direct and indirect subsidies they would receive (para. 3.16).

Import Protection (Ch. 4)

29. The proposed changes in import protection include eliminating differences in business tax rates on imports and on domestic products; abolishing import surcharges; replacing nontariff measures by tariffs; and equalizing tariffs in a downward direction. Initially, all tariffs exceeding 50% should be reduced to this level, with compensating increases in excise taxes on consumer goods. Furthermore, a tariff target of 20% should be set for the end of a five-year period, to be reached in annual installments according to a publicly announced program. Tariff rates up to 40% may be maintained on imported luxuries, and additional tariff protection, not exceeding 15%, may be provided to infant industries on a temporary basis and on a degressive scale (paras 4.15-4.18). Infant industry protection would take the place of the special fees (import surcharges) now imposed by the Board of Investment (para. 4.22).
30. In placing full reliance on tariffs, one should phase out quantitative import restrictions (import controls), which raise the level of protection to an extent that is difficult to measure in practice, contribute to inflation, and create uncertainty for private decision-making (para. 4.25). Temporary exceptions aside, it is further proposed to forego the use of price controls that may often be evaded by debasing quality and, if effective, tend to discourage the expansion of production (para. 4.29). Finally, it is proposed to rescind recent decisions to increase domestic content requirements for motorcycles and automobiles that would raise the cost of their domestic production, and to reinterpret existing requirements so that they can be fulfilled through the exportation of parts, components, and accessories that would permit exploiting economies of scale (para. 4.36).

Export Incentives (Ch. 5)

31. The incentive measures applied in recent years have not been sufficient to remove the cost disadvantages of industrial exports in Thailand, which result from import duties and business taxes imposed on their direct and indirect inputs. The proposed measures aim at removing these disadvantages and at providing positive incentives to exports in order to assure rapid export expansion. They include reforming the duty and tax rebate scheme; simplifying the administration of the preferential export credit scheme; extending this scheme to pre-export and investment credits; abolishing export taxes and limiting export controls; and employing various institutional measures of export promotion.

32. Duty and tax exemptions provided by the Ministry of Finance do not fully compensate for the burden of customs duties and indirect taxes on export production and involve difficulties of administration. It is proposed to reform this system by reducing the number of rebate rates; ensuring that these provide full compensation for duties and taxes paid at the last and at previous stages of manufacture; and making the payment of rebates automatic (paras. 5.13-5.16). In turn, electricity rebates should be abolished and the cost of electricity raised pari passu with increases in the world market price of energy, so as to encourage energy savings (para. 5.18).

33. There is also need to simplify the administration of preferential export credits that has so far been used chiefly by exporters of processed foods and of textiles and clothing. At the same time, the scheme should be extended to encompass pre-export credits for the purchase of inputs used in export production and should be complemented by the establishment of an export guarantee scheme (paras. 5.34-5.35).

34. It is further proposed to grant preferential credits for investment in export activities. Such a measure, aiming at the creation of new export capacity, is preferable to subsidizing all exports, that is subject to countervailing action under GATT rules (paras. 5.28-5.29).
35. The objective of export expansion would further be served by abolishing export taxes and export controls, with exceptions made for commodities that encounter market limitations abroad. At the same time, quotas for such commodities should be auctioned among domestic producers and traders, in order to ensure their full utilization and to appropriate the resulting excess profit for the government budget (paras. 5.19-5.23).

36. Exemptions from business taxes, presently provided to large international trading firms, should be extended to small, specialized traders and the eligibility of commodities for granting promotion privileges widened (paras. 5.38-5.40). Finally, institutional measures of export promotion should be oriented towards the needs of private industry, with additional measures taken to assist the processing of food and agricultural materials (paras. 5.41-5.45).

Regional Incentives (Ch. 6)

37. Taking account of the cost of infrastructure and the existence of economies of scale in infrastructure as well as in industry, the application of a multipronged regional development policy is recommended. This may involve shifting some of the burden of congestion and pollution in Bangkok onto those who contribute to them, allowing for continued expansion in the Central region, establishing a new industrial growth pole linked to the port of Sattahip, improving existing infrastructural facilities in outlying regions, and providing technical assistance to the establishment of food processing and other resource-based industries in which these regions have a comparative advantage (paras. 6.16-6.21).

General Supporting Policies (Ch. 7)

38. The success of the proposed industrial policy measures is predicated on Thailand following appropriate macro-economic policies for ensuring the internal and external stability of its economy. These policies should aim at reducing balance-of-payments deficits and lowering the rate of inflation (paras. 7.02-7.05).

39. Lowering the rate of inflation may make it possible to forego further increases in interest rates for the sake of providing positive real interest rates to savers and to investors. Positive real interest rates would be needed to ensure the generation of investment funds for the manufacturing sector as well as the efficient allocation of these funds. Apart from establishing positive real interest rates, it is recommended to study the workings of the financial sector, with a view to proposing improvements in the operation of equity and debt-markets (para. 7.12).

40. It would further be desirable to increase promotional efforts to attract foreign direct investment that may contribute to increased employment and incomes, improve the balance of payments, and bring in marketing and organizational know-how as well as modern techniques. At the same time, the payment of license and management fees to foreign firms should be subject to limitations (para. 7.12-7.15).
41. Modern industrial development also requires the availability of technical and skilled labor. For this purpose, it is recommended to prepare a reform of technical education and training in Thailand. Technical assistance measures would further be desirable in the case of the engineering industries (paras. 7.16-7.18).

42. The existing business tax system introduces considerable administrative difficulties in rebating taxes paid on inputs used in export production; it provides incentives for vertical concentration; and it discourages subcontracting. It is proposed to undertake a study of the eventual replacement of this system by a value added or a one-stage indirect tax that would minimize the administrative problems involved in rebating taxes and contribute to the deepening and modernization of the industrial structure. (para. 7.20).

Effects of the Proposed Measures

43. The proposed policy measures would contribute to efficient industrial growth through the development of industries that utilize the country’s abundant labor supply and natural resources. The expansion of labor-intensive exports, increases in the availability of investment funds, and the elimination of BOI privileges favoring capital-intensive activities would also promote industrial employment. At the same time, small- and medium-scale industry would benefit through the elimination of privileges to capital-intensive activities, reductions in the scope of minimum investment requirements for BOI-promoted projects, greater automaticity in decision-making, and the increased provision of investment credits.

44. The rise of employment and increased demand for primary products for export and for supplying the needs of the growing industrial labor force would raise the living standards of the poor. Lowering import barriers would have similar effects by reducing the cost of imported goods as well as the cost of domestic products hitherto manufactured behind protection. Moreover, the poor would tend to benefit from the expansion of small- and medium-scale industry.

45. The expansion of small- and medium-scale industry and the processing of primary products for export would also contribute to the industrial development of the outlying regions. The establishment of a growth pole linked to the port of Sattahip, the creation of new industrial estates, and the proposed infrastructural measures would further reduce the attraction of Bangkok. This outcome would be strengthened if congestion and pollution costs were properly allocated in Bangkok.

46. Also the balance-of-payments effects of the proposed industrial policy measures would be favorable as domestic resources would shift from import-substituting industries, where saving a dollar involves the expenditure of more domestic resources, to export industries, where earning a dollar requires fewer domestic resources. Improvements will be especially large in the first few years as it is proposed to introduce export promoting measures
immediately while the level of import protection would be lowered over the next five years. Thailand’s manufactured exports currently account for less than 2% of all manufactured exports from developing countries into developed country markets. The potential for expanding this share and diversifying products is considerable for a country such as Thailand despite relatively unfavorable world economic conditions. This potential is enhanced by the policy of a number of major exporters (e.g. Singapore, Korea, etc) to shift out of simple manufactures as their wage rates are too high. These are the products where it would be appropriate for Thailand to expand exports.

47. Industrial policy alone cannot be relied upon to solve Thailand’s balance-of-payments problems, however. It is assumed in the report that appropriate macroeconomic policy measures will be employed for this purpose. In fact, the successful pursuit of an industrial development strategy depends on the application of appropriate macroeconomic policies.

48. Providing credit preferences to investment in export activities would entail a limited budgetary cost that would be eventually recouped through increases in tax receipts directly or indirectly associated with export expansion. In turn, the cost of BOI-promotion would be reduced by eliminating duty and tax exemptions that would not be fully offset by expanding the scope of investment promotion. Nor would tariff reductions necessarily have adverse budgetary effects, given the eventual expansion of imports. Finally, the proposed measures for regional industrial development would not impose an undue burden on the budget.

49. The implementation of the proposed industrial policy measures would require close coordination on the part of ministries and agencies that are responsible for the application of such measures. Apart from the practical instances of coordination noted in the report, there is need for interministerial and interagency cooperation to develop a coherent industrial development strategy, to translate the strategy into practical policy measures, and to oversee the implementation of these measures.

Concluding Observations

50. The proposed policy measures are interdependent and should be considered a package. For one thing, incentives should be understood in relative terms as providing incentives to one activity necessarily reduces incentives to another. For another thing, overall budgetary limitations constrain the measures to be applied since providing budgetary allocations for one purpose reduces the funds available for another.

51. The proposed policy package focuses on the use of incentives, so as to ensure that private decisions conform to the national interest. Rather than increased intervention by the government, it entails reducing the scope of discretionary decision-making and simplifying administrative procedures. Thus, it is proposed to place chief reliance on private initiative that has contributed to favorable economic performance in Thailand in the past.
1. THE ORIENTATION OF INDUSTRIAL GROWTH AND DEVELOPMENT STRATEGY

Introduction

1.01 Following a brief review of Thailand's postwar economic performance and recent changes in its industrial incentive policies, this chapter will examine the prospects for Thai exports of processed food and manufactured goods and analyze Thailand's comparative advantage in these products. The elements of a coherent industrial development strategy will further be indicated in the chapter.

Economic Growth in Thailand, 1960-73

1.02 Thailand had an outstanding economic record during the postwar period. Among countries at similar income levels, it experienced one of the highest growth rates of per capita incomes, 4.5% a year between 1960 and 1973. According to recent estimates, economic growth has been accompanied by reductions in interregional and urban-rural income differences and in the proportion of the poor in the total population./1

1.03 Agriculture as well as manufacturing industries participated in the expansion, with growth rates of value added of 5.2% and 8.3%, respectively, between 1960 and 1973, when the average annual rate of growth of the gross domestic product was 8.0%. In agriculture, the availability of uncultivated land created opportunities for rapid growth. Agriculture, in turn, provided inputs for manufacturing industries as well as demand for manufactured products. Domestic demand, together with import substitution, contributed to the growth of the manufacturing sector.

1.04 Several additional factors contributed to the rapid growth of the Thai economy during the postwar period. To begin with, Thailand had savings and investment rates higher than developing countries of comparable size and incomes per head. In the years 1960-73, average shares of domestic savings and investment in GDP were 21% and 23%, respectively; the corresponding figures for the "comparator" countries averaged 18% and 20% (Table 1).

Domestic as well as foreign investment benefited from political stability and from the maintenance of a generally favorable investment climate in Thailand after the Second World War. Thailand had a free enterprise system, with limited government intervention in economic life.

Table 1: COMPARISONS WITH TYPICAL PATTERNS AT SIMILAR INCOME LEVELS
(PERCENT OF GDP)

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<th>Thailand 1960-73</th>
<th>Thailand 1974-78</th>
<th>Typical pattern</th>
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<tr>
<td>Domestic savings</td>
<td>21.0</td>
<td>22.8</td>
<td>18.2</td>
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<tr>
<td>Domestic investment</td>
<td>22.7</td>
<td>26.6</td>
<td>19.9</td>
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<tr>
<td>Exports of goods and services</td>
<td>18.4</td>
<td>20.6</td>
<td>12.3</td>
</tr>
<tr>
<td>Imports of goods and services</td>
<td>20.8</td>
<td>25.5</td>
<td>14.3</td>
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Note: The typical pattern for a large developing country has been derived by the use of cross-country regressions from Chenery and Syrquin, op. cit. It refers to a representative country with per capita incomes of $420 in 1978 prices; in the period 1960-73, per capita incomes averaged $300 in Thailand, again expressed in terms of 1978 prices; average per capita income was $450 in 1974-78. The difference between domestic investment and savings does not equal that between imports and exports due to rounding.

Furthermore, Thailand had a more open trade system than most countries at similar levels of economic development, with relatively low tariffs and few quantitative import restrictions. The openness of the Thai economy is reflected in the high share of foreign trade in GDP. In the 1960-73 period, export and import shares averaged 18% and 21%, respectively, as against 12% and 14% for the "comparator" countries.

Finally, economic growth benefited from the rapid expansion of exports, averaging 7.2% a year in volume terms between 1960 and 1973. However, the volume of imports grew even more rapidly, in particular after the mid-1960s, with annual increases averaging 10.2% for the period taken as a whole. Notwithstanding improvements in the terms of trade, Thailand's balance of trade deteriorated as a result, with the trade deficit amounting to 5.0% of GDP in 1973. This deficit was in large part offset by a surplus in the service account (in particular, US military expenditures related to the Vietnam war) and by private transfers.
Economic Developments after the Oil Crisis

1.07 High economic growth rates were maintained during the period following the oil crisis. The gross domestic product rose at an average annual rate of 7.5% between 1973 and 1978, with increases of 4.2% and 12.0% in agriculture and manufacturing, respectively. The acceleration in the growth of exports importantly contributed to this result. The volume of exports rose 14.0% a year, with approximately equal increases shown for primary and manufactured exports. Expansion was especially rapid in the exports of tapioca, sugar, and canned pineapple among processed primary products and in the exports of textiles and clothing, electronics, and jewelry among manufactured goods.

1.08 The volume of imports rose at a much lower rate, averaging 4.3% a year between 1973 and 1978. But, as a result of the quadrupling of oil prices, Thailand experienced a one-third decline in its terms of trade, so that the value of exports and of imports grew at about the same rate (19% a year) during this period. With export and import values rising more rapidly than the current value of GDP, the ratio of the trade deficit to the gross domestic product increased from 5.0% in 1973 to 6.4% in 1978. Furthermore, the balance of payments were adversely affected by declines in earnings from services and transfers, due largely to the disappearance of foreign exchange earnings related to the Vietnam war and the decrease of private transfers. Thus, while the surplus in the service account and in transfer payments offset nearly nine-tenths of the trade deficit in 1973, this ratio fell to less than one-fifth in 1978.

1.09 Rapid economic expansion contributed to the acceleration of the growth of imports in 1977 and in 1978, when the current account deficit came to exceed 5% of GDP. Preliminary data show a further deterioration in 1979, with the deficit amounting to about 8% of GDP, in large part due to increases in oil prices. Moreover, the approximate doubling of oil prices between 1978 and 1980 will increase Thailand's oil bill by over B 20 billion above its 1978 level, representing a terms-of-trade loss of about 3% of GDP and raising the ratio of the current account deficit to GDP to 9-10% in 1980.

Recent Changes in Industrial Incentives

1.10 The deterioration of Thailand's balance-of-payments situation has been a factor contributing to increases in industrial protection in recent years. Between 1974 and 1978, tariffs were raised on 53 industrial categories and reduced on only 19 categories. In the same period, business taxes on a number of imports were increased above the rate applicable to competing domestic products. These changes are reflected in the rise of rates of nominal protection, representing the combined effects of tariffs and
differences in business tax rates levied on imports and on comparable domestic products. Between 1974 and 1978, average levels of nominal protection of import substituting activities increased from 34.6% to 50.8% for products with low import competition (less than 10% of domestic production) and from 24.8% to 35.7% for products with higher import competition.

1.11 Import surcharges imposed by the BOI on 24 products and product groups; reductions in import duties and business taxes on imported and domestic inputs of a number of BOI-imported firms; reductions in business tax rates on intermediate products; and increases in the scope of import controls have further raised the protection of import substituting activities. Finally, protection has increased as a result of the imposition of domestic content requirements on automobiles and motorcycles.

1.12 Import protection has not been compensated by export incentives. Duty and tax exemptions, amounting to 3.5% of the value of manufactured exports, only partially relieve the burden of customs duties and indirect taxes on export production and encounter considerable difficulties of administration. Export credits are limited in scope and the subsidy equivalent of preferential interest rates does not attain 1% of the value of manufactured exports. Also, the growth of the exports of several products is restrained by the application of export controls. Finally, the extent of additional benefits to exports under BOI promotion is relatively small.

1.13 Increased import protection has often been rationalized on the grounds that it saves foreign exchange. The establishment of large import-substituting projects has also been supported on these grounds. But, taking account of the need for imported materials and machinery, the net import saving is often small; according to one estimate, it is negative in the case of automobiles, involving a net loss of foreign exchange.

1.14 At the same time, import protection, uncompensated by export incentives, permits the expansion of import substituting activities where the cost to the national economy of saving a dollar is higher than the cost of earning a dollar in export activities. High costs may be due to the relatively capital-intensive nature of import substitution and the lack of exploitation of economies of scale in producing for the small domestic market. The capital-intensity of the production process also limits employment creation, with the number of jobs created per unit of value added being three times as high in non-resource based export industries than in import substituting activities. And, domestic production costs are reported to be two to three and a half times as high as the cost of comparable imports in the case of automobile parts and components, where economies of scale are of importance.
1.15 Exemptions and reductions of import duties on machinery and the application of minimum capital requirements as a condition of BOI promotion too, favor capital-intensive activities. In fact, the average investment cost per job was more than five times higher in BOI-promoted firms than the national average.

1.16 These measures, together with discretionary decision-making in granting incentives, also tend to favor large-scale industry over small- and medium-size firms as well as firms located in Bangkok over those in outlying regions. In fact, the share of firms in Bangkok among the beneficiaries of BOI promotion was more than 50%, although they accounted for less than 40% of new industrial investment. Finally, negative real interest rates due to rapid inflation not being fully compensated by increases in nominal interest rates favor capital-intensive activities, while credit rationing by banks attendant on the excess demand for loans at these rates discriminate against small- and medium-size firms and firms located in outlying regions.

Objectives and Instruments of Industrial Policy

1.17 These considerations indicate the actual and potential adverse consequences of some of the policy measures introduced in recent years. In favoring import substitution and capital-intensive activities, these measures hinder efficient industrial growth and export expansion. They also tend to limit the expansion of industrial employment, the growth of small- and medium-scale industry, and regional industrial development.

1.18 The purpose of the recommendations contained in this report is to avoid these adverse consequences and to contribute to the formulation of a coherent industrial development strategy in Thailand. The proposed measures aim at furthering efficient industrial growth, together with increases in industrial employment, the expansion of small- and medium-size firms, improvements in the living standards of the poor, and an improved regional distribution of industry. The report will also consider general supporting measures aimed at maintaining internal and external economic stability; increasing the availability of investment funds to the manufacturing sector; ensuring the transfer of technology; providing the skilled labor necessary for industrial expansion; and improving the industrial structure.

1.19 Among general supporting policies, macro-economic measures are the most important. Such measures should aim at alleviating the adverse effects of increases in oil prices on the balance of payments and reducing the rate of inflation. Lower rates of inflation would also lessen distortions in investment allocation and contribute to domestic savings through higher real interest rates. More generally, by relieving pressure for import protection on balance-of-payments grounds, the application of appropriate macro-economic policies represents a pre-condition for the successful pursuit of an industrial development strategy.
Alternative Industrial Development Strategies

1.20 The process of industrial development generally begins with the replacement of the imports of nondurable consumer goods and their inputs, such as clothing, shoes, textiles, and leather, by domestic production. This represents the first, "easy," stage of import substitution as the industries in question utilize labor-intensive production methods; they are not subject to important economies of scale; and they do not require a network of suppliers of parts, components, and accessories for efficient operation.

1.21 Replacing the imports of nondurable consumer goods and their inputs by domestic production permits attaining industrial growth rates in excess of the growth of domestic demand. Once this stage is completed, however, the production of these commodities for the domestic market cannot continue to increase more rapidly than domestic consumption and, in order to maintain past rates of industrial growth, new directions have to be sought.

1.22 Countries that have completed the first stage of import substitution face a choice between moving to the next stage, involving the replacement of the imports of intermediate products and durable consumer goods by domestic production, or expanding manufactured exports. The first option was pursued until the mid-1960s by countries such as Argentina and Brazil and it continues to be pursued in India. In turn, in the early sixties, the second alternative was chosen by Korea, Singapore, and Taiwan.

1.23 The adoption of an export-oriented strategy by the East Asian countries has entailed granting similar incentives to sales in domestic and in export markets. Exporters and the domestic producers of inputs for export production have enjoyed practically free trade treatment, with some additional subsidies that have compensated, on the average, for the moderate protection of domestic sales. Also, there has been limited variation in incentive rates among industries and product groups.

1.24 Countries pursuing an export-oriented strategy have experienced rapid rates of growth of industrial output and employment. This has occurred as the lack of discrimination against exports has permitted specialization according to comparative advantage in labor-intensive activities. Also, competition in foreign markets has provided inducements for technological change and exporting has permitted the exploitation of economies of scale, thereby lowering production costs for export, as well as for domestic, sales.

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1.25 The growth of industrial output and employment was considerably slower in countries that embarked on import substitution in intermediate products and durable consumer goods. These products generally utilize capital-intensive production methods, require large-scale production for low-cost operations, and need a network of suppliers of parts, components and accessories. In the narrow national markets of the developing countries, the expansion of the industries in question involved a considerable cost. At the same time, the need for foreign inputs limited import savings while the policies applied adversely affected exports. These developments, in turn, led to balance-of-payments difficulties and a decline in rates of economic growth.

1.26 As the adverse consequences of continued import substitution have come to be recognized, several countries applying this strategy, including a country the size of Brazil, have turned towards promoting manufactured exports. In order to safeguard existing industries, this has taken the form of providing export subsidies to compensate, albeit only partially, for the disadvantages of export industries due to high protection.

Import Substitution and Exports in Thailand

1.27 Import substitution in nondurable consumer goods and their inputs importantly contributed to industrial growth in Thailand following the end of the Second World War. By the early seventies, however, the replacement of the importation of these commodities by domestic production practically came to an end. With the completion of its first "easy" stage, import substitution has ceased to contribute to industrial growth (Table 2). This has occurred notwithstanding increases in industrial protection in recent years.

/1 Protection raises the cost of domestic inputs for export industries and reduces the domestic currency equivalent of foreign exchange earnings. This is because import protection takes the place of a devaluation of the exchange rate.
Table 2: SOURCES OF INDUSTRIAL GROWTH

<table>
<thead>
<tr>
<th></th>
<th>1966-72</th>
<th>1972-75</th>
<th>1975-78</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic demand</td>
<td>64.1</td>
<td>91.0</td>
<td>79.5</td>
</tr>
<tr>
<td>Import substitution</td>
<td>29.4</td>
<td>0.5</td>
<td>-7.7</td>
</tr>
<tr>
<td>Export expansion</td>
<td>6.5</td>
<td>8.5</td>
<td>28.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Estimates made for mission by Narongchai Akrasanee.

Note: A positive contribution of import substitution indicates decreases in the share of imports in domestic consumption; a positive contribution of export expansion indicates increases in the share of exports in domestic production. The contribution of domestic demand is the residual.

1.28 At the same time, Thai exports of processed goods grew rapidly in recent years due to a combination of favorable circumstances noted below. Between 1973 and 1978, the value of these exports increased from B23.0 billion to B67.4 billion. During this period, the exports of processed materials (mainly rubber and tin) rose from B8.1 to B16.0 billion; the exports of traditional processed food (rice, tapioca and sugar) increased from B7.3 to B25.3 billion; non-traditional processed food exports grew from B2.6 to B8.7 billion; and the exports of manufactured goods, defined as SITC categories 5 to 8 less nonferrous metals, expanded from B5.0 billion to B17.4 billion (Table 3).

1.29 Within the nontraditional processed foods categories, fruits and vegetables (B1.5 billion in 1978) and fishery products (B5.1 billion) are of greatest importance. Among other products of potential export interest, exports of vegetable oils (B0.1 billion) have been practically stationary while exports of bakery products (B0.2 billion) have been growing rapidly but remain small in absolute terms. Among manufactured exports, textile yarn and thread (B2.1 billion), textile fabrics (B3.4 billion), clothing (B2.2 billion), simple electronics (B2.2 billion), jewelry (B2.1 billion) are of importance.
Table 3: COMPOSITION OF THAI EXPORTS

<table>
<thead>
<tr>
<th></th>
<th>B million</th>
<th>Index 1978 (1973=100)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>current</td>
<td>current prices</td>
<td>Constant</td>
<td>prices</td>
</tr>
<tr>
<td></td>
<td>1973</td>
<td>1978</td>
<td>prices</td>
<td>prices</td>
</tr>
<tr>
<td>Unprocessed goods</td>
<td>6,880</td>
<td>11,852</td>
<td>172.3</td>
<td>n.a.</td>
</tr>
<tr>
<td>Processed goods</td>
<td>23,015</td>
<td>67,418</td>
<td>292.9</td>
<td>n.a.</td>
</tr>
<tr>
<td>Processed materials</td>
<td>8,079</td>
<td>16,019</td>
<td>198.3</td>
<td>n.a.</td>
</tr>
<tr>
<td>of which, rubber</td>
<td>4,573</td>
<td>8,030</td>
<td>175.6</td>
<td>113.3</td>
</tr>
<tr>
<td>tin</td>
<td>2,035</td>
<td>7,229</td>
<td>355.2</td>
<td>127.7</td>
</tr>
<tr>
<td>other</td>
<td>1,471</td>
<td>760</td>
<td>51.7</td>
<td>n.a.</td>
</tr>
<tr>
<td>Processed food</td>
<td>9,935</td>
<td>33,965</td>
<td>341.9</td>
<td>n.a.</td>
</tr>
<tr>
<td>of which, rice</td>
<td>3,594</td>
<td>10,425</td>
<td>290.1</td>
<td>189.4</td>
</tr>
<tr>
<td>tapioca</td>
<td>2,537</td>
<td>10,892</td>
<td>429.3</td>
<td>342.2</td>
</tr>
<tr>
<td>sugar</td>
<td>1,161</td>
<td>3,969</td>
<td>341.9</td>
<td>375.5</td>
</tr>
<tr>
<td>nontraditional</td>
<td>2,643</td>
<td>8,679</td>
<td>328.4</td>
<td>n.a.</td>
</tr>
<tr>
<td>Manufactured Goods</td>
<td>5,001</td>
<td>17,434</td>
<td>348.6</td>
<td>188.5</td>
</tr>
<tr>
<td>of which, textiles &amp; clothing</td>
<td>2,750</td>
<td>8,368</td>
<td>304.3</td>
<td>n.a.</td>
</tr>
<tr>
<td>other manufactures</td>
<td>2,251</td>
<td>9,066</td>
<td>402.8</td>
<td>n.a.</td>
</tr>
<tr>
<td>Miscellaneous and re-exports</td>
<td>2,331</td>
<td>3,795</td>
<td>162.8</td>
<td>n.a.</td>
</tr>
<tr>
<td>All commodities</td>
<td>32,226</td>
<td>83,065</td>
<td>257.8</td>
<td>184.2</td>
</tr>
</tbody>
</table>


Note: Processed goods have been defined as input-output categories 042 to 134; manufactured goods have been defined as SITC categories 5 to 8 less 68 (non ferrous metals).

Prospects for Processed Food Exports

1.30 Among traditional processed foods, rice exports fluctuated to a considerable extent from year to year without a clear trend. Exports averaged 1.6 million tons in the period 1964-68, 1.3 million tons in 1969-73, and 1.7 million tons in 1974-78. While the near exhaustion of arable land and rising domestic demand will limit the future growth of exportable surpluses, reductions in export tax and premium rates would contribute to higher rice production through shifts in land use and more intensive cultivation.
1.31 Tapioca exports enjoyed very rapid growth, rising from an average of 0.8 million tons a year in 1964-68 to 1.3 million tons in 1969-73 and to 3.7 million tons in 1974-78. The expansion occurred in response to favorable tariff treatment in the European Common Market as compared to competing foreign supplies, in particular U.S. maize. At the insistence of the domestic producers of feedstuffs, however, in 1979 the Common Market limited Thai exports to the previous year's level. Prospects for further expansion to EEC markets are not favorable and, while other markets are as yet unexploited, there is strong competition from U.S. maize.

1.32 In response to government price supports and high world market prices, sugar production and exports increased at a rapid rate in recent years. Exports averaged 1.0 million tons in 1974-78 as compared to 0.2 million tons in 1969-73 and negligible amounts in 1964-68. Sugar exports, however, are limited to 1.0 million tons a year under the International Sugar Agreement, and the exportation of this amount, too, requires a subsidy under present conditions as domestic production costs exceed prevailing world market prices.

1.33 Exports of processed fruits and vegetables rose fifteen-fold between 1973 and 1978. 93% of total exports of B 1.5 billion in 1978 is accounted for by canned and frozen pineapple. Canned pineapple (85% of processed pineapple exports) faces market limitations in the United States but frozen pineapple exports may continue to rise. Furthermore, there are good market prospects for the exports of canned and frozen tropical fruits and vegetables.

1.34 Exports of fishery products (including fish meal) increased from B 1.7 billion in 1973 to B 5.1 billion in 1978. The share of higher value demersal fish (chiefly shrimp, lobster and cuttlefish) in the total has declined, however, because of supply constraints that will not permit further expansion either, unless deep-water fishing or aquaculture is introduced. There are greater possibilities for increasing low-valued pelagic fishing although it will eventually encounter limitations in nearby waters while the high cost of fuel constrains fishing at further distances. However, in order to utilize existing possibilities, the systems of variable levies on fishmeal exports should be abolished.

1.35 Thai vegetable oil exports were practically stationary in recent years but increases are possible if the ban on the exportation of rice bran oil and soybean oil is rescinded and/or if some of the area under tapioca is switched to soybeans and castor beans. There are also possibilities for exporting tapioca and maize-based processed feedingstuffs and for expanding meat exports based on domestic feedstuffs. Finally, exports of bakery goods, chiefly rice vermicelli and rice crackers, increased tenfold between 1973 and 1978, but their profitability will decline if the high protection provided through low rice prices is reduced.
Prospects for Manufactured Exports

1.36 The value of Thai manufactured exports rose by 249% between 1973 and 1978, with increases of 204% for textiles and clothing and 303% for other manufactured goods, respectively. Comparable figures for the exports of all developing countries to developed country markets are 139% for textiles and clothing, 193% for other manufactures, and 174% for all manufactured exports, taken together. In the same period, Thai manufactured exports increased by 89% in constant prices; the corresponding increase for all developing countries was 60%.

1.37 Export expansion was favorably affected by improvements in Thailand's competitive position resulting from relatively low rates of inflation. Between 1973 and 1978, the prices of manufactured goods increased by 55.5% in Thailand as compared to 66.3% in the United States, with the Baht-dollar exchange rate remaining unchanged. Thailand further benefitted from the appreciation of the yen during this period.

1.38 An important factor contributing to the superior performance of Thai exports of textiles and clothing has been the imposition of quotas on the exports of other East Asian countries in developed country markets. This has led to the establishment of production facilities for export in Thailand, often with the participation of foreign investors. And although the United States has subsequently imposed quotas on Thai exports of textiles and clothing, the quotas have not been fully utilized so far and until recently there has been no quota in the EEC.

1.39 The full utilization of quotas and the upgrading of exports provide possibilities for further increases in Thai exports of textiles and clothing. These exports will further benefit from a reallocation of quotas in favor of new producers by the developed countries. Nevertheless, the 5-6% annual growth in the developed countries' imports of textiles and clothing in the framework of the International Multi-Fiber Arrangements limits the rate of expansion, and hence it cannot be expected that past rates of growth would continue in the future. Thailand would thus have to explore new markets for textiles and clothing where it encounters competition from East Asian countries.

Comparative Advantage in Thai Industry

1.40 The range of manufactured exports needs to be diversified. At present Thailand's comparative advantage lies in labor-intensive products as indicated below. Apart from textiles and clothing, Thailand does not encounter foreign market limitations in other labor-intensive products.

1.41 Continued rapid growth of industrial exports, with necessary changes in their market orientation and product composition, would require taking appropriate policy measures. Apart from the export incentives described in Chapter 6, there is need to improve the international competitiveness of Thai industry that has deteriorated recently as inflation has accelerated while the baht-dollar exchange rate has remained unchanged. Between December 1978 and December 1979, the prices of manufactured goods rose by 20.7% in Thailand as
compared to increases of 16.5% in the United States. In the same period, the
dollar price of Japanese goods declined by 4.6% due to the combined effects of
the 23.2% depreciation of the yen and domestic price increases of 17.5%.

1.42 Note has been taken of the possibilities for expanding the exports
of processed foods in Thailand. Other natural resource products that offer
export possibilities include wood products, cement and ceramics. The expansion
of these exports would contribute to the development of primary
activities and to the regional diversification of the industrial sector.

1.43 Furthermore, Thailand has a comparative advantage in labor-intensive
commodities. Labor discipline is good and wages are low in Thailand. Until
recently, minimum wages were B 35 per day in the Bangkok area, B 28 per day in
the Central and Southern regions, and B 25 per day in the Northern and
Northeastern regions.\footnote{Minimum wages in Bangkok were raised to B 45 in September 1979, with
commensurate increases elsewhere.} Unskilled labor rarely receives wages in excess of
the legal minimum and survey data show that average manufacturing wages have
been only 20-25 per cent above the minimum wage.

1.44 By contrast, in 1978, average manufacturing wages were B 900 per
day in Japan and B 140-160 per day in Hong Kong, Korea, Singapore and Taiwan.
These differences in wages are only partly offset by the lower level of labor
efficiency in Thailand. And, in the four East Asian countries, real wages
are rising rapidly whereas the availability of labor reserves in rural areas
would permit industrial expansion in Thailand to continue without substantial
increases in real wages for some time to come. The availability of domestically
produced food at low prices bestows further advantages on Thailand as
compared to Korea and Taiwan, where the protection of the domestic production
of staple foodstuffs, such as rice and maize, raises the cost of living and
hence money wages.

1.45 Increases in real wages have reduced the competitiveness of indus-
tries relying largely on unskilled labor in nearby Singapore, where it is
the policy of the government to discourage these industries. Several such
industries are expected to migrate elsewhere. With increases in unskilled
wages, changes in export composition towards skill-intensive products are
taking place also in Hong Kong, Korea and Taiwan. Thailand can thus benefit
from the upgrading of the export structure in Hong Kong, Korea, Singapore
and Taiwan, which are replacing Japan in the exportation of some skill-
intensive products as Japan itself expands its technology-intensive exports.
The magnitudes involved are indicated by the fact that combined manufactured
exports of the four East Asian countries approached B 1,000 billion in 1978
compared to B 18 billion for Thailand.

1.46 Its low wages, then, provide Thailand with a comparative advantage
in labor-intensive industries. The extent of potential gains from exploiting
Thailand's comparative advantage in these industries is indicated by the
existence of large interindustry variations in labor intensity. At one end of
the spectrum, capital requirements per job, in thousand U.S. dollars of 1971, are 103.5 for petroleum and coal products, 39.7 for fertilizers, and 37.8 for steel and steel products as compared to an overall average of 13.7 for the entire manufacturing sector. These capital-intensive industries also create relatively few jobs. The relevant figures per $1,000 of output are petroleum and coal products, 2; fertilizers, 13; and steel and steel products, 13; the overall average for the manufacturing sector is 18 (Table 4).

1.47 At the other end of the spectrum, low capital-labor and high employment-output ratios are observed in clothing (2.0 and 40), leather and leather products (2.8 and 32), and furniture and fixtures (4.5 and 31). Fabricated metal products, machinery and equipment, instruments, and miscellaneous manufactured goods, too, are relatively labor-intensive, with capital-labor ratios averaging 5 to 11; except for transport equipment they also exhibit above-average employment-output ratios.

1.48 The cited data pertain to US industry in 1971. Information on capital-labor ratios is available for Korea in 1970. The ranking of industries by capital-labor ratios is very similar in the two cases although, in line with its relative labor abundance, the absolute amounts of capital per unit of labor are lower in Korea. For the same reason, relatively low capital-labor ratios are observed in the Korean rubber and plastics, metal, and machinery industries where opportunities exist for specialization in labor-intensive products.
Table 4: CAPITAL REQUIREMENTS PER JOB AND EMPLOYMENT PER UNIT OF OUTPUT FOR MANUFACTURING INDUSTRIES

<table>
<thead>
<tr>
<th>SIC No.</th>
<th>Industry</th>
<th>Capital requirements per job (US$000)</th>
<th>Employment per $1,000,000 of output (jobs)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>US</td>
<td>Korea</td>
</tr>
<tr>
<td>22</td>
<td>Textile mill products</td>
<td>9.7</td>
<td>5.5</td>
</tr>
<tr>
<td>23</td>
<td>Apparel and other textile products</td>
<td>2.0</td>
<td>1.2</td>
</tr>
<tr>
<td>24</td>
<td>Lumber and wood products</td>
<td>10.1</td>
<td>5.3</td>
</tr>
<tr>
<td>25</td>
<td>Furniture and fixtures</td>
<td>4.5</td>
<td>1.1</td>
</tr>
<tr>
<td>26</td>
<td>Paper and allied products</td>
<td>25.4</td>
<td>11.0</td>
</tr>
<tr>
<td>27</td>
<td>Printing and publishing</td>
<td>9.6</td>
<td>3.8</td>
</tr>
<tr>
<td>28</td>
<td>Chemical and allied products</td>
<td>23.4</td>
<td>10.7</td>
</tr>
<tr>
<td></td>
<td>Fertilizers</td>
<td>39.7</td>
<td>34.4</td>
</tr>
<tr>
<td>29</td>
<td>Petroleum and coal products</td>
<td>103.5</td>
<td>51.2</td>
</tr>
<tr>
<td>30</td>
<td>Rubber and plastic products</td>
<td>15.0</td>
<td>3.7</td>
</tr>
<tr>
<td>31</td>
<td>Leather and leather products</td>
<td>3.8</td>
<td>2.2</td>
</tr>
<tr>
<td>32</td>
<td>Stone, clay and glass products</td>
<td>19.5</td>
<td>11.0</td>
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<tr>
<td>33</td>
<td>Primary metal and allied products</td>
<td>26.1</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Steel and steel products</td>
<td>37.8</td>
<td>n.a.*</td>
</tr>
<tr>
<td>34</td>
<td>Fabricated metal products</td>
<td>9.8</td>
<td>2.3</td>
</tr>
<tr>
<td>35</td>
<td>Nonelectrical machinery</td>
<td>10.7</td>
<td>2.9</td>
</tr>
<tr>
<td>36</td>
<td>Electrical equipment and supplies</td>
<td>7.4</td>
<td>2.7</td>
</tr>
<tr>
<td>37</td>
<td>Transportation equipment</td>
<td>9.1</td>
<td>4.9</td>
</tr>
<tr>
<td>38</td>
<td>Instruments and related products</td>
<td>9.2</td>
<td>2.3</td>
</tr>
<tr>
<td>39</td>
<td>Miscellaneous categories</td>
<td>5.7</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>All categories</td>
<td>13.3</td>
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</tbody>
</table>

1.49 In the last mentioned industries, capital requirements are less than $2,000 per job for industrial rubber products, hand tools, wire and cable, household equipment, construction and mining machinery, textile machinery, domestic electrical equipment, batteries and accumulators, motorcycles and bicycles, medical instruments, scientific measuring instruments, photographic and optical instruments, musical instruments, office supplies, and umbrellas. In other industries, outerwear and underwear, clothing accessories, hats and caps, miscellaneous wool products, pesticides, cosmetics and perfumes, and pottery and china are in the below $2,000 category.\(^1\)

1.50 The data for Korea are of special interest, as in 1970 Korea was at a level of industrial development not much higher than Thailand is today. They provide an indication of the extent to which capital requirements per job vary among industries and product groups. There also exist considerable differences in labor intensity within the product groups listed in para. 1.47 as well as among parts, components and accessories in the manufacture of electrical and nonelectrical machinery and motor vehicles.

1.51 The results lead to the conclusion that substantial gains may be obtained in specializing in labor-intensive industries and, within particular industries, in labor-intensive products and processes in Thailand. This conclusion is confirmed by calculations made for a sample of projects financed by the Industrial Finance Corporation of Thailand, which show that the average domestic resource cost of saving a dollar in relatively capital-intensive import-substituting projects is two-to-three times as high as the domestic resource cost of earning a dollar in relatively labor-intensive export projects.\(^2\) For all Thai manufacturing industries, jobs created per unit of output are three times as high in nonresource based exports as in import substitution.\(^3\)

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\(^1\) Chungsoo Kim, "Changing Patterns of Trade: A Neo-Factor Proportions Approach" Ph.D. dissertation at the Johns Hopkins University, Baltimore, Md., 1980. Data on employment-output ratios, available in a different breakdown, also generally confirm the conclusions reached on the basis of US data.

\(^2\) Domestic resource costs include the cost of capital, labor and land to the national economy. The calculations were made by Narongchai Akrasanee.

\(^3\) Narongchai Akrasanee, "Trade Strategy for Employment Growth in Thailand," June 1979. Job creation per output value is 1.6 times as high in natural-resource based exports as in import substitution.
1.52 The results further indicate that specialization according to comparative advantage would importantly contribute to industrial employment in Thailand and thereby raise the incomes of the poor. Such specialization would also permit exploiting economies of scale in export industries as well as in the production of parts, components, and accessories. For example, specialization in selected labor intensive parts and components would ensure their production on an efficient scale in the automobile industry where domestic content requirements have led to the small-scale, high-cost production of parts, components and accessories in Thailand.

Towards a Coherent Industrial Development Strategy

1.53 It follows that attaining rapid rates of growth of industrial output and employment in Thailand would require the expansion of natural resource-based and labor-intensive industries. These industries provide good prospects for exports as well as for efficient import substitution, since export expansion permits reducing production costs for sales in domestic markets.

1.54 Also, the data provide prima facie evidence of low economic rates of return in large, capital-intensive, import-substituting projects, such as petrochemicals, fertilizers, and an integrated steel complex, all of which have the high capital requirements and create few jobs per unit of output. More accurate results can be obtained by applying techniques of economic project evaluation to large, government-sponsored projects.

1.55 While large, Government-sponsored projects should be subjected to economic project evaluation, one should rely on incentives to ensure that private business activities conform to the national interest. This could be accomplished by providing equal incentives to import substitution and to exports as has been the case in Korea, Singapore, and Taiwan. At the least, existing discrimination against manufactured exports would need to be reduced.

1.56 There is also a prima facie case for providing equal incentives to all manufacturing industries, except that infant industries should receive greater incentives on a temporary basis. At the same time, manufacturing industries create external economies in the form of new skills and technological change so that they may appropriately receive preference over primary activities, although the extent of this preference should be lower than that presently provided by import protection.

1.57 The efficiency of input use and of the industrial structure could be increased by modifying the system of investment incentives and business taxes that presently favor capital-intensive activities as well as large firms. Also, there is need to raise real interest rates to lenders and to borrowers so as to generate the domestic savings necessary for rapid industrial growth and to ensure the efficient allocation of savings among competing uses. It would further be desirable to promote technological improvements and the upgrading of the labor force. Finally, for the incentive
measures to have their full impact, the scope of administrative interventions would need to be reduced and administrative procedures simplified. There is also need for supporting measures in the form of the provision of human and physical infrastructure, including the establishment of export processing zones and industrial estates.

1.58 The following chapters will examine these elements of an industrial development strategy for Thailand, with further attention given to employment, income-distributional, and regional objectives. The individual chapters will analyze the system of investment incentives (Chapter 2); consider the need for the economic evaluation of large government-sponsored projects (Chapter 3); examine measures of import protection (Chapter 4); review export promotion schemes (Chapter 5); discuss questions relating to regional development (Chapter 6); and examine general policy measures that support the implementation of an industrial development policy (Chapter 7). Each of these chapters contain recommendations for policy improvements. The recommendations pertain to measures that may be taken over a five-year period in the pursuit of the stated objectives.
2. INVESTMENT INCENTIVES

Introduction

2.01 In Thailand, investment incentives are provided by the Board of Investment, the Industrial Finance Corporation of Thailand, and the Small Industry Finance Office. The general incentives granted by these institutions will be considered in this chapter, with further attention given to the investment controls administered by the Ministry of Industry.

Board of Investment (BOI) Activities

2.02 The Board of Investment, chaired by the Prime Minister, is responsible for the implementation of the Industrial Promotion Act. The 1977 revision of this Act provides criteria for the choice of activities eligible for promotion; it sets the guidelines to be used by the BOI to accord promotion privileges to individual investment projects; and it describes the conditions the BOI may stipulate for granting promotion privileges to these projects. The scope of promotion privileges has been determined for the general case, for export activities, for investment in Investment Promotion Zones and, since mid-1979, for international trading companies. Promotion privileges that may be granted in the general case will be examined in this chapter. Import surcharges and import bans imposed by the BOI will be considered together with other instruments of protection in Chapter 4. Promotion privileges aimed at simulating exports (including the privileges granted to trading companies) will be examined in Chapter 5; and measures aimed at furthering regional development will be taken up in Chapter 6.

2.03 Under the 1977 revision, the Board of Investment may provide (a) exemptions, or reductions up to 50%, of import duties and business taxes on imported machinery and of business taxes on domestically produced machinery; (b) reductions up to 90% of import duties and business taxes on imported materials and of business taxes on domestic materials; (c) exemptions of corporate income taxes for 3 to 8 years, with the carry-forward of losses for up to 5 years after the end of the period of exemption; (d) exclusions from taxable income of fees for goodwill, copyright and other rights for a period of five years after income is derived from the promoted activity; and (e) exclusions from taxable income of dividends derived from the promoted activity during the period of income tax holiday. The Board may also impose import surcharges on competing imports or request the Ministry of Commerce to ban such imports.

2.04 The BOI has considerable discretionary authority to determine the list of activities eligible for promotion; to select the investment projects that are to receive promotion privileges; to set conditions for these projects; and to determine the extent and the length of duration of promotion privileges. As of December 31, 1979, there were 15 activities in agricultural products and commodities (mostly processing), 5 in minerals, metals, and
ceramics, 8 in chemicals and chemical products, 6 in mechanical and electrical
equipment, 31 in other products, and 13 in services eligible for promotion.
Promotion is subject to minimum conditions as to the size of the investment
and, in selected instances, the share of exports in output.

2.05 Under the revised Investment Promotion Act, an Investment Service
Center has been established. This Center, informally known as the "One Stop
Shop," is supposed to assist businessmen to obtain the numerous permits and
licenses that are necessary to begin operations and to assist them in admin-
istrative matters once operation has begun. In practice, however, the
activities of the Center have been largely limited to cases pertaining to
immigration.

BOI: Evaluation

2.06 While the effects of BOI promotion are difficult to gauge in quanti-
tative terms, it is apparent that the application of promotional measures has
made it possible to undertake investments that would not have otherwise been
profitable. At the same time, the character of the measures applied deserves
consideration as the choice among projects is affected thereby.

2.07 Income tax exemption for profits and dividends derived from promoted
investments is a desirable measure as it rewards firms that lower their
production costs, irrespective of whether they use labor or capital more
intensively. This contrasts with the use of the accelerated depreciation
provisions in several other developing countries that encourage capital-
-intensive activities and production methods, with adverse effects on economic
efficiency and employment.

2.08 Capital-intensive products and processes are, however, favored by
the exemptions and reductions of import duties and business taxes on
machinery. Tariff exemptions and reductions on imported machinery also favor
imports and tend to discourage the expansion of the domestic machinery
industry; tariff reductions on imported materials have similar effects on the
domestic production of these materials. Finally, exemptions and reductions of
import duties and business taxes on machinery and materials used in the
production process, as well as import surcharges and import bans, raise the
level of protection of the promoted activities.

2.09 Apart from exemptions and reductions of import duties and business
taxes on machinery, capital-intensive activities are encouraged by the minimum
investment requirements established as a condition for granting promotion
privileges to particular activities. These requirements also favor large-
scale industry over small- and medium-size firms. Discretionary decision-
making by the BOI, too, favors large, well-established firms and firms located
in the Bangkok area that are generally better able to represent their
interests.
2.10 The capital-intensity of the promoted firms exceeds that of new industrial investments by a considerable margin; in 1977, the average investment cost per job was B 541,000 in BOI-promoted industrial firms (Table 5) and B 100,000 in all new investments reported by the Ministry of Industry. Similar discrepancies are shown in industry-by-industry comparisons.

2.11 The high capital-intensity of BOI-promoted firms conflicts with the stated objective of providing increased employment in the industrial sector. At any rate, the multiple objectives stated in the 1977 revision of the Investment Promotion Act regarding the choice of activities and projects to be promoted are difficult to implement. Furthermore, discretionary decision-making by the BOI creates uncertainty for the entrepreneur.

Table 5: CHARACTERISTICS OF BOI-PROMOTED INDUSTRIAL FIRMS /a

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<tr>
<td>No. of firms</td>
<td>149</td>
<td>214</td>
<td>196</td>
<td>222</td>
<td>321</td>
<td>318</td>
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<tr>
<td>Total assets (B million)</td>
<td>18,578</td>
<td>27,491</td>
<td>28,460</td>
<td>31,521</td>
<td>40,501</td>
<td>39,406</td>
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<tr>
<td>Equity (B million)</td>
<td>5,827</td>
<td>11,052</td>
<td>7,411</td>
<td>8,598</td>
<td>10,508</td>
<td>11,094</td>
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<tr>
<td>Sales (B million)</td>
<td>15,156</td>
<td>24,554</td>
<td>25,320</td>
<td>30,185</td>
<td>41,879</td>
<td>32,804</td>
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<tr>
<td>Net profit (B million)</td>
<td>476</td>
<td>1,478</td>
<td>558</td>
<td>-236</td>
<td>1,075</td>
<td>548</td>
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Profit as % of:
- Assets (%) | 2.6 | 5.4 | 2.0 | -0.7 | 3.1 | 1.4 |
- Equity (%) | 8.2 | 13.4 | 7.5 | -2.7 | 12.1 | 4.9 |
- Sales (%) | 3.1 | 6.0 | 2.2 | -0.8 | 3.0 | 1.7 |

Exports (B million) | 2,677 | 4,707 | 5,533 | 4,675 | 6,419 | 6,636 |

No. of Thai employees | 51,594 | 89,448 | 82,178 | 69,029 | 120,987 | 72,784 /b |

Total Assets Per Thai Employee (B million) | 360.1 | 307.4 | 346.3 | 456.6 | 334.8 | 541.4 |

Export/sales ratio (%): excluding processed food | 17.7 | 19.2 | 21.9 | 15.5 | 15.3 | 20.2 |

/a The data exclude the service sector.

/b Employment figures have been corrected for an apparent error in the Mineral, Metal and Ceramic category.

Source: Board of Investment.
2.12 Questions arise also about the choice of the activities to be promoted. Granting promotion privileges to various services, such as hotels, car parking, and movie making, may be objected to on the grounds that these activities do not create external economies that provide the rationale for granting promotion privileges. In turn, the list of manufacturing activities to be promoted being "a positive list," it may exclude, by omission, activities, the expansion of which would be desirable.

**BOI: Recommendations**

2.13 The recommendations made in this chapter pertain to changes in the procedures involved in selecting activities and projects for promotion; the conditions under which promotion privileges are granted; and the scope of the promotion measures. Desirable changes in regard to import protection measures, incentives to export activities, and incentives for regional development employed under the Investment Promotion Act will be considered in Chapters 4, 5 and 6.

2.14 It is proposed to replace the present "positive list" of activities which may receive incentives by a "negative list" that would exclude activities the further expansion of which is not considered desirable. The negative list should be limited to activities where domestic markets are saturated and exports encounter market limitations abroad. In the case of activities that are not on the negative list, investment projects should automatically receive promotion privileges.

2.15 Concentrating the efforts of BOI staff on the choice of activities to be placed on the negative list would permit thoroughgoing economic analysis. Such cases, including a review of the list of activities in the case of which promotion privileges have been suspended, would require detailed examination. In so doing, considerable care should be exercised in defining market saturation, so as to avoid establishing monopolistic positions that have been shown to give rise to the use of inefficient production techniques in Thailand./1 Also, one should avoid a situation where export possibilities are foregone because of the lack of promotion privileges.

2.16 The introduction of automaticity in granting promotion privileges to investment projects that carry out activities other than those on the negative list would ease the task of the BOI and lessen uncertainty for the entrepreneur. Automaticity would further be served, and uncertainty

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for the entrepreneur reduced, if the conditions that need to be fulfilled for granting promotion privileges were simplified. At any rate, some of the conditions stated in the 1977 revision of the Investment Promotion Act, such as those pertaining to the use of local raw materials and the training and employment of manpower, are too vague to be of much practical value.

2.17 Minimum requirements for capital investment would also need to be modified. While the imposition of such requirements may be useful in industries producing intermediate products where costs per unit decline at higher output levels, this will not generally be the case for machinery and consumer goods industries. In the case of machinery and equipment, economies of scale are a function of the division of the production process, and specialization in the production of parts, components, and accessories may require the establishment of small- and medium-size firms. Such firms may also play an important role in the production and exports of a variety of consumer goods as has been the case in East Asian countries.

2.18 It would further be desirable to modify the scope of promotion measures, with a view to reducing the advantages provided to capital-intensive and import-intensive activities. For this purpose, it is proposed to eliminate exemptions and reductions of import duties and business taxes on machinery and materials. However, machinery and materials used in export production would be covered by the rebate scheme described in para. 5.11-16 below. Also, in order to assist firms in the period immediately following the new investment, duties on machinery may be paid in installments following a grace period.

2.19 The proposed measures would need to be complemented by a vigorous effort on the part of the BOI to explore new investment possibilities and to facilitate the task of the investor. The first purpose would be served through the preparation of preinvestment studies while the second would require the extension of the activities of the Investment Promotion Center. Simplifying administrative requirements would necessitate the cooperation of other governmental agencies and modifications in existing legislation, various aspects of which do not conform to the needs of modern industry.

2.20 Simplifying administrative procedures and modifying existing legislation would be of particular importance to attract foreign direct investment. Increased promotional efforts on the part of the BOI would also serve this objective. The need for foreign direct investment will be examined in Chapter 7 below, together with questions relating to technology transfer, where the BOI may again assume increased responsibilities.

Ministry of Industry

2.21 Under the Factory Control Act of 1962, the Ministry of Industry can impose conditions on the establishment of new firms and on the expansion of existing firms. The authority granted under the Act has been invoked to ban entry and expansion or to make this conditional on approval by the
Ministry. Such decisions have been taken on the grounds that the domestic market is saturated, as well as in response to demands on the part of domestic producers in difficulty that wished to avoid increased competition.

2.22 While the control of entry and expansion is supposed to be temporary, the ban on certain products, e.g. plastic mats, has been continued for about a decade. Other products subject to ban include jute products, concrete reinforcing steel, tapioca products, car assembly, truck and bus assembly, canned pineapple, ice making (in the Bangkok area) the manufacture of diesel engines (except if promoted by the BOI) and fishing nets. Also, restrictions have been imposed on investment in the manufacture of electric wires, matches, bicycles, lubricating oils, aluminum mills, milk products, glass bottles, cotton ginning, and ready made clothing.

2.23 It would be desirable to coordinate the Ministry of Industry controls of entry and expansion and the proposed negative list of the BOI, with the Ministry of Industry and the BOI having joint responsibilities for both. At the same time, as noted in para. 2.15 above, care should be taken to avoid establishing monopolistic positions and discouraging exports in the process.

**Industrial Finance Corporation of Thailand (IFCT)**

2.24 IFCT was established in 1959 as a privately owned corporation. However, its largest shareholder, the Krung Thai Bank (12.8% of outstanding shares), is wholly owned by the government, and IFCT in general attempts to follow what it interprets to be governmental priorities. In particular, one of its objective is to select projects on a broad geographical basis. It does not, however, specifically promote export-oriented projects.

2.25 IFCT currently charges an interest rate of 14% on its loans with a 1% reduction for the processing of food and agricultural materials and a one-half of one percent reduction for activities outside Bangkok. While the rates are lower than commercial bank rates (15.0% on a loan with collateral in the form of real estate and 18.0% without such collateral), for a large firms IFCT generally plays the role of a residual lender that is resorted to chiefly in the case of credit stringency. In the period of credit ease, large firms tend to borrow from commercial banks, in part because of their lesser administrative requirements and in part because of the desire to maintain business ties with these banks. Thus, in 1977, IFCT provided financing for 1.3% of investments in private, nonresidential construction and industrial machinery and equipment as compared to 3.0% in 1974-76 when credit from commercial banks was less easily available. IFCT loans more than doubled in 1978, surpassing B 1,000 million, while nonresidential construction and investments in industrial machinery and equipment increased by about one-fifth.

\[1\] The Ministry of Industry has further imposed domestic content requirements on several industries, and it has banned the establishment of certain activities in Bangkok. These regulations will be considered in Chapters 4 and 6, respectively.
2.26 The average investment cost of creating a job in IFCT is relatively high, averaging B 400 thousand in the period 1973-78, with considerable variations shown from year to year. Financial rates of return of IFCT projects are generally in the 10% to 39% range but, in the large majority of cases, the projects benefited from tariff protection or the granting of BOI privileges. Calculations made by the IFCT do not permit evaluating the economic rate of return because adjustments for protection and for BOI privileges have not been consistently made. At the same time, a study of a sample of IFCT projects shows the domestic resource cost of foreign exchange to range between 10 and 50 as against the exchange rate of 20 baht to the U.S. dollar.

2.27 In view of the interest subsidy provided by the IFCT, it would be desirable to make lending conditional on satisfactory levels of economic efficiency, at least for the larger projects. It would further be desirable to simplify the administration of IFCT loans and to reduce the time needed from loan applications to the granting of the loan.

Small Industry Finance Office (SIFO)

2.28 In 1964, the government established the Small Industry Finance Office with the objective to provide financing to small scale industry. The volume of operations of the SIFO has, however, remained small, not exceeding B 100 million a year. Various factors have contributed to this result, including the relatively conservative attitude taken by the Krung Thai Bank that administers SIFO loans, the weakness of the management of the SIFO, and the lack of a branch network and extension services.

2.29 Several proposals have been put forward to expand lending to small firms that tend to suffer from the lack of availability of capital. They include replacing SIFO by a new semi-autonomous agency, the Small Industrial Finance Corporation of Thailand, and channeling lending through commercial banks. The latter alternative offers advantages by reason of the greater flexibility of commercial banks and the fact that they have branches in outlying regions where many small firms are located. At the same time, the risk assumed by commercial banks could be reduced through the establishment of a guarantee fund.
3. ECONOMIC EVALUATION OF PROPOSED LARGE INVESTMENT PROJECTS

Introduction

3.01 In June 1979 when the Kriangsak Government took office, 14 major investment projects were highlighted in the Prime Minister's program. These included: (1) the natural gas project, which is to come onstream by late-1981; (2) the conversion of Sattahip naval port into a commercial deep-sea port; (3) the Bang Lamung-Chachoengsao-Sattahip railway; (4) the improvement and expansion of Don Muang Airport; (5) the development of lignite mining in Mae Mah in Lampang province; (6) the development of a large underground rock salt mine in the Northeast for the production of soda ash; (7) the speeding up of the development of Thai Zinc's mining and smelting project; (8) the development of the sponge iron project; (9) the setting up of a urea fertilizer plant; (10) the completion of the Bangkok outer ring road project within four years; (11) the combined mass transit project and the expressways between Gang Na-Tha and Rua-Din Daeng; (12) implementation of irrigation and reforestation projects in the North; (13) the development of a project to produce alcohol from molasses and tapioca to be mixed with gasoline for energy purposes; and (14) the development of a pulp and paper project.

3.02 In the following, attention will be concentrated on the proposed industrial projects (Nos. 1, 6, 7, 8, 9, 13 and 14), with further consideration given to earlier proposals for the establishment of an integrated steel complex, a new petroleum refinery, and petrochemical complex. Investment projects that have a bearing on regional industrial development (Nos. 2 and 3) will be considered in Chapter 6.

The Use of Natural Gas

3.03 Several of the proposed industrial projects would involve the use of natural gas, the production of which is projected at 200 million cubic feet per day from mid-1981 to mid-1983 and is expected to reach 500 million cubic feet per day thereafter. While practically the entire gas production could be utilized in electricity generation, it has been suggested that this represents low-value uses as compared to high-value uses in the production of urea fertilizer, steel and petrochemicals. Such a distinction is misleading, however, and the choice among alternative uses needs to be made on the basis of their economic efficiency, evaluated at world market prices.

3.04 In electricity generation, natural gas replaces fuel oil produced from imported petroleum. In 1978, the price of natural gas to be sold for electricity generation was set at $1.90 per cubic feet, about 90% of the equivalent price of fuel oil imports. It is planned to maintain this relationship when actual production begins by raising the transfer price of natural gas in line with the import price of fuel oil. This is indeed desirable both to encourage the improved utilization of electricity and to ensure that the import saving involved is appropriately expressed in the price of natural gas sold for electricity generation, which represents its opportunity cost for other uses.
3.05 The case of the proposed urea fertilizer plant in Thailand is particularly complicated at this time. Thailand's domestic consumption is much too low today to justify an economic size plant and Thailand has obligations to admit urea fertilizer from its ASEAN partners, Malaysia and Indonesia, which are currently providing natural gas to their fertilizer plants at about USc60/1,000 cu ft. However, according to Bank projections, current urea surpluses will disappear in the region in the mid-1980s, leading to increases in prices. Preliminary studies indicate that if fertilizer use is promoted aggressively in Thailand and ASEAN prices reach projected world levels, a fertilizer plant would be justified in Thailand with gas priced at its fuel oil equivalent. Thorough economic analysis of these factors should be undertaken before any investment decisions are made. The analysis should also consider the high capital-labor ratio of fertilizer plants and the large investment involved ($300 million at 1978 prices).

3.06 Preliminary analysis indicates that an integrated steel complex, based on the use of natural gas in the reduction process to produce sponge iron from imported ore and in the subsequent production of steel from sponge iron and scrap would not have economic justification. According to initial estimates, such a complex producing on a scale of 1.2 million tons of steel a year and requiring an investment of over $1 billion would not be competitive with imports without a 30-40 percent protection. And, this figure would have to be revised upwards, because of the rising opportunity cost of natural gas.

3.07 More recent proposals consider the establishment of a smaller reduction facility to produce 4 to 6 hundred thousand tons of steel. This project may have greater economic justification as it would use domestically available scrap in larger proportions. Still, its high capital requirements per worker and recent increases in the opportunity cost of natural gas represent disadvantages for the project, indicating the need for its thorough economic evaluation.

Petroleum Refinery and Petrochemicals

3.08 In recent years, repeated suggestions have been made for building a new petroleum refinery in view of the current deficit of 50,000 bbl/day in refinery capacity. With the use of natural gas for electricity generation, however, current product deficits and incremental demand may be satisfied through the expansion of existing refineries for a number of years ahead.

3.09 Available information indicates that the establishment of a petrochemical complex would not represent an efficient use of scarce capital in Thailand, irrespective of whether this was based on petroleum or natural gas. Petrochemicals have very high capital-intensity, create few jobs, and require large-scale production for efficient operations. Also, large investments

/1 See Table 4 for data on capital-labor and labor-output ratios in the production of fertilizer, steel and petrochemicals.
are under way in the countries of the Middle East, which have capital in abundance and can utilize natural gas that would otherwise be flared off. Thailand cannot compete with these and other large-scale producers and it may import petrochemical products at a price much below the cost of domestic production.

The Rock Salt-Soda Ash Project

3.10 The rock salt-soda ash project has been allotted to Thailand under the ASEAN agreement. Its economic rate of return is relatively low (8%) but 70% of the investment is provided from external (chiefly Japanese) sources, and there are reasons to assume that this contribution would not be forthcoming if the project were not implemented. Also, the use of a new production technique is being considered that would raise the economic rate of return and the rate of return would increase further if the project were combined with the proposed potash project.

3.11 It has been reported that the ASEAN partners would purchase the output of the Thai soda ash project at prices not exceeding the world market price. It has been proposed, however, to provide protection for domestic sales on the grounds that there is a threat of dumping from East Africa. Protection is not desirable since it would raise costs for users. Rather, anti-dumping measures should be employed in cases where the offer price falls below the price at which the large US producers make their sales.

Other Natural-Resource Based Projects

3.12 The rock salt-soda ash project would utilize Thailand's natural resources and would also create employment in the Northeast region. The pulp and paper project, too, is being developed in the Northeast. It is privately financed at a cost of about $60 million but receives BOI promotion privileges and preferential IFCT financing.

3.13 The speeding up of the Thai Zinc's mining and smelting project and the implementation of the proposed project to produce alcohol from molasses and tapioca, to be mixed with gasoline, would also further regional industrial development. The latter would make use of surplus carbohydrates but would also require energy in the production process. Its economic profitability will need to be evaluated.

The Need for Economic Project Evaluation

3.14 More generally, the proposed large, government-sponsored projects should undergo rigorous economic evaluation at expected future world market prices of the relevant products, including oil, with account taken of major investments carried out in other countries. This is of importance in order to avoid the establishment of high-cost industrial projects that would entail the inefficient use of Thailand's scarce capital. Also, as the output of such projects would be used as inputs in other industries, the competitiveness of the latter industries may suffer and export possibilities may be foregone.
3.15 In order to ensure that project evaluation is done on a uniform and comparable basis, it is proposed that a project evaluation unit be established in Thailand. This unit would have the task of reviewing the proposals made by other agencies that carry out development tasks in connection with the proposed projects. Taking further account of the availability of internal and external funds, the project evaluation unit would make recommendations to the Economic Cabinet, which would decide on the implementation and timing of the projects in question.

3.16 Prior to taking decisions, it would be desirable to make public the results of project evaluation, so as to invite debate on the desirability of the projects in question. Information should also be made available on the tariff protection provided to these projects, as well as on the direct and indirect subsidies granted through the establishment of project-specific infrastructure, the provision of inputs at less than world market prices, and credit preferences. Finally, the appropriate role of the government in the large projects should be determined.
4. IMPORT PROTECTION

Introduction

4.01 A number of measures have been taken by various governmental organizations to protect domestic industry in Thailand. They include import tariffs and differential business tax rates on imports and on domestic production administered by the Ministry of Finance; business tax exemptions on imported inputs and import surcharges granted by the Board of Investment; import and price controls administered by the Ministry of Commerce; and domestic control requirements imposed by the Ministry of Industry. These measures will be considered below.

Industrial Tariffs

4.02 Tariff rates are set by an interministerial Tariff Committee, chaired by the Undersecretary of State in the Ministry of Finance. The original intent of the tariff was to generate revenue and to limit the consumption of imported luxuries; it is since the Second World War that tariffs have been used to protect domestic industry in Thailand.

4.03 Tariff receipts expressed as a percentage of manufactured imports averaged 18-19% in the early 1970s, with only small differences shown among the three major product categories (chemicals, machinery, and other manufactured goods). In 1974, tariffs on a number of products were revised downwards, with a view to containing inflationary pressures brought about by price increases for imported inputs. As a result, the average ratio of tariff receipts to imports fell to 15.4% in 1974 and to 14.6% in 1975, with the largest decline shown for chemicals where the purpose of tariff reductions was to attenuate increases in the prices of imports associated with the quadrupling of petroleum prices (Table 6).

4.04 Since the mid-seventies, numerous upward revisions in tariffs have been made in response to demands for protection on the part of domestic producers. Among the 93 input-output categories in the industrial sector, tariffs were increased for 53 categories and reduced for 19 categories between 1974 and 1978. As a result of these changes, the average ratio of tariff receipts to manufactured imports increased again, surpassing 17% in 1977 and in 1978. In 1978, the ratio was the highest for chemicals (19.1%), followed by machinery (18.7%), and other manufactures (13.6%).

4.05 The average ratio of tariff receipts to imports tends to underestimate the height of the tariff, however. To begin with, the reported tariff receipts exclude duty exemptions that have assumed increased importance in recent years. Between 1973 and 1978, import duty and business tax
Table 6: TARIFF PROCEEDS AND IMPORTS OF MANUFACTURED PRODUCTS
(Baht million; percent)

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<td>Chemicals (SITC 5)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff proceeds</td>
<td>604</td>
<td>675</td>
<td>813</td>
<td>1,233</td>
<td>1,280</td>
<td>1,097</td>
<td>1,829</td>
<td>2,460</td>
<td>2,861</td>
</tr>
<tr>
<td>Imports</td>
<td>3,505</td>
<td>3,723</td>
<td>4,757</td>
<td>6,682</td>
<td>9,318</td>
<td>9,122</td>
<td>10,505</td>
<td>13,356</td>
<td>14,979</td>
</tr>
<tr>
<td>Average tariff rates</td>
<td>17.2</td>
<td>18.1</td>
<td>17.1</td>
<td>18.5</td>
<td>13.7</td>
<td>12.0</td>
<td>17.4</td>
<td>18.4</td>
<td>19.1</td>
</tr>
<tr>
<td>Machinery (SITC 7)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff proceeds</td>
<td>1,624</td>
<td>1,682</td>
<td>1,861</td>
<td>2,668</td>
<td>3,386</td>
<td>3,534</td>
<td>3,672</td>
<td>5,268</td>
<td>6,283</td>
</tr>
<tr>
<td>Imports</td>
<td>9,536</td>
<td>8,949</td>
<td>9,716</td>
<td>13,891</td>
<td>20,467</td>
<td>23,125</td>
<td>21,424</td>
<td>27,982</td>
<td>33,636</td>
</tr>
<tr>
<td>Average tariff rates</td>
<td>17.0</td>
<td>18.8</td>
<td>19.2</td>
<td>19.2</td>
<td>16.5</td>
<td>15.3</td>
<td>17.1</td>
<td>18.8</td>
<td>18.7</td>
</tr>
<tr>
<td>Other manufactures (SITC 6+8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff proceeds</td>
<td>1,767</td>
<td>1,546</td>
<td>1,549</td>
<td>1,848</td>
<td>2,092</td>
<td>1,926</td>
<td>2,091</td>
<td>2,646</td>
<td>3,172</td>
</tr>
<tr>
<td>Imports</td>
<td>7,808</td>
<td>7,317</td>
<td>8,430</td>
<td>10,930</td>
<td>14,067</td>
<td>12,705</td>
<td>14,851</td>
<td>19,191</td>
<td>23,322</td>
</tr>
<tr>
<td>Average tariff rates</td>
<td>22.6</td>
<td>21.1</td>
<td>19.2</td>
<td>16.9</td>
<td>14.9</td>
<td>15.2</td>
<td>14.1</td>
<td>13.8</td>
<td>13.6</td>
</tr>
<tr>
<td>All manufactures (SITC 5-9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tariff proceeds</td>
<td>3,995</td>
<td>3,903</td>
<td>4,223</td>
<td>5,749</td>
<td>6,578</td>
<td>6,557</td>
<td>7,592</td>
<td>10,374</td>
<td>12,316</td>
</tr>
<tr>
<td>Imports</td>
<td>20,869</td>
<td>19,989</td>
<td>22,903</td>
<td>31,503</td>
<td>43,852</td>
<td>44,952</td>
<td>46,780</td>
<td>60,529</td>
<td>71,937</td>
</tr>
<tr>
<td>Average tariff rates</td>
<td>19.2</td>
<td>19.5</td>
<td>18.4</td>
<td>18.2</td>
<td>15.4</td>
<td>14.6</td>
<td>16.2</td>
<td>17.1</td>
<td>17.1</td>
</tr>
</tbody>
</table>

4.06 Another source of underestimation of the height of tariffs is related to the fact that the ratio of tariff receipts to imports is equivalent to an import-weighted average of tariffs. This average has a downward bias because high tariffs that restrict imports have a small weight, and low tariffs that favor imports a large weight, in the averaging. Furthermore, tariff data do not allow for the existence of higher business tax rates on imports than on domestic production, which are only partly offset by business taxes on inputs used in domestic production. Finally, in view of the escalation of tariffs from raw materials to final goods, tariffs on the output understate the protection of the processing activity (para. 4.12).

Nominal Protection Rates

4.07 The nominal and effective rates of protection reported in Table 8 are free of the shortcomings of tariff averages noted above. Nominal rates of protection have been derived by adjusting tariff rates on individual products for differences in business tax rates on imports and on domestic products. These rates are unaffected by duty exemptions and reductions, and they have been averaged by weighting with domestic production that is relevant for examining their protective effect. In turn, effective rates of protection relate the joint effects of the nominal protection of the product and its inputs to value added in the production process.

4.08 Nominal rates of protection on industrial products averaged 30.8% in 1974 and 27.8% in 1978. But these averages include export products, the share of which in the total increased over time. Excluding export products from our purview, we find that between 1974 and 1978 average nominal protection rates rose from 34.6% to 50.8% on non-import-competing goods, defined as products where imports account for less than 10 percent of domestic consumption, and from 24.8% to 32.2% on import-competing goods, where imports account for more than 10% of domestic consumption (Table 7). These figures are indicative of recent increases in the protection of domestic industry in Thailand and have remained practically unchanged thereafter.

4.09 Among industrial categories, larger than average increases of nominal protection were experienced in the case of intermediate products at lower levels of fabrication, consumer durables and nondurables, and transport equipment between 1974 and 1978. In the same period, declines are shown for
Table 7: AVERAGE RATES OF PROTECTION (percent)

<table>
<thead>
<tr>
<th></th>
<th>Nominal rates of protection</th>
<th>Effective rates of protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processed foods</td>
<td>50.9</td>
<td>5.8</td>
</tr>
<tr>
<td>Beverages and tobacco</td>
<td>116.5</td>
<td>150.1</td>
</tr>
<tr>
<td>Construction materials</td>
<td>21.8</td>
<td>32.9</td>
</tr>
<tr>
<td>Intermediate products I</td>
<td>11.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Intermediate products II</td>
<td>36.1</td>
<td>30.0</td>
</tr>
<tr>
<td>Nondurable consumer goods</td>
<td>44.9</td>
<td>39.8</td>
</tr>
<tr>
<td>Consumer durables</td>
<td>45.0</td>
<td>48.2</td>
</tr>
<tr>
<td>Machinery</td>
<td>10.2</td>
<td>28.0</td>
</tr>
<tr>
<td>Transport equipment</td>
<td>58.8</td>
<td>37.9</td>
</tr>
<tr>
<td>All industries</td>
<td>n.a.</td>
<td>30.8</td>
</tr>
<tr>
<td>All industries, excluding food, beverages and tobacco n.a.</td>
<td>n.a.</td>
<td>36.4</td>
</tr>
<tr>
<td>Non-import-competing</td>
<td>71.2</td>
<td>34.6</td>
</tr>
<tr>
<td>Import-competing</td>
<td>33.6</td>
<td>24.8</td>
</tr>
<tr>
<td>Export</td>
<td>-7.4</td>
<td>-6.5</td>
</tr>
</tbody>
</table>

Source: Narongchai Akrasanee, The Structure of Effective Protection in Thailand (1975) and calculations made for the 1979 Industrial Policy Mission.

beverages and tobacco, intermediate products at higher levels of fabrication, and machinery. In the latter case, the increased importance of the imports of agricultural machinery, subject to zero duties, explains the results.\(^1\)

\(^1\) A detailed discussion of protection in machinery industries is contained in the Development of the Engineering Industries in Thailand, by the World Bank (in preparation).
4.10 The averages shown for industrial categories cover considerable variations in nominal protection rates from product to product. The range of variation is nil to 60% for intermediate products, 5% to 100% consumer nondurables, 30% to 100% for consumer durables, 2% to 30% for machinery, and 5% to 150% for transport equipment.

Effective Protection Rates

4.11 Even larger variations are shown in effective rates of protection, which tend to magnify differences in nominal rates on the product and its inputs. A number of processing activities enjoy effective rates in excess of 100% in Thailand, and in several cases protection permits the survival of activities with negative world market value added; i.e., the world market value of inputs exceeds that of output.

4.12 In view of the escalation of tariffs, effective protection rates tend to be higher than nominal rates in Thailand. The overall averages of effective protection rates on industrial products declined from 87.2% in 1971 to 18.6% in 1974, followed by an increase to 54.2% in 1978. However, the decline between 1971 and 1974 was due to the fall in effective rates on processed food. Excluding processed food, beverages and tobacco, the averages show little change between 1971 and 1974 and a substantial increase afterwards. The relevant results are 44.2% in 1971, 45.9% in 1974, and 90.3% in 1978. Also, average effective rates of protection rose from 39.7% in 1974 to 90.7% in 1978 in the case of non-import-competing goods and from 44.8% to 85.9% on import-competing goods.

Rationalization of the Tariff Structure

4.13 Rates of protection in Thailand have generally been lower than in countries at similar levels of economic development. Recent increases in tariffs and in business taxes on imports, however, have raised the level of import protection and created dangers for future industrial development by permitting the establishment of inefficient industrial activities and discriminating against exports.

4.14 Further inefficiencies result from industry-by-industry and product-by-product variations in tariffs and business tax rates that have given rise to widely divergent effective protection rates. The existing structure of protection has no clear economic rationale, but reflects the combined effects of actions taken on a piecemeal basis in response to demands for protection on the part of special interests. Excessive protection, allowing high domestic production costs, is provided to some activities while others, e.g. agricultural machinery, are subject to negative effective protection. (Agricultural machinery is admitted duty free but several of its inputs are subject to tariffs.)

4.15 Efficient industrial growth in Thailand would require the rationalization of the system of import protection. As a first step, all tariffs in excess of 50% should be reduced to this level, with compensating
increases in excise taxes on consumer goods. Second, the tariff structure should be transformed by equalizing tariffs in a downward direction. This may be done over the next five years by establishing tariff targets for the end of the period, to be reached in annual installments. By announcing the target rates and the timing of changes in tariff rates in advance, producers will be given sufficient time to prepare for these changes.

4.16 With the exceptions noted below, a tariff target of 20% may be set for the end of the five-year period. This target is lower than the 30% benchmark used by the Board of Investment that excessively favors import substitution over exports in the manufacturing sector and manufacturing activities over primary production in general. At the same time, apart from automobiles, reducing tariffs to 20% would not impose an excessive burden on Thai industry since in the other sectors actual differences between domestic and import prices (realized nominal protection) fall considerably short of tariff rates (potential nominal protection). In 1978, the relevant figures are intermediate product I, 10.9%, intermediate products II, 10.9%; nondurable consumer goods, 13.9%; and consumer durables, 30.0%. For transport equipment (80.5%) and machinery (21.4%), tariffs have been assumed to correspond to actual price differences.

4.17 Higher tariffs may be maintained, however, on products where the foreign variety is considered a luxury, such as high-fashion clothing where brand-names pay an important role. But, in order to avoid the expansion of domestic luxury production, tariff rates on such products should be limited to 40% as compared to rates presently ranging up to 100% (150% on assembled passenger cars). If higher taxation of luxury goods is desired, this should be done by way of indirect taxes that also apply to domestic products and thus do not encourage the domestic manufacture of luxury goods. At the same time, differences in business tax rates on imports and on domestic products should be eliminated.

4.18 While a few luxuries excepted - tariffs on all products presently manufactured domestically should be reduced to 20% by the end of the five-year period, new products may receive higher protection on a temporary basis. Such additional infant industry protection should not exceed 15% over and above the 20% tariff target and should be granted on a degressive scale, to be eliminated over a period of five years.

4.19 Apart from reducing tariff rates presently in excess of 20%, the proposed reform would involve raising tariffs on items that are now subject to tariff rates of less than 20%, including various materials and agricultural machinery. Low tariffs on these items discriminate against their domestic production while the resulting subsidy to agriculture may be replaced by reductions in business taxes on agricultural products.

Import Surcharges

4.20 Under the 1977 revision of the Investment Promotion Act, the Board of Investment has the power to impose import surcharges, in the form of
special fees not exceeding 50% of c.i.f. value, on competing imports. In the years 1978-79, 30 products and product groups were subjected to an import surcharge, of which 24 continue to be subject to surcharge.

4.21 Import surcharges are supposed to be applied for periods not exceeding one year. However, in the case of 14 products and product groups, the period of the surcharge was extended beyond one year. In March 1980, import surcharges were in effect on 24 products, of which 19 had surcharges dating back for more than one year. Surcharge rates range from 5% to 30%, with most products and product groups being subject to rates of 20% and 30%.

4.22 The separate maintenance of the system of import surcharges is not desirable. Rather, all decisions on tariffs should be made by the interministerial Tariff Committee that can consider individual cases in the context of overall tariff setting. For new industries, this would take the form of providing additional protection not exceeding 15% on a temporary basis and on a degressive scale as suggested in Para. 4.18.

Quantitative Import Restrictions (Import Control)

4.23 Quantitative import restrictions (import control) are administered by the Ministry of Commerce. The scope of these restrictions has increased in recent years. This has occurred in part at the demand of the Board of Investment to ban the importation of certain products. As of March 1980, the importation of 16 products was banned and 35 products were subject to approval.

4.24 Quantitative import restrictions raise the extent of protection to domestic industry, contribute to inflation, introduce arbitrariness in the decision-making process, and create uncertainty for the user. At the same time, measuring the protective effects of quantitative import restrictions would necessitate price comparisons for equivalent domestic and foreign products. This is difficult in practice because the quality of imported and domestically produced goods may differ, thus rendering the extent of import protection resulting from import control largely indeterminate.

4.25 In view of these adverse effects, it would be desirable to phase out quantitative import restrictions, thus placing exclusive reliance on tariff protection. A transitional period of five years is suggested for phasing out import control, except if required for considerations of national safety and health.

Price Control

4.26 The scope of price control, administered by the Ministry of Commerce, has also increased over time. Only a few commodities were subject to price control before 1970, but their number increased to a considerable extent in recent years. Since June 1979, 38 products have been subject to price control at the retail level. The majority of these products are also subject to price control at the wholesale level.
4.27 According to the official regulation, price control applies to goods that are "absolutely essential for the living of the people." It is further added: "short-range as well as long-range measures must be taken so that the essential goods are made available to the public in sufficient quantities and at reasonable prices. At the same time, the manufacturer and the dealer, on their part, should obtain a reasonable remuneration."

4.28 In practice, price control applies also to goods, such as car tires and car batteries, which may not be considered essential for the Thai consumer. It further extends to a variety of intermediate goods, such as cement and steel bars, that are used primarily by business. At the same time, price control creates uncertainty for the producer and may not provide sufficient profits for new investment to take place. A case in point is cement where price control has discouraged new investment and, as a result, the exports of an earlier period have given place by imports.

4.29 At the same time, price control may often be evaded by lowering quality. This will be the case especially if imports are not admitted. Thus, tariffs provide a better way to regulate domestic prices than price cum import control. Freeing prices would also provide appropriate incentives to domestic producers. It would be desirable therefore to eliminate price control pari passu with the reform of the tariff system. Price control should be applied only on a temporary basis in cases of crop failure or if it is desired to limit the rate of adjustment to external changes.

Domestic Content Requirements

4.30 Under the Factory Act, domestic content requirements may be imposed by the Ministry of Industry. Since 1970, 100% domestic content has been required for the principal inputs into milk products (fresh, pasteurized, or sterilized milk), steel wires and steel products made with concrete (steel rod), and electric wires (copper wire). Domestic content requirements apply further to motorcycles and automobiles.

4.31 For motorcycles, domestic content of 50% was set in 1973; it was raised to 70% for new firms in 1977 and for existing firms in 1979. For car assembly, domestic content requirements were set at 15%, 20%, and 25%, depending on whether the chassis and the engine; the chassis, the engine, and the front windshield, or the chassis, the engine, the front windshield, and the driver compartment are imported. In November 1979, domestic content requirements have been increased to 40%, 45% and 50% in the three cases, respectively, to be reached over a period of five years in annual increments of 5%.

4.32 The imposition of domestic content requirements protects input-producing industries and raises the cost of the final product. The magnitude of the resulting increases in costs depends on the size of the domestic market relative to the optimum scale of output. As cost differences vary among parts, components and accessories, production costs rise with increases in domestic content that involves the greater use of high-cost parts, components and accessories.
4.33 It has been shown that an output of 12,000 cars a year involves production costs 30 percent higher in India than in Western Europe if the domestic content of the automobile is 20%; cost differences reach 60% if domestic content is 50%; and the excess cost is 100% in the case of domestic content of 95%. The corresponding cost differences are 40%, 90% and 200% if production is 3,000 cars a year./1

4.34 In Thailand, 19 thousand automobiles were produced in 1978 and the Ministry of Industry projects this number to reach 28 thousand in 1982. The output is divided among nine producers, none of which accounts for more than 20 percent of the total. The cost of assembly and, in particular, that of the domestic production of parts, components, and accessories is raised further by reason of the fact that each manufacturer produces more than one model. It has been reported that the cost of various domestically produced parts and components is between two and three-and-a-half times as high as the cost of imports. And, according to one study, the production of automobiles in Thailand actually involves negative value added at world market prices, i.e. the c.i.f. value of inputs exceeds that of the output./2

4.35 In view of the high, and rising, excess cost of production associated with increasing domestic content, recent decisions taken to raise domestic content requirements conflict with the objective of efficient industrial growth in Thailand. In this connection, it may be noted that the high costs involved have led Korea recently to reduce domestic content requirements from about 80% to 50%. At the same time, production levels in Korea exceed the levels experienced in Thailand about ten times and even at this level domestic content requirements would have to be reduced further in order to assure efficient operations.

4.36 The objective of efficient industrial growth would be served by rescinding recent increases in domestic content requirements; interpreting existing requirements so that they can be fulfilled through the exportation of parts, components, and accessories; reducing the level of protection on automobiles and automobile parts and components; and examining the possibilities for complementarity agreements within the ASEAN group. The implementation of these recommendations would contribute to the rationalization and the restructuring of the Thai automobile industry, involving specialization in parts, components and accessories and reductions in the number of models that permit lowering costs through large-scale production. Thailand's low labor costs would permit its participation in the efforts made by several developed country producers to establish worldwide sourcing for automobile parts, components, and accessories.

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5. EXPORT INCENTIVES

Introduction

5.01 It was not until the seventies that the government began to give attention to the promotion of manufactured exports in Thailand. The incentives introduced since that time include the duty and tax exemptions administered by the Customs Department and by the Fiscal Policy Office of the Ministry of Finance; the electricity rebates provided by the Electricity Generating Authority of Thailand; the preferential treatment of investments in export industries and trading firms granted by the Board of Investment; the rediscounting facility of the Bank of Thailand; the Export Service Center of the Ministry of Commerce; and the export processing zone established by the Industrial Estate Authority of Thailand. These measures will be considered in the following, with further attention given to the need for reducing disincentives to exports in the form of export taxes administered by the Ministry of Finance and export controls administered by the Ministry of Commerce.

Duty and Tax Exemptions: Customs Department

5.02 Exemptions from import duties, business taxes, and municipal taxes on imported materials used in export production have been provided by the Customs Department of the Ministry of Finance since 1971. Until 1973, the amounts involved were small, not exceeding 0.5% of manufactured exports in any given year. Duty and tax exemptions increased rapidly in subsequent years, reaching 4.7% of the value of manufactured exports in 1975. The ratio fell to 3.7% in 1976, increased to 4.7% in 1977, and declined again to 3.0% in 1978 (Table 8). The decline was partly offset by the free entry of materials that were imported for bonded warehouses and subsequently re-exported in processed form. These exports rose from Baht 240 million in 1977 to Baht 960 million in 1978; data on the value of imported materials are not available.

5.03 The Customs Department provides duty and tax exemptions in two ways: temporary admission backed by bank guarantees and rebates of duties and taxes paid at the time of importation. While the former continues to dominate, in recent years the latter has assumed increased importance. This is explained by the penalties paid in the event that materials imported under bank guarantee are not used in export production within one year; the slow clearance procedures at the Customs Department for Bank guarantees; and the credit limits imposed on exporters by commercial banks that consider guarantees as part of a firm's credit allocation.
Table 8: CUSTOMS DUTY AND TAX EXEMPTIONS ON MANUFACTURED EXPORTS BY NON-PROMOTED FIRMS

<table>
<thead>
<tr>
<th>Year</th>
<th>Exemptions provided by Customs Department (1)</th>
<th>Exemptions provided by Fiscal Policy Office (2)</th>
<th>Total Exports (3)</th>
<th>Ratio of exemptions to manufactured exports (4)</th>
<th>Ratio of exemptions to exports, discounted by the Bank of Thailand (5): (6): (7)</th>
<th>Promissory notes for exports, discounted by the Bank of Thailand (8): (9)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(B million)</td>
<td>(B million)</td>
<td>(per cent)</td>
<td>(B million)</td>
<td>(per cent)</td>
<td>(B million)</td>
</tr>
<tr>
<td>1972</td>
<td>10</td>
<td>3</td>
<td>13</td>
<td>2,264</td>
<td>0.5:0.1:0.6</td>
<td>227</td>
</tr>
<tr>
<td>1973</td>
<td>10</td>
<td>34</td>
<td>44</td>
<td>5,012</td>
<td>0.2:0.7:0.9</td>
<td>467</td>
</tr>
<tr>
<td>1974</td>
<td>100</td>
<td>37</td>
<td>137</td>
<td>6,868</td>
<td>1.5:0.5:2.0</td>
<td>1,065</td>
</tr>
<tr>
<td>1975</td>
<td>277</td>
<td>31</td>
<td>308</td>
<td>6,570</td>
<td>4.2:0.5:4.7</td>
<td>1,217</td>
</tr>
<tr>
<td>1976</td>
<td>373</td>
<td>55</td>
<td>428</td>
<td>10,295</td>
<td>3.7:0.5:4.2</td>
<td>1,469</td>
</tr>
<tr>
<td>1977</td>
<td>545</td>
<td>98</td>
<td>643</td>
<td>12,183</td>
<td>4.7:0.8:5.3</td>
<td>1,762</td>
</tr>
<tr>
<td>1978</td>
<td>520</td>
<td>93</td>
<td>613</td>
<td>17,626</td>
<td>3.0:0.5:3.5</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Source: Ministry of Finance, Customs Department and Fiscal Policy Office and Bank of Thailand, Statistical Bulletin, November 1979

Note: (c) For the years 1976 to 1978, the total amount reported by the Customs Department has been reduced by 10 percent on the assumption that this was the share of processed food.
5.04 Duty and tax exemptions are provided on the basis of formulas pertaining to individual products. Altogether 13,000 formulas have been approved by the Customs Department for 600 exporting firms, covering one-third of the exports of processed goods. A particular formula may apply to several firms that produce a certain commodity. The formulas are set in terms of specific rates (i.e. per unit of output expressed in quantity terms) and generally cover the principal imported materials used in the production process. Despite frequent revisions, the formulas tend to become outdated because of inflation, and they do not make sufficient allowance for wastage. Also, the formulas exclude machinery and spare parts as well as imported materials used in the domestic production of inputs utilized in export production. Finally, there are often considerable delays in obtaining rebates.

Duty and Tax Exemptions (Rebates): Fiscal Policy Office

5.05 The Fiscal Policy Office of the Ministry of Finance provides rebates that are designed to cover import duties and indirect taxes, including business and municipal taxes, excise taxes, building and land taxes, and various fees and charges, paid on imported materials used directly in production for export (direct imports), on imported materials used at previous stages of manufacture (indirect imports), as well as on domestic materials. The exporter has the choice of using either the norms set by the Fiscal Policy Office for indirect imports and for domestic materials (partial rebate rate) together with the exemptions by the Customs Department provides on direct imports, or the norms of the Fiscal Policy Office for direct as well as for indirect imports and for domestic materials (full rebate rate). In either case the Fiscal Policy Office provides tax coupons that can be used for the subsequent payment of taxes but are not transferable.

5.06 As of July 1979, the Fiscal Policy Office announced norms for 116 products, covering 11% of eligible exports, i.e., the exports of processed goods other than rice, sugar, tapioca, rubber and its products. Norms have not been established on the following actually, or potentially, important processed exports (with 1978 export values in millions of Baht in parenthesis): cuttle fish not canned (169), watch cases (65), furniture (30), canned fruits other than pineapple (32), vegetable cakes (77), yarn of jute, twine, cordage (485), wood carvings (34), silks (37), precious stone cutting (1710), gold ornaments (181), and imitation jewelry (44). Also, there are few norms for machinery and equipment exports; these amounted to B 2,719 million in 1978, of which only exports of B 82 million received rebates.

5.07 The low coverage of eligible exports by the rebate scheme reflects the cumbersome procedures involved in setting rebate rates, requiring detailed documentation of production costs by firms that manufacture a particular product, and the limited manpower available for this purpose in the Fiscal Policy Office. The administrative requirements and the delays experienced in processing rebate claims have also discouraged some firms from applying for rebates even if norms had been set.
5.08 Furthermore, calculations made for several products, utilizing the 1975 input-output table, indicate that the so-called full rebate rate provides only partial compensation for duties and taxes paid on imported and on domestic materials at the last and at previous stages of manufacture. And, in nearly one-half of the cases, rebates on indirect imports and on domestic materials were set at less than one-tenth of rebates on directly imported imports.

5.09 The lack of full rebating is explained by the insufficient coverage of indirect imports and domestic materials; the practical difficulties involved in calculating the duties and taxes levied the inputs covered by the scheme; the infrequent revision of norms expressed in terms of specific rates that do not allow for subsequent price increases; and the insufficient allowance made for wastage. Also, machinery and spare parts are not included in the norms and while exporters may apply for additional rebates on these products, the administrative requirements involved are considerable.

5.10 The practical limitations of the rebate scheme administered by the Fiscal Policy Office are reflected in the relatively low amounts of rebates paid to exporters of manufactured goods. Rebates were B 98 million in 1977 and B 95 million in 1978, accounting for 0.8% and 0.5% of the value of manufactured exports in the two years. Including the exemptions provided by the Customs Department, the ratio was 3.5% in 1978 (Table 8).

Duty and Tax Exemptions: Recommendations

5.11 While duty rebates on imported inputs provide advantages to exporters vis-a-vis firms selling in domestic markets, exemptions (rebates) of duties and indirect taxes paid on imported and on domestic inputs do not represent a true subsidy to foreign sales but only compensate for costs actually incurred. Such compensation conforms to GATT rules, which do not consider rebates of import duties and indirect taxes paid at the last and at previous stages of manufacture an export subsidy and do not allow the use of countervailing measures in response to such rebates.

5.12 Exporters in Thailand only receive partial compensation for import duties and indirect taxes paid on their inputs and they have to bear the burden of the administrative requirements involved. Exporters incur additional costs in the form of interest charges on the funds used to pay tariffs and taxes at the time of the purchase or the fee for the bank guarantee if the temporary admission procedure is used.

5.13 Exporters should, however, receive full compensation for the duties and taxes paid at the last and at previous stages of manufacture. This can be accomplished in several ways. One procedure, applied in Korea and in Taiwan, is to provide duty and tax exemptions on the inputs used by the domestic producers of inputs for export production. Because of its administrative requirements, this procedure is not recommended for Thailand.
5.14 An alternative procedure has been utilized in Mexico since 1971. This has involved the duty-free entry of imported inputs, together with rebates of indirect taxes paid on domestic and imported inputs used at the last and at previous stages of manufacture. Rebate rates were set as a proportion of export value on the basis of norms established for two broad product categories. It is recommended that Thailand follow the example of Mexico, except that the norms should also provide compensation for customs duties on imported inputs used at all stages of manufacture. Once established, the norms should apply irrespective of whether the exporter uses imported or domestically produced inputs. Apart from simplifying administrative procedures, one would thereby remove existing discrimination against the use of domestic inputs in export production.

5.15 Nevertheless, firms may be given the opportunity to continue utilizing the temporary admission facilities of the Customs Department. While this would involve setting two sets of rebate rates as beforehand, the rates would now provide full compensation and full product coverage and would not be established on a product-by-product basis. Rather, rebate rates should be set for product categories representing aggregations of the 93 industrial sectors of the 1975 input-output table, with exceptions made for textiles where the rebate rates would depend on the material utilized. The rates should be calculated as the average of duties and taxes paid on materials and on machinery and equipment at the last as well as at all preceding stages of manufacture by utilizing the input-output table and expressed in ad valorem terms.

5.16 Rebates should be paid automatically once exportation takes place, with ex post checking. Apart from providing full rebates of import duties and indirect taxes that bear on the cost of export production, the proposed procedures would simplify the setting of rebate rates and the processing of application for rebates. Firms should be allowed to apply for additional rebates if they can show that the duties and taxes paid exceed the norm by at least one-fifth.
Electricity Rebates

5.17 Since 1972, exporters that are entitled to duty and tax rebates from the Ministry of Finance are also eligible for a rebate of 20% on electricity used in production for export. The rebate is provided by the Electricity Generating Authority of Thailand on the basis of norms set for particular commodities.

5.18 Rebating the cost of electricity is not a desirable way of subsidizing exports because the lower rates do not provide sufficient incentives to save energy and may encourage the application of energy using technologies. It is recommended therefore that these subsidies be discontinued. For the same reasons, electricity rates in general should be raised pari passu with increases in the world market price of energy.

Export Taxes and Export Control

5.19 Several processed export products, including rice, sugar, wood products, fish meal, and rubber are subject to business taxes and/or an export duty. Reductions in, and the eventual elimination of, the export tax and the premium on rice would be desirable in order to avoid discouraging rice production and subsidizing the further processing of rice. Similar considerations apply to taxes on other exports, with wood products (discussed below) representing a special case.

5.20 While in the sixties export controls applied only to a few unprocessed and processed products, during the last decade controls have been extended to a variety of manufactured goods. In March 1980, the exports of flat iron sheets, lumber and shaved wood, kraft paper, fertilizer, fuel oil and iron containers were banned, while exports of aluminum rods, thread and yarn, textile fibers and clothing, cement, detergents, pulp, wood-free paper, newsprint, insecticides, oil for mixing paints, and polyester yarn were subjected to quotas or approval by the Ministry of Commerce. Quota limitations apply also to sugar and canned pineapple.

5.21 Export limitations have a rationale in cases when they respond to quotas imposed by the importing countries. At the same time, the administration of the quotas requires considerable flexibility in order to ensure that they are fully utilized. This is not presently the case for textiles and clothing, where new producers do not receive quota allotments and the reallocation of quotas occurs too late for their full utilization. In fact, in recent years, Thailand has experienced considerable shortfalls in filling its quotas in the United States and Western Europe. Such a situation may be avoided by the auctioning of quotas that would also permit the government to appropriate the excess profits accruing to quota recipients.

5.22 In the case of lumber and shaved wood, the purpose of the quota is to safeguard domestic materials; for the same reason, quotas on logs
have long been applied in Thailand. By lowering the domestic price of logs and sawnwood, however, a subsidy is provided to the exportation of wood products and the subsidy is not fully captured by taxes on these exports. The system of export control and export taxes on forestry products would need to be reconsidered, with the view to avoiding excess profits in wood processing while ensuring that forest resources are safeguarded.

5.23 Export controls on the remaining products on the list are based on the rationale that an adequate supply for the domestic market should be ensured at reasonable prices. But, export controls can only be a temporary remedy since, by keeping down prices, they discourage the expansion of domestic supply. This may explain that export products subjected to control have rarely been removed from the list, leading to the perpetuation of controls. The maintenance of export controls, in turn, conflicts with the objective of promoting exports. It would be desirable, therefore, to abolish export controls on the products in question.

Investment Incentives to Export Activities

5.24 Under Section 36 of the 1977 Investment Promotion Act, the Board of Investment can grant full exemption of import duties and business taxes on imported and domestic materials and on machinery used in export production as well as on imports for re-export. These exemptions, however, provide little additional encouragement to exports, since they are also available under Ministry of Finance regulations. Nor does the exemption of export duties and business taxes on exported products under the same Section affect manufactured exports that are not subject to these taxes.

5.25 At the same time, the general privileges granted under the Investment Promotion Act have increased the extent of import protection. This is because under the Act exemptions and reductions of import duties and business taxes may be provided to promoted firms that sell in domestic markets (para. 2.03) while such exemptions and reductions are not available under Ministry of Finance regulations.

5.26 Section 36, however, also permits deducting from taxable income 5 percent of increased income over the previous year derived from exports by promoted firms. Also, exports are favored by reason of the fact that, for 19 product categories, the Board of Investment has made the granting of promotion privileges conditional on the exportation of a specified share share of output.

5.27 As to the possible effects of these regulations, the question may be raised if promoted firms have had higher export shares than the average. The data of Table 5 indicate that the share of exports in the total sales of promoted industrial firms reached a peak, 21.9%, in 1974; it was between 15 and 16% in 1975 and 1976, and rose again to 20.2% in 1977. By comparison export shares for all industrial firms were 15.0% in 1975, 19.5% in 1976 and 19.8% in 1977. Excluding processed food will lower the share of exports in
the case of BOI-promoted firms as well as for all industrial firms; the relevant figures are: 1975, 15.3% and 11.9%; 1976, 12.9% and 14.7%; and 1977, 16.9% and 12.8%.

5.28 It would thus appear that BOI export promotion has had limited effects. In order to encourage the generation of new productive capacity for export, it is recommended that preferential loans be provided to investments in export activities. In cases approved by the BOI, such loans would be extended by commercial banks, with the Bank of Thailand financing the difference between nonpreferential and preferential rates. The cost involved may be defrayed by a tax on nonpreferential loans.

5.29 Granting preferential loans for the creation of new export capacity is preferable to a subsidy on all exports that is subject to countervailing action under GATT. Subsidizing increases in exports, too, is objectionable under GATT. At the same time, such subsidies are difficult to administer as they allow considerable scope for evasion. Employment subsidies for labor engaged in the production of incremental exports are even more difficult to apply in practice. At any rate, unlike several Latin American countries, wages have not been artificially raised in Thailand by legislation or union power.

Export Credits

5.31 The proposed preferential loan scheme for export investment would complement the export credit scheme presently in effect. The Bank of Thailand rediscounts the promissory notes of commercial banks on loans extended to exporters at a rate of 5% while the commercial banks discount eligible export bills at a rate of 7%. The main beneficiaries of preferential loans are exporters of unprocessed and processed agricultural products. In 1978, these products accounted for 85% of export loans rediscounted by the Bank of Thailand; the share of rice, tapioca, and sugar alone was 55%. In the same year, textiles and clothing accounted for 7% and other manufactured goods for 4% of the total, with nonferrous metals and miscellaneous products receiving the remainder.

5.32 In the case of manufactured goods, the ratio of export loans to export value was 15%. With an interest rate differential of 11% on these loans, the subsidy equivalent of preferences is estimated at 0.8% of the value of manufactured exports on the assumption that all export loans are extended for the maximum period of six months. The subsidy for 1978 is estimated at 1.1% for textiles and clothing, where the ratio of export loans to export value was 12%, and 0.6% for other manufactured exports, where this ratio was 10%.
5.33 Processed food and textiles and clothing, the main beneficiaries of the export credit scheme, are generally exported in substantial quantities. This fact makes the administrative burden involved in obtaining the loans worthwhile and ensures the profitability of the transaction for the commercial banks. In order that small- and medium-size producers make greater use of the scheme, it would be desirable to simplify its administration. One should further increase the present 2% margin for commercial banks in the case of loans below a certain size.

5.34 It is further proposed to complement the rediscounting of export bills by pre-export credits. Apart from increasing the size of the recently established fund for lending without collateral to small- and medium-size exporters, this may take the form of preferential credits for the purchase of materials used in export production. While it is theoretically possible to provide pre-export credits, in practice few such credits have been granted.

5.35 Finally, the proposed export-guarantee facility should be established at the earliest possible date. While originally planned to provide guarantees for Thai construction firms abroad, the scheme may importantly contribute to the expansion of manufactured exports. In particular, guarantees against political risk may permit the diversification of markets for Thai exports.

International Trading Firms

5.36 Since mid-1979, the Board of Investment has provided certain privileges, including exemptions from business taxes on purchases from domestic producers and double deductions for marketing expenditures abroad, to trading firms that meet certain conditions. These conditions include registered capital of not less than B 30 million, to be increased to B 50 million within three years of the start of operations, and annual exports of at least B 300 million, to be raised to B 500 million by the third year.

5.37 The fulfillment of the export target is subject to additional limitations imposed on various groups of products. Firms can count towards the target an amount up to B 100 million from a first group of traditional exports; an amount up to B 250 million from a second group of well-established exports; while a third group of new exports would have to account for at least B 50 million in the first year, and to no less than B 150 million in the third year, of operations.

5.38 The distinctions made among the three groups of products involve a certain degree of arbitrariness and may give inducement to export "loss leaders" for the sake of qualifying under the rules. Also, the imposition of the limits on plastic products, furniture, and various frozen and canned goods discriminates against export products where low labor costs or the availability of domestic resources provide advantages to Thailand. And while placing textiles and clothing in the second group may be warranted as far as exports to developed country markets are concerned, this is not the case for other markets where quota limitations do not apply and a considerable sales effort would need to be made to expand exports.
5.39 The setting of export targets and capital requirements also favor large, diversified trading firms that export to established markets. Yet, rapid export expansion in Thailand requires entering new markets, where small trading firms can play a useful role. Also, the specialization of trading firms in particular products may importantly contribute to the expansion of exports.

5.40 These considerations indicate the desirability of extending the application of promotion privileges to small, specialized trading firms. Exemptions from business taxes should apply to all trading firms without regard to size, and consideration should also be given to providing tax advantages for their marketing expenditures abroad.

Institutional Export Promotion Measures

5.41 The Export Service Center was established in April 1975 as an agency under the Department of Commercial Relations of the Ministry of Commerce, with the objective to assist private firms in export activities. The Department is also engaged in promotional activities, including the organization of trade fairs, the establishment of showrooms, and the provision of information on Thai firms abroad.

5.42 While institutional measures can play a useful role in export promotion, it should be recognized that private firms are better able to seek out export opportunities than governmental bodies. Correspondingly, emphasis should be given to measures that supplement rather than supplant the activities of private firms. These may include strengthening the network of commercial attaches, organizing trade fairs, and financing the participation of private exporters in trade missions.

5.43 At the same time, the Export Service Center should help exporters to overcome administrative obstacles, thereby paralleling the activities of the BOI as regards new investors. As in the case of the BOI, the successful implementation of this task requires the cooperation of other government agencies. In this connection, it would be desirable to codify all export promotion measures in an Export Development Act.

5.44 As noted in Chapter 6 below, it would be desirable to establish a large export processing zone in the area of the part of Sattahip. The establishment of such a zone would contribute to the development of a second industrial center in Thailand. It would also surmount the disadvantages of the existing small export processing zone at Lat Krabang.

5.45 Additional measures would need to be taken to further the exportation of processed primary products. In particular, research on cultivation methods would be desirable in the case of vegetables; market studies could be usefully undertaken on the exportation of tropical fruits other than pineapple; and a cost-benefit analysis of deep-water demersal fishing technologies would be warranted.
Introduction

6.01 This chapter will consider recent trends in the regional distribution of manufacturing, the tax and credit incentives granted to regional industrial projects, and the role of industrial estates. Recommendations will also be made for a regional industrial development policy in Thailand.

Recent Regional Trends

6.02 Bangkok provides considerable attraction to manufacturing industries. It enjoys excellent port, airport and telecommunications facilities; it is the hub of the Thai road and railroad network; it has unique educational, medical and entertainment facilities; it is the center of the government and of the banking system; and it has a large market and distribution network. These factors contributed to the rapid expansion of industries in Bangkok that came to account for 39.2% of value added in manufacturing in 1968 and 40.2% in 1973 (Table 9). They also led to traffic congestion, aggravated problems relating to water supply and waste disposal, and contributed to the rapid rise of land prices in Bangkok.

Table 9: REGIONAL DISTRIBUTION OF MANUFACTURING VALUE ADDED
(Percent)

<table>
<thead>
<tr>
<th></th>
<th>1968</th>
<th>1973</th>
<th>1977</th>
</tr>
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<tbody>
<tr>
<td>Bangkok</td>
<td>39.2</td>
<td>40.2</td>
<td>35.8</td>
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<td>Center</td>
<td>36.6</td>
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<tr>
<td>North</td>
<td>7.6</td>
<td>6.4</td>
<td>6.6</td>
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<tr>
<td>Northeast</td>
<td>8.0</td>
<td>7.2</td>
<td>6.3</td>
</tr>
<tr>
<td>South</td>
<td>8.5</td>
<td>5.6</td>
<td>5.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: National Economic and Social Development Board.

6.03 As the difficulties of locating in Bangkok increased, the surrounding Central region has become more attractive. The Central region has many of the advantages of Bangkok without the disadvantages of congestion and pollution. As a result, its share in manufacturing value added has increased rapidly, from 36.6% in 1968 to 40.6% in 1973 and, again, to 45.6% in 1977. In the first period, this occurred at the expense of the outlying regions (the North, Northeast and South); subsequently, at the expense of Bangkok whose share declined to 35.8% in 1977.
6.04 Among the proposed large investment projects (para. 3.1), the conversion of Sattahip naval port into a commercial deep-sea port and the Bang Lamung-Chachoengsao-Sattahip railway will contribute to industrial expansion in the Central region, while the development of lignite mining, the production of rock salt and soda ash, the speeding up of the development of Thai Zinc's mining and smelting projects, irrigation and reforestation in the North, the production of alcohol from molasses and tapioca, and the paper and pulp project will benefit the outlying regions. The ban on the location of some industrial activities in Bangkok, imposed by the Ministry of Industry, also favors locating elsewhere.

6.05 Thailand's Fourth National Economic and Social Development Plan (1977-81) designated nine industrial centers, among which Chiang Mai in the North, Khon Kaen and Korat in the Northeast, and Songkhla-Hat Yai in the South have subsequently been selected as secondary cities by the National Economic and Social Planning Board. This choice has not been followed, however, by coordinated action for the development of these cities, and regional incentives have been applied by-and-large independently by several agencies. They include preferential tax treatment provided by the Board of Investment, credit preferences granted by the Industrial Finance Corporation of Thailand, and industrial estates established by the Industrial Estate Authority of Thailand.

Tax Incentives

6.06 In 1973, the Board of Investment identified ten Investment Promotion Zones located beyond the 50 kilometer radius of Bangkok for preferential treatment. Following the 1977 revision of the Investment Promotion Act, the incentives provided to investments in promoted zones included a reduction of business taxes up to 90% for a period not exceeding five years from the year income is first derived from the promoted activity; a 50% reduction in income tax rates following the end of the period of income tax exemptions available to all promoted firms; double deduction from taxable income of the cost of transportation, electricity, and water; and deduction from taxable income of 25% of the cost of installation and construction, in addition to normal depreciation, to be taken in any of the first ten years of operations.

6.07 BOI preferences do not appear to have materially affected the regional distribution of promoted investments. In fact, Bangkok's share in BOI-promoted firms has been greater than in all industrial investments (51.0% as against 35.5% in 1978) while the opposite result is obtained for the outlying regions (13.8% as against 39.8%). And, after increases in 1976 and in 1977, the share of BOI-promoted firms in the outlying regions declined again in 1978, whereas Bangkok's share remained above 50% (Table 10).
<table>
<thead>
<tr>
<th>Year</th>
<th>Bangkok (1)</th>
<th>Central (2)</th>
<th>North (3)</th>
<th>Northeast (4)</th>
<th>South (5)</th>
<th>Outlying Regions (3)+(4)+(5)</th>
<th>Total (1)+(2)+(6)</th>
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6.08 The limited effectiveness of BOI regional preferences has led to reducing the number of Investment Promotion Zones to four. These are located in Nakhon Ratchasima and Saraburi provinces in the Central region; in Chiang Mai and Lamphoon provinces in the North; in Khon Kaen province in the Northeast, and in Songkhla province in the South. At the same time, regional incentives have been slightly modified, with more generous promotion measures provided in the latter two zones. However, existing regulations on minimum capital investment and on duty and tax exemptions and reductions for machinery continue to discriminate against small- and medium-size firms that are of importance in the outlying regions. Discretionary decision-making, too, tends to favor large, well-established firms in the Bangkok area (para. 2.09).

Credit Incentives

6.09 The 1% preferential margin IFCT grants on loans to the processing of food and agricultural materials does not appear to have appreciably affected the share of these activities in IFCT lending. Thus, after reaching a peak of 57% in 1976, when large investments in bamboo and kenaf-based woodpulp and in vegetable oils took place, the share of the processing of food and agricultural materials in the total fell to 22% in 1977 and to 9% in 1978. Also, notwithstanding the 0.5% preferential margin provided to projects in the outlying regions, promotional efforts in the form of the creation of the Project Development Section, and the establishment of regional offices, the combined shares of the three outlying regions in IFCT lending has remained below the national average. At the same time, firms located in Bangkok received about one-half of IFCT loans during the sixties and the seventies, exceeding their share in total investments in the years for which comparable data are available (Table 10).

6.10 The regional distribution of SIFO loans has been more favorable for the outlying regions, averaging 38.3% of the total in the period 1960-75 as compared to 26.1% for Bangkok. However, the share of Bangkok increased again in recent years, in part at the expense of the three outlying regions (Table 10). At the same time, the amount involved is very small compared to IFCT loans and BOI projects (para. 2.28).

6.11 Finally, since 1977, the Bank of Thailand has required commercial banks to invest a certain proportion of their deposits in the region where the deposits are generated. There is little evidence, however, that this scheme has favorably affected industrial investments in the outlying regions. Rather, as the regulations can be satisfied by depositing funds with the Bank of Agriculture and Agricultural Cooperatives in lieu of investment in the region, it has led to the rapid expansion of the asset base of the BAAC. As far as the remainder of the funds is concerned, it has in large part been invested in commercial activities.
Industrial Estates

6.12 The limited effectiveness of regional tax and credit incentives may be explained by the fact that they have not compensated for the excess costs of locating in outlying regions. To begin with, transportation costs are high, in particular in cases when materials have to be obtained from Bangkok and the products are destined for export or for Bangkok itself. Small volume production for local markets also raises the cost of materials purchased in small quantities and may not permit full capacity use in efficient size plants. Furthermore, access to public utilities is more limited. And although minimum wages are lower than in Bangkok, differences in labor effectiveness are said to be even greater, due in part to lack of industrial experience and in part to absenteeism during planting and harvesting time. Finally, the distance from government offices imposes an additional burden on firms located in outlying regions.

6.13 In view of their high costs, firms in these regions may not find it easy to make a profit that is a precondition for receiving tax incentives which, at any rate, are available for only a limited period. At the same time, the 1 percent interest differential granted by IFCT is small as compared to the excess costs incurred. Information provided by firms producing consumer goods in the Chiang Mai area indicate that their costs are about one-fourth higher than in Bangkok.

6.14 To remedy some of these problems, the government is engaged in setting up industrial estates through the Industrial Estate Authority of Thailand. IEAT finances the development of infrastructure, including land improvements, roads, electricity, water, water disposal, and telephones. It is reimbursed for its expenses by the buyers or renters that share in the cost savings resulting from scale economies. IEAT may also build standard factories to lease to small- and medium-size firms. Finally, industrial estates receive promotion privileges from the BOI.

6.15 Thus far, industrial estates have been established at Bang Chan, Bang Poo (jointly with private enterprises) and Lat Krabang, all in the Central region; Lat Krabang also includes a small export processing zone. Industrial estates under consideration are located at Samuth Sakhon in the Central region and at Songkhla-Hat Yai in the South. Additional industrial estates are planned at Laem Chabang in the proximity of the Sattahip port, at Lamphun near Chiang Mai in the North, and at Khon Kaen in the Northeast.

Recommendations

6.16 Further industrial expansion in Bangkok involves a social cost in the form of congestion and pollution. In order that these costs be borne by the firms involved, it would be desirable to shift some of the cost of congestion and pollution to those who contribute to them. Congestion costs
may be charged in the form of taxes on vehicles, which are relatively simple to administer; allocating the costs of pollution would require examining the causes of pollution and would take longer to devise and to implement.

6.17 At the same time, as noted in para. 6.03, market forces have increasingly encouraged industrial development in the Central region. Such development occurs at a relatively low social cost as use is made of the advantages offered by the proximity of Bangkok without materially adding to congestion and pollution in Bangkok itself. It would not be appropriate, therefore, to discourage industrial development in this area. At the same time, measures taken to promote decentralization within the region can be considered desirable.

6.18 In particular, industrial and export growth objectives favor the development of the Eastern Seaboard, entailing the establishment of a new industrial center linked to the port of Sattahip. An important component of this industrial center would be an export processing zone. This zone, oriented towards the processing of imported materials, would need to be complemented by the establishment of interlinked industries. For this purpose, it would be desirable to set up specialized industrial estates in e.g. machinery industries, including metal working and machining shops and other specialized suppliers.

6.19 While the availability of port facilities favor the creation of a growth pole on the Eastern Seaboard linked to the port of Sattahip, the high cost of physical and social infrastructure counsels against the establishment of other major industrial centers in Thailand for the next five years or so. At any rate, possible locations, including the secondary cities designated by NESDB, do not have the potential to become major industrial centers for some time to come, in part because of the transportation cost disadvantage involved in exporting and selling in the Bangkok area products that do not use local materials, and in part because of the limited size of their local market./1

6.20 Rather, industrial development in the outlying regions should be oriented towards the processing of local materials for sale outside their market area and towards the development of industries for the local market, including production and assembly of consumer goods, agricultural machinery and implements, and servicing. The establishment of industrial estates may contribute to this objective, although caution should be exercised to tailor these to available markets.

/1 A detailed discussion of related issues, together with recommendations made for the development of secondary cities, is contained in The Development of Regional Cities in Thailand, Report by the World Bank (in preparation).
6.21 The processing of primary products and the production of inputs for agriculture conforms to the comparative advantage of the outlying regions. These activities would also strengthen urban-rural linkages and contribute to the development of agriculture. As noted in para 5.45, the development of processing activities would require technical assistance. Industrial development in the outlying regions would further be helped by improvements in administrative procedures, including the decentralization of some governmental functions, and by improvements in infrastructure. The coordination of the regional offices of the various governmental agencies would also be desirable, while the extent of improvements in infrastructure would need to be determined in the light of efficiency and equity considerations as well as budgetary constraints.
7. GENERAL SUPPORTING MEASURES

Introduction

7.01 This chapter will consider general policy measures that support the implementation of an industrial development policy. They include macroeconomic policies for internal and external stability; interest rate policy and the development of credit markets; policies relating to foreign investment and the transfer of technology; measures to increase the availability of skilled labor; and reform of the system of business taxes.

Macroeconomic Policy Measures

7.02 As noted in para. 1.09, rapid economic expansion and the rise of oil prices have led to increases in imports and to the deterioration of Thailand's balance-of-payments position in recent years. Subsequent increases in oil prices, an acceleration of inflation in Thailand, and the depreciation of the Japanese yen represent further adverse influences on the balance of payments.

7.03 The recommendations made in this report for reducing the existing bias in the incentive system in favor of import substitution and against exports would contribute to improvements in the balance of payments. The improvements would be especially large in the first few years as it is proposed to introduce export promoting measures immediately while the level of import protection would be lowered over the next five years.

7.04 At the same time, industrial policy alone cannot be relied upon to solve Thailand's balance of payments problem, however. It is assumed in the report that appropriate macroeconomic policy measures will be employed for this purpose. In fact, the success of the recommendations contained in the report depends on the application of such measures.

7.05 Macroeconomic policies should ensure internal and external stability in the Thai economy by reducing balance-of-payments deficits and lowering the rate of inflation. Lower inflation rates may also make it possible to forego further increases in nominal interest rates for the sake of providing positive real interest rates to savers and to investors.

Interest Rates and Credit Markets

7.06 In 1974, interest rates on 6-12 months time deposits were increased from 5% to 6% while the rates on time deposits for 12 months and longer were raised from 7% to 8%; interest rates on time deposits of 12 months and longer were raised again to 9% in 1979. In turn, consumer prices rose rapidly in 1973-74 and, after a considerable slowing in 1975 and 1976, a further acceleration occurred in recent years. Thus, the consumer price index for urban groups increased by 4.2% in 1976, 7.2% in 1977, 8.4% in 1978, and 9.8% in 1979, resulting in negative real interest rates for savers (Table 11). The situation was exacerbated by the imposition of income taxes on interest payments to savers, which effectively tax nonexistent real returns to savers.
7.07 Changes in average and marginal savings ratios by-and-large paralleled changes in real interest rates, with a time lag of about one year. The marginal savings ratio declined from 31.5% in 1973 to 20.9% in 1974 and 9.3% in 1975. The ratio rose again to 21.6% in 1976, declined to 19.3% in 1977, and showed an increase to 29.9% in 1978 only to fall to 18.7% in 1979. As a result of these changes, the average savings ratio has remained stable at around 21% of GDP in the 1970s, having grown steadily in the 1960s.

7.08 The savings figures reported in national income statistics also include business savings. Further interest attaches to the econometric estimates of the Bank of Thailand that pertain to household savings alone. These estimates show that savings in commercial banks and in the Government Savings Bank respond to changes in interest rates. Similar results have been reached in a comparative study for Japan, Korea, Pakistan, Taiwan, Thailand and Turkey./1

7.09 In view of the interest elasticity of savings, one may welcome recent increases in interest rates on time deposits for 6-12 months and over 12 months, respectively, to 10% and 12%. However, the rate of inflation accelerated further, with consumer prices rising by 16.6% between January 1979 and January 1980. In order to increase domestic savings, it would be desirable to aim at establishing positive real interest rates and to eliminate income taxes on savings, replacing them by taxes on consumption. These measures would contribute to increases in the amounts available for domestic investment, as well as to reductions in the deficit in the balance of trade that result from the excess demand associated with the decrease in savings ratios. They would also discourage the expatriation of savings, which has reportedly reached considerable proportions under Thailand's liberal international financing regulations that would need to be maintained in order to ensure the continued inflow of capital.

7.10 With nominal interest rates on industrial loans remaining unchanged after a 1 percentage point increase in 1974, changes in real interest rates on industrial loans bore an inverse relationship to changes in the wholesale price index for manufactured goods, resulting in an uninterrupted decline in real rates between 1975 and 1979. And while in January 1980 interest rates were raised from 12.5% to 15% on industrial loans with collateral in the form of real estate and from 15% to 18% on other industrial loans, the wholesale price of manufactured goods increased to a greater extent, with a rise of 20.7% between December 1978 and December 1979. Apart from a 71% rise in petroleum prices, wholesale price increases between December 1978 and December 1979 exceeded 20% for all consumer good categories, pointing to future increases in the consumer price index.

Table 11: NOMINAL AND REAL INTEREST RATES AND SAVINGS RATIOS

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<td><strong>Interest rates on time deposits (%)</strong></td>
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<td>(a) 6 to 12 months</td>
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<td>(b) over 12 months</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
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<tr>
<td><strong>Consumer price index for urban groups</strong></td>
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<tr>
<td>(a) 1970 = 100</td>
<td>100.0</td>
<td>100.4</td>
<td>105.3</td>
<td>121.7</td>
<td>151.3</td>
<td>159.3</td>
<td>166.0</td>
<td>177.9</td>
<td>192.8</td>
<td>211.8</td>
<td>232.7</td>
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<tr>
<td>(b) percentage change over previous year</td>
<td>-0.1</td>
<td>+0.4</td>
<td>+4.8</td>
<td>+15.6</td>
<td>+24.3</td>
<td>+5.3</td>
<td>+4.2</td>
<td>+7.2</td>
<td>+8.4</td>
<td>+9.9</td>
<td>+16.6</td>
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<tr>
<td><strong>Real interest rates on time deposits (%)</strong></td>
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<td>(a) 6 months</td>
<td>6.1</td>
<td>5.5</td>
<td>1.1</td>
<td>-8.3</td>
<td>-14.7</td>
<td>+0.7</td>
<td>+1.7</td>
<td>-1.1</td>
<td>-2.2</td>
<td>-2.6</td>
<td>-5.7</td>
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<td>(b) 12 months</td>
<td>7.1</td>
<td>6.6</td>
<td>2.1</td>
<td>-7.4</td>
<td>-13.9</td>
<td>+2.6</td>
<td>+3.6</td>
<td>+4.0</td>
<td>-0.4</td>
<td>-0.8</td>
<td>-3.9</td>
</tr>
<tr>
<td><strong>Gross domestic product (B billion)</strong></td>
<td>136.1</td>
<td>144.6</td>
<td>164.6</td>
<td>216.5</td>
<td>269.7</td>
<td>298.8</td>
<td>337.6</td>
<td>391.0</td>
<td>477.3</td>
<td>564.4</td>
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<tr>
<td><strong>Consumption (B billion)</strong></td>
<td>108.0</td>
<td>116.0</td>
<td>128.1</td>
<td>159.3</td>
<td>203.4</td>
<td>229.5</td>
<td>262.1</td>
<td>302.2</td>
<td>358.2</td>
<td>427.9</td>
<td></td>
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<tr>
<td><strong>Savings (B billion)</strong></td>
<td>29.1</td>
<td>30.4</td>
<td>31.7</td>
<td>48.1</td>
<td>59.2</td>
<td>61.9</td>
<td>70.3</td>
<td>81.0</td>
<td>106.2</td>
<td>122.5</td>
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<tr>
<td><strong>Average savings ratio (%)</strong></td>
<td>21.4</td>
<td>21.0</td>
<td>19.3</td>
<td>22.2</td>
<td>22.0</td>
<td>20.7</td>
<td>20.4</td>
<td>20.6</td>
<td>22.3</td>
<td>21.7</td>
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<td><strong>Marginal savings ratio (%)</strong></td>
<td>n.a.</td>
<td>15.3</td>
<td>6.6</td>
<td>31.5</td>
<td>20.9</td>
<td>9.3</td>
<td>21.6</td>
<td>19.3</td>
<td>29.9</td>
<td>18.7</td>
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<tr>
<td><strong>Interest rates on industrial loans (%)</strong></td>
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<tr>
<td>(a) collateral in form of real estate</td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
<td>11.5</td>
<td>12.5</td>
<td>12.5</td>
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<td>12.5</td>
<td>12.5</td>
<td>15</td>
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<td>(b) other</td>
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<td>14</td>
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<td>14</td>
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<td>15</td>
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<td>18</td>
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<tr>
<td><strong>Wholesale price index for manufactured goods (%)</strong></td>
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<tr>
<td>(a) 1970 = 100</td>
<td>100.0</td>
<td>101.0</td>
<td>105.9</td>
<td>128.2</td>
<td>163.1</td>
<td>161.2</td>
<td>166.8</td>
<td>179.7</td>
<td>199.4</td>
<td>233.3</td>
<td>250.9</td>
</tr>
<tr>
<td>(b) percentage change over previous year</td>
<td>n.a.</td>
<td>+1.0</td>
<td>+4.9</td>
<td>+21.1</td>
<td>+27.2</td>
<td>-1.2</td>
<td>+3.5</td>
<td>+7.7</td>
<td>+11.0</td>
<td>+17.0</td>
<td>+20.7</td>
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<tr>
<td><strong>Real interest rates on industrial loans (%)</strong></td>
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<tr>
<td>(a) collateral in form of real estate</td>
<td>n.a.</td>
<td>10.4</td>
<td>6.3</td>
<td>-7.9</td>
<td>-11.6</td>
<td>13.9</td>
<td>8.7</td>
<td>4.5</td>
<td>1.4</td>
<td>-3.8</td>
<td>-4.7</td>
</tr>
<tr>
<td>(b) other</td>
<td>n.a.</td>
<td>12.9</td>
<td>8.7</td>
<td>-5.9</td>
<td>-9.6</td>
<td>16.4</td>
<td>11.1</td>
<td>6.8</td>
<td>3.6</td>
<td>-1.7</td>
<td>-2.2</td>
</tr>
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</table>


Note: The wholesale price index for manufactured goods has been calculated by the appropriate weighting of price indices for individual categories of manufactured goods.

/b Change between January 1979 and January 1980.

/c Change between December 1978 and December 1979.

/d This difference between consumption plus saving and GDP represents a statistical discrepancy as reported in the national accounts. Bank analysis of the National Accounts indicate that this discrepancy is primarily due to underestimation of Consumption.
7.11  Declines in real interest rates, together with a slowdown in the generation of investible savings, have led to the rationing of loans by commercial banks. Credit rationing necessarily introduces an element of arbitrariness and the recipients of the loans enjoy a subsidy favoring capital-intensive activities. To avoid these adverse consequences, it would be desirable to eliminate rationing by equating the demand for, and the supply of, loans through higher interest rates on industrial loans.

7.12  As noted above, real interest rates may be increased by reducing the rate of inflation. This, in turn, would require the application of appropriate monetary and fiscal policies that would further contribute to improvements in the balance of trade and to the avoidance of capital outflows. Finally, it would be desirable to examine the workings of the financial sector in Thailand, with a view to proposing improvements in the operation of equity and debt markets for the efficient allocation of investment funds.

Foreign Investment and Technological Transfer

7.13  As noted above, simplifications of administrative procedures, modifications in existing legislation, and increased promotional efforts on the part of the BOI would be necessary to attract foreign direct investment. In this connection, the experience of the Singapore Economic Development Board with foreign direct investment may be usefully drawn upon.

7.14  Foreign direct investment is desirable on several counts. To begin with it brings in capital, thereby contributing to employment. Furthermore, as long as foreign direct investment is channeled into export industries, its net balance-of-payments effects and its contribution to national income in Thailand will be positive. However, foreign direct investment may have negative effects in highly protected import-substituting industries where profits are obtained by raising prices above world-market levels. This possibility, then, provides an additional argument against protection.

7.15  Foreign direct investment also brings in marketing and organizational know-how as well as modern technology. At the same time, one should avoid a situation where excessive management and licensing fees are charged. This can be done by limiting the amount of such fees as a percentage of the value of output as has been done in Korea and Mexico. Also, limitations should be imposed on the length of the time period of management and licensing contracts.

7.16  The Board of Investment may undertake the responsibility of screening management and licensing contracts on the basis of the above criteria. It is not proposed, however, that the activities of the Board extend to questions such as the appropriateness of technology in Thailand. In this connection, note should be taken of the recent liberalization of legislation on technological agreements in Korea that aims at eliminating unnecessary obstacles to the inflow of technology while safeguarding the national interest.
Technical Training

7.17 Modern industrial development requires the availability of technical and skilled labor. This purpose would be served by taking measures in regard to both vocational and in-plant training. Vocational training, understood in a general sense, includes technical education at the university and the high school levels, as well as training courses for skilled workers.

7.18 Vocational training would need to be accompanied by in-plant training. Under present conditions, firms limit their training efforts for fear of losing their workers once having incurred the cost of training. In order to increase training efforts on the part of the firms, consideration should be given to subsidizing such training through tax benefit schemes.

7.19 As noted in the report, "Development of the Engineering Industries in Thailand," in order to improve production techniques there would further be need for technical assistance to engineering firms. This may involve the use of foreign technicians so as to ensure that the best available operating practices are used.

The System of Business Taxes

7.20 As noted in para. 5.11, business taxes paid at earlier stages of manufacture need to be rebated because of the cascade-type tax system applied in Thailand, under which taxes levied on sales at successive stages of manufacture cumulate. Business tax rates were 1% until 1961, when a range of rates from 1.5 to 40.0% was established. Tax rates on a number of domestically produced intermediate products have subsequently been reduced and in some instances eliminated, while rates on a number of imported products have been raised.

7.21 The cascade-type tax system employed in Thailand has a number of disadvantages. Firstly, rebating business taxes on exports is a complicated task. This is because of the cumulative nature of the tax that also makes its effects on relative prices difficult to ascertain. The situation is aggravated by reason of variations in tax rates among products at the same, as well as at different, stages of manufacture. Differences in tax rates are the result of a historical process and do not have a clear economic rationale.

7.22 The business tax system applied in Thailand also has adverse effects on industrial structure by providing incentives for vertical integration to reduce the tax burden since only transactions between firms are subject to tax. For the same reason, cascade-type taxes discourage subcontracting that would be necessary for exploiting economies of scale and for the deepening and the modernization of the industrial structure in general.