

## CHAPTER IV

### RENTAL COST CALCULATIONS AND COMPARISONS

Based on the background information on the tax incentive schemes and income tax regulations in each country provided in Chapter III, we shall in this chapter assess numerically the effects of tax incentives on the cost of capital services for firms locating in Malaysia, Singapore and Thailand. For each individual country, a distinction is drawn between universal incentives and selectively available incentives, with the latter being prescribed in investment promotion law of each country.

The chapter is organized in the following way. The first section deals with calculations of the rental cost of capital index under different incentive programs for each country. The results obtained will then be used in the second section to compare the attractiveness of incentive packages across the three countries.

#### Rental Cost for Individual Countries

##### A. Malaysia

Malaysia is a good example of a country in ASEAN that makes extensive use of capital subsidies to encourage investment in certain preferred sectors or designated areas of the country. The fiscal incentives which are made available for firms are numerous in forms and are usually applicable to all production sectors. The generally available incentives are quite generous, comprising various allowances and accelerated depreciation. The accelerated depreciation is extremely attractive, permitting single-year write-off for qualifying expenditures on machinery and

plant. For selectively available incentives, a total number of eight major incentive packages may be granted to promoted enterprises. Most of these incentives cannot be, however, enjoyed simultaneously.

1. Universal Incentives. The corporate tax in Malaysia is at a flat rate of 45 per cent (including a development tax of 5 per cent), which is highest in all ASEAN countries and closer to that in the industrialized countries. Although the corporate tax rate is relatively high, firms not enjoying any form of special incentive are allowed to immediately write off the full cost of machinery and equipment in the first period against taxable income, so that  $z_E = 1$ . Buildings and structures may be depreciated under the IBA which consists of an initial allowance of 10 per cent and an annual allowance of 2 per cent for 45 years. This depreciation allowance leads to a value of  $z_S$  of 0.233 calculated on a straight-line basis. While the immediate write-off enables the firm to deduct the entire amount of capital expenditures on machinery and equipment in the first year, a useful life for tax purposes of 45 years for buildings results in the value of  $z_S$  which is quite low.

Following Malaysian Practical Guide to Customs Duties Order 1986, tariff rates vary according to the category of the good; most capital goods are subject to fairly low tariff rates of 0, 5 or 10 per cent. The average nominal rate of 5 per cent will be used in rental cost calculations. In addition, a sales tax must be paid on imports. For capital goods, the sales tax rate is taken to be 10 per cent. The combination of the tariff and sales tax rates is equivalent to a tariff rate of 15,5 per cent, so that  $\tau = 0,155$ , which implies that the tariff and sales tax raises the domestic price of capital goods by 0,16 times the world price of imports. The calculation of the rental cost of

capital index for universal incentives according to Equations (8.1), (8.2) and (10) of Chapter II is shown in column (1) of Table 4.1<sup>1</sup> The index has a value of 1.34 for universal incentives, which means that the tax and tariff system raises the cost of capital goods by 34 per cent above what it would be in the absence of taxes, thus signifying a net tax position on capital. The benchmark tax rate for Malaysia was 25 per cent, which is the sales tax rate required to replace the revenue raised by factor taxation. The index relative to the benchmark cost of capital goods was 1.08, indicating that the cost of capital goods was 8 per cent higher under the corporate tax system than it would be under a sales tax system.

2. Other Incentives. For manufacturing and agricultural projects in Malaysia which are not granted any form of special incentive, they may be entitled to other incentives mentioned in Chapter III but they are not allowed to use accelerated depreciation. However, since a number of these incentives are financial rather than tax incentives, while others concern depreciation regulations which are normally offered as part of other incentive packages, only three of these incentives will be examined here. They are : reinvestment allowance ; plantation allowance ; and incentives for research and development.

a) Reinvestment allowance (RA). The reinvestment allowance of 25 per cent of plant, machinery and industrial building expenditures for expansion is allowed as a deduction from taxable income. The value of the 25 per cent reinvestment allowance is to reduce the domestic

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In all the calculations that follow, it is assumed that buildings and structures are subject to a zero tariff rate.

price of capital goods by 11.25 per cent times the domestic price. If other tax incentives which may be offered to an RA-recipient firm are taken account of, the effect on the cost of capital goods will also depend on these incentives.

Incentives which may be granted include ; partial or full relief from tariffs on imported capital goods which are not manufactured locally or if local substitutes are not of acceptable quality or price; and normal capital allowances on expenditures on machinery, plant and buildings. Malaysia has a complex and discretionary system of tariff exemptions, under which manufacturers producing for export or domestic markets may benefit alike. However, the level of customs duty exemption granted on imported inputs depends on whether the finished products are marketed locally or overseas. For firms producing for export and especially for those located in EPFZs, their imported capital goods are entirely duty-free. More stringent conditions apply for firms producing for the domestic market and no exemptions may be given if the industry is already given sufficient tariff protection. Since information on the maximum or average level of exemption from customs duty are not available for firms other than export producers or EPFZ firms, a 50 per cent tariff relief will be used for all calculations except in the case of firms receiving export incentives. The 50 per cent tariff reduction on capital goods means that  $\tau = 0.0775$  for a firm granted RA.

As prescribed in the Income Tax Rules, 1968, depreciation on capital expenditure on machinery and equipment consists of an initial allowance of 20 per cent and an annual allowance of 10-12 per cent. This depreciation regulation (an annual allowance of 10 per cent is used) leads to a value of  $z_E$  of 0.757 based on the sum-of-the-years'-digits method. Buildings are depreciated with an initial allowance of 10

per cent and an annual allowance of 2 per cent, thus resulting in the present value of depreciation allowances of 0.233. Under the RA there is no tax credit available, so that  $k = 0$ . The combined impact on the cost of capital goods of all tax incentives for a firm with RA is shown in column (2) of Table 4.1. The effect of the tax and incentive system is to raise the cost of capital goods by 21.2 per cent from the cost without taxation. When the adjustment is made for the benchmark tax rate, the rental cost is calculated at 0.97 per cent.

b) Incentives for research and development. For firms enjoying R&D incentives, the  $1 \frac{1}{3}$  deduction of non-capital expenses incurred on scientific research is quite generous for firms incurring such expenses since it is equivalent to a deduction of 0.60 (or 60 per cent), which is approximately 34 per cent in excess of the amount of expenditure incurred. Nevertheless, this is the deduction allowed for non-capital expenditures, and therefore does not enter the rental cost calculation. From Table 4.1, the value of the rental cost index of 1.426 indicates that the tax and tariff system places a net tax burden on capital engaged in R&D. But one should be cautious when one interprets this index since it does not include the deduction for non-capital expenditures, and hence may understate the actual value of the incentives.

c) Plantation allowance. Under the Plantation Allowance, approved agricultural projects are eligible for the deduction from taxable income of capital expenditure incurred on the construction of buildings used for purposes of working estates. Such capital expenditure can be written off over a period of 10 years at 10 per cent per annum. The benefit of the plantation allowance is to lower the cost of buildings by 0.233 times the cost of buildings. The data for the cost

of capital calculation where all available incentives are incorporated are given in column (4) of Table 4.1.

3. Special Incentive Programs, The combined impact on the cost of capital of the various tax incentives provided under the 1968 Investment Incentives Act will be assessed for each of the special incentive programs. Throughout the ensuing calculations, with the exception of the calculation for export incentives, the normal capital allowances are claimed by the representative firm.

a) Pioneer status (PST)/Labour utilization relief (LUR). The period of tax exemption may be granted for 2 to 8 years depending on capital or employment criterion plus additional conditions fulfilled. To calculate the rental cost for a firm with pioneer status, the length of the tax holiday of 2,5 and 8 years are employed. In addition to the relief from the payment of corporate and development taxes, the pioneer firm is eligible for the normal capital allowances on qualifying equipment and building expenditures, and the relief from import duties on imported capital goods.

As mentioned in the theoretical framework of Chapter II that the incorporation of tax holidays into the rental cost calculation requires the transformation of the variable tax-holiday tax rate into an effective tax rate. The task of transforming this variable rate can be carried out through Equation (21) of Chapter II. For the tax-exempt period of 2, 5 and 8 years, the corporate tax rate of 45 per cent is translated into the effective tax rates of 31, 18 and 10 per cent, respectively.<sup>2</sup> This implies that tax liability of the pioneer

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The value of the economic rate of depreciation of 0.0875 is used. For further details, see footnote 12 to Chapter I.

firm is reduced as the period of the holiday increases, thus giving greater incentive in terms of increased net returns. Although the granting of pioneer status actually provides a subsidy to a pioneer firm in this respect, the postponement of unused depreciation allowances accumulated during the pioneer-status operation for later absorption gives rise to the decline in its value. This is so because such postponement of unused depreciation has incurred the time cost of money before the amount of allowances can be fully deducted.

The present value of depreciation allowances for a pioneer firm is calculated at 0.757 and 0.233 for equipment and buildings respectively before the postponement for later absorption is taken into account. If it is assumed that the pioneer firm deducts unused depreciation from the profits earned during the first period after the termination of the holiday, the allowance must be multiplied by  $e^{-rN_0}$  to allow for the carry-forward over the holiday period. For the holiday period of 2, 5 and 8 years, delayed absorption leads to the respective actual values of depreciation allowances for equipment and structures of 0.620, 0.191 ; 0.459, 0.141; and 0.340, 0.105. It is apparent that the longer the allowances have to be postponed, the less valuable they become and the more they offset the benefit of the holiday program. The last part of the incentives provided is the 50 per cent relief from import tariffs on imported capital goods, which implies  $\tau = 0.0775$ . The rental cost of capital indexes under Malaysian PST for the 2-, 5- and 8-year tax-relief period are given in columns (5) to (7) of Table 4.1. Examination of the values of the three indexes reveals that the effect of the tax and incentive system is to raise the cost of capital goods by 21, 8 and 3 per cent respectively from the no-tax cost. It is obvious that, despite the preferential treatment of pioneer taxation

during the holiday period, the tax and tariff system in Malaysia still places a net tax position on pioneer enterprises. However, the pioneer firm with a longer tax holiday period faces less tax burden compared with those having shorter holidays, since the reduced tax liabilities dominate the eroded value of depreciation allowances resulting from delayed absorption.

b) Locational incentive (LI). Under Malaysian Locational Incentive, greater benefits in terms of longer tax holidays are offered to LI-approved enterprises. For these enterprises, a minimum tax-exempt period of 5 years may be granted while the maximum period is raised to 10. The period of tax exemption of 5 and 10 years will be used in the rental cost calculations. Other incentives received are similar to firms granted PST and LUR. The effective tax rates under tax holidays are calculated to be 18 and 7 per cent for the pioneer period of 5 and 10 years. The associated cost of capital indexes are 1.08 and 1.02 (shown in columns (8) and (9) of Table 4.1), indicating that the costs are raised by 8 and 2 per cent from the costs in the absence of taxation. A comparison of the maximum benefits provided under PST or LUR and LI shows that the additional 2 years of tax relief under LI have resulted in a further reduction of the cost of capital goods by only 1 per cent.

c) Investment tax credit (ITC). ITC provides an alternative form of special tax concession to pioneer status. Instead of being granted a certain specified period of tax relief, firms in Malaysia may be considered for ITC status. The amount of tax credit granted starts from a minimum of 25 per cent, and will be raised by additional slices of 5 per cent to 40 per cent for the fulfilment of each of the three conditions mentioned in Chapter III. Moreover, small Bumiputra projects



may be granted 40-100 per cent ITC. The amount of ITC to be employed in the calculations are 25, 40 and 100 per cent. Firms with ITC status are also entitled to exemption from import tariffs on imported capital goods; the 50 per cent tariff reduction is also assumed here. Depreciation allowances are claimed according to the Industrial Building Allowance and the allowances prescribed in the Income Tax (Qualifying Plant Annual Allowance) Rules 1968.

The ITC in Malaysia is by nature an investment allowance since the tax credit granted is used to set off against the firm's taxable income rather than to have the amount deducted directly from the purchase price of capital. Therefore, the tax credit of  $d$  per cent reduces the firm's tax liability by  $ud$ . Since an ITC-recipient firm faces a normal corporate tax rate, the tax rate of 45 per cent is applicable to the firm's taxable income throughout its operation. Moreover, since the firm can claim the normal capital allowances beginning in its first year of operation, the value of the allowances is not reduced as a consequence of delayed absorption. The data for the rental cost of capital calculations for an ITC firm are provided in columns (10) to (12) of Table 4.1. For a firm granted a tax credit of 25 or 40 per cent, the tax and tariff system raises the cost of capital goods by 21 and 8 per cent above what they would be in the absence of taxation. For a small Bumiputra project which enjoys 100 per cent tax credit, the cost is lowered by approximately 43 per cent and the index of 0.57 is lowest for all the major incentive programs in Malaysia. A comparison of the indexes under the ITC and PST reveals one interesting thing : the extent of the effect of the tax and tariff system on the cost of capital under the two major incentive programs are exactly the same between the tax-relief period of 2 and 5 years and the amount of the tax credit of 25

and 40 per cent. Thus, based on our numerical calculations, the two incentives should prove to be invariant to a recipient firm of either one of these two major forms of incentives. Under Malaysian ITC system, small Bumiputra projects are most favoured with the cost of the firm granted 100 per cent ITC less than that of the firm receiving the minimum 25 per cent credit by more than 53 per cent.

d) Export incentives. For the purpose of promoting the export of products manufactured in Malaysia, the Malaysian government has adopted very liberal tax policies towards the export sector. The tax incentives provided are numerous in forms and generous in amount. In addition to the incentives discussed in Chapter III, exporters are automatically entitled to duty-free entry of imported machinery and raw materials. Exemption procedures are relatively simple for export producers located in EPFZs.

The relief from import duties on machinery not available domestically means that  $\tau = 0$  in the rental cost formula. The export allowance at 5 per cent is equivalent to the deduction from taxable income of 0.023. The 100 per cent deduction allowed for export promotion expenditures is equal to the deduction of 0.45. Although the combined benefit of the export allowance and the double deduction for export promotion may substantially reduce the firm's tax liability, they are additional deductions which do not affect the cost of capital investment directly and therefore are not incorporated in the calculation as in the case of R&D incentives discussed previously. Finally, the accelerated depreciation which is applicable to qualifying plant expenditure is translated into a value of  $z_E$  of 0.926. This depreciation practice is very generous as it enables nearly 93 per cent of the asset cost to be written off in 3 years, thus reducing the taxable income greatly in the initial years

of operation. The present value of depreciation allowances on building expenditure is calculated at 0.233 as before. For firms which operate under Malaysian export incentives, they face a rental cost index of 1.288 (see column (13) of Table 4.1). This index should be, however, interpreted with caution since it does not include other benefits mentioned above and, as a result, may understate the actual value of incentives granted.

e) Increased capital allowance. Firms not qualified for any of PST, ITC, LUR and LI may be granted an ICA. The rate of capital allowance of 40 per cent for plant expenditure and 3 per cent for expenditure incurred on the construction of a building are allowed as deductions from taxable income. The cost of capital index is calculated and shown in column (14) of Table 4.1.

f) Hotel incentives. The types of incentives offered under HI may take the form of either tax rate concessions or tax allowances; incentive in the form of tax concession is PST, while tax allowances may be given in the form of ADA, IBA or Hotel Tax Credit (operates along the same lines as the ITC). Since each of these incentives has already been taken account of, the calculations of the rental cost indexes for this incentive package will not be repeated here.

g) Special incentive for approved agricultural industries. An investment tax credit amounting to 50 per cent of qualifying capital expenditure on approved agricultural industries is provided to companies and co-operatives engaged in specific activities. Column (15) of Table 4.1 presents the data for the rental cost calculation for a company or co-operative which is granted this incentive. The calculation yields a rental cost index of 0.997, which represents the case of a net subsidy to capital.

Table 4.1

Malaysia : Calculation of the Rental Cost of Capital  
Index under Different Incentive Programs

	(1) Universal Incentives	Other Incentives		
		(2) RA	(3) R&D	(4) PA
(1) Corporate Tax Rate - $u$	0.45	0.45	0.45	0.45
(2) Tariff Rate - $\tau_E$	0.155	0.0775	0.0775	0.0775
- $\tau_S$	0	0	0	0
(3) Investment Tax				
Credit - $k_E$	0	0.25	0	0
- $k_S$	0	0.25	0	0
(4) Present Value of Depreciation				
Allowances - $z_E$	1	0.757	0.757	0.757
- $z_S$	0.233	0.233	0.233	0.518
(5) Cost of Capital				
Goods - $I_E$	1.155	1.071	1.292	1.291
- $I_S$	1.628	1.423	1.628	1.395
- $I$	<u>1.344</u>	<u>1.212</u>	<u>1.426</u>	<u>1.333</u>
(6) Cost of Capital				
Goods with Benchmark - $I_B$	<u>1.08</u>	<u>0.970</u>	<u>1.141</u>	<u>1.066</u>

Table 4.1 (Continued)

	Special Incentive Programs			
	PST/LUR			LI
	(5) 2 yrs.	(6) 5 yrs.	(7) 8 yrs.	(8) 5 yrs.
(1) Corporate Tax Rate - $u$	0.45	0.45	0.45	0.45
- effective $u_H$	0.31	0.18	0.10	0.18
(2) Tariff Rate - $\tau_E$	0.0775	0.0775	0.0775	0.0775
- $\tau_S$	0	0	0	0
(3) Investment Tax				
Credit - $k_E$	0	0	0	0
- $k_S$	0	0	0	0
(4) Present Value of Depreciation				
Allowances - $z_E$	0.620	0.459	0.340	0.459
- $z_S$	0.191	0.141	0.105	0.141
(5) Cost of Capital				
Goods - $I_E$	1.126	1.042	1.014	1.042
- $I_S$	1.325	1.141	1.059	1.141
- $I$	<u>1.206</u>	<u>1.081</u>	<u>1.032</u>	<u>1.081</u>
(6) Cost of Capital Goods with Benchmark - $I_B$	<u>0.965</u>	<u>0.865</u>	<u>0.826</u>	<u>0.865</u>

Table 4.1 (Continued)

	Special Incentive Programs			
	LI	ITC		
	(9)	(10)	(11)	(12)
	10 yrs.	25%	40%	100%
(1) Corporate Tax Rate - $u$	0.45	0.45	0.45	0.45
- effective $u_H$	0.0775	-	-	-
(2) Tariff Rate - $\tau_E$	0	0.0775	0.0775	0.0775
- $\tau_S$	0	0	0	0
(3) Investment Tax				
Credit - $k_E$	0	0.25	0.40	1
- $k_S$	0	0.25	0.40	1
(4) Present Value of Depreciation				
Allowances - $z_E$	0.278	0.757	0.757	0.757
- $z_S$	0.086	0.233	0.233	0.233
(5) Cost of Capital				
Goods - $I_E$	1.014	1.071	0.938	0.409
- $I_S$	1.034	1.423	1.300	0.809
- $I$	<u>1.022</u>	<u>1.212</u>	<u>1.083</u>	<u>0.569</u>
(6) Cost of Capital Goods with				
Benchmark - $I_B$	<u>0.818</u>	<u>0.970</u>	<u>0.866</u>	<u>0.455</u>

Table 4.1 (Continued)

	Special Incentive Programs		
	(13)	(14)	(15)
	<u>EI</u>	<u>ICA</u>	<u>AAI</u>
(1) Corporate Tax Rate - u	0.45	0.45	0.45
(2) Tariff Rate - $\tau_E$	0	0.0775	0.0775
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0.40	0.5
- $k_S$	0	0.03	0.5
(4) Present Value of Depreciation			
Allowances - $z_E$	0.926	0.757	0.757
- $z_S$	0.233	0.233	0.233
(5) Cost of Capital			
Goods - $I_E$	1.061	0.939	0.850
- $I_S$	1.628	1.603	1.218
- I	<u>1.288</u>	<u>1.204</u>	<u>0.997</u>
(6) Cost of Capital Goods with			
Benchmark - $I_B$	<u>1.030</u>	<u>0.963</u>	<u>0.798</u>

Note : RA - Reinvestment Allowance; R&D - Research & Development

PA - Plantation Allowance; PST - Pioneer Status

LUR - Labour Utilization Relief; LI - Locational Incentive

ITC - Investment Tax Credit; EI - Export Incentives

ICA - Increased Capital Allowance

AAI - Approved Agricultural Industries

Benchmark tax rate = 0.25.

Source: Estimates.

A comparison of the cost of capital goods to the firm under the various incentive packages in Malaysia reveals the extent to which the country has made use of fiscal incentive measures to assist producers in certain preferred sectors or regions. The differential incentives created are expected to lead to alteration in the allocation of capital between sectors. From the results obtained, the Malaysian tax incentives have proved to be discriminating in favour of large-scale manufacturing projects which engaged in the production for export or are located in gazetted development areas. The special incentives which are made available for promoted firms in Malaysia lead to significant differences in the cost of capital goods from those firms which operate with universally available incentives. The cost of capital goods to a pioneer firm under the Investment Incentives Act which enjoys the maximum 8-year tax holiday is approximately 23 per cent less than the cost of a firm which operates without any special tax concessions. The difference is even more pronounced when we compare the cost of a firm which is granted a 100 per cent investment tax credit to that of a firm under universal incentives, the difference in cost is as much as 58 per cent. The coefficient of variation of 17.3 per cent is calculated from the rental cost indexes under the various incentive programs in Table 4.1, and this coefficient is highest for any of the three countries examined in this study. As compared to the system in Singapore and Thailand, the Malaysian incentive system creates a greater degree of capital pull between sectors.

#### B. Singapore

Of the three countries under study, Singapore perhaps offers the most generous tax incentives to private investment. While the corporate tax is at a flat rate of 40 per cent, which is five percentage points lower than that of Malaysia, there are generally no indirect



taxes. There is no sales or value-added tax, and duty-free importation of capital goods and raw materials not available domestically is allowed for all industrial enterprises. The relative absence of indirect taxes places Singapore in a more competitive position in terms of attracting investment, and has influenced considerably Singapore's industrial development during the past two decades.

1. Universal Incentives. The main universal incentive in Singapore is that firms may claim an annual allowance of  $33 \frac{1}{3}$  per cent on a straight-line basis on expenditures on machinery and plant; thus, permitting three-year write-off. Structures and buildings are depreciated with an accelerated initial allowance of 25 per cent and an annual allowance of 3 per cent for 25 years. To represent the case of accelerated depreciation for machinery and plant, the sum of the years' digits depreciation method is used to calculate  $z_E$ . This gives the present value of depreciation allowances of 0.865. For buildings, depreciation allowance is calculated strictly on a straight-line basis, and the present value of depreciation allowances of 0.445 is obtained. There are no investment tax credits available under universal incentives, so that  $k = 0$ . Since Singapore allows duty-free importation of capital goods and there is no sales or value-added tax on capital goods imports, this means  $\tau = 0$  in the rental cost expression. The calculation of the rental cost of capital index with universal incentives is shown in column (1) of Table 4.2. For a firm that receives no special tax concessions, the effect of the tax and incentive system is to raise the cost of capital goods by 20 per cent above what it would be if there were no taxes. The benchmark tax rate for Singapore was 0.16; and when the adjustment for this benchmark tax rate is made, the index has a value of 1.04, indicating that the cost of capital goods was 4 per cent



higher under the corporate tax system than it would be under a sales tax system.

2. Special Incentive Programs. There are five major special incentive programs in Singapore which may be granted to firms receiving promotional privileges from the government. Some of these incentives may be enjoyed simultaneously, while others cannot. Selectively available tax incentives are provided to promoted enterprises under the Economic Expansion Incentives Act 1967 and later amendments. The Economic Development Board (EDB) is the main institution in Singapore that is responsible for industrial development and investment promotion and coordination. Other concerned institutions, such as the Development Bank of Singapore and the Jurong Town Corporation, also play a major role in industrial financing and development.

The rental cost of capital index will be calculated for each of the major incentive packages described in Chapter III.

a) Pioneer industries. In calculating the rental cost of capital index for a firm that receives pioneer status, the length of the tax holiday period of 5, 8 and 10 years will be used. The tax incentives enjoyed by the pioneer firm include exemption from import duties on capital goods imports ( $\tau = 0$ ), accelerated depreciation allowances ( $z_E = 0.865$ ,  $z_S = 0.445$ ), and exemption from corporate tax for a specified period not exceeding 10 years (which is assumed here to be 5, 8 and 10 years).

The effective tax rate under the holiday for the three holiday periods is calculated under Equation (21) of Chapter II to be 16, 9 and 6 per cent, respectively. The effect of the tax holiday is to reduce the firm's normal corporate tax rate by 24, 31 and 34 per cent for each

of the tax-exempt periods granted. Despite the ability of the tax holiday in reducing the pioneer firm's total tax liability, the value of depreciation allowances has been lessened somewhat by delayed absorption of the allowances. For the tax-exempt period of 5 years, the effect of delayed absorption of unused depreciation allowances during the holiday is to reduce its value to 0.525 (by 32%, for equipment) from the value that otherwise could have been enjoyed had not the firm been granted pioneer status. The actual value of depreciation allowances for equipment is lowered by 55% and 63% respectively for the 8-year and 10-year holiday period. The rental cost indexes for the three different periods of tax holiday are given in columns (2) to (4) of Table 4.2. For a firm that is granted pioneer status, the tax and incentive system lowers the cost of capital goods by 1.1 per cent (for 5-year tax holiday), and by 4 per cent (for 8-year and 10-year tax holidays) from what it would be if the firm faced no taxes. As is evident in the latter two cases of 8- and 10-year holiday periods, although the further two years of tax relief results in the difference in effective tax rates of 3 per cent (which should be great in terms of total tax payments), the impact of the tax exemption on the cost of capital goods under the two cases would be invariant due to the decrease in value of accumulated depreciation allowances.

b) Export incentive. For firms that qualify for export incentive, their export profits are taxed at a concessionary rate of 4 per cent for a period of 5 years; for very large projects in terms of capital expenditure, the same rate is imposed on export profits for a period of 15 years. The tax incentives granted under the export incentive scheme comprise tax rate reduction (mentioned above), exemption from import duties on capital goods, and accelerated depreciation.

The effect of the concessionary tax rate is to reduce the firm's tax from the normal rate of 40 per cent to 18 per cent and 6 per cent respectively for the case of 5- and 15-year holiday. The respective rental cost of capital index is calculated at 1.013 and 0.997 (refer to columns (5) - (6) of Table 4.2), indicating again that delayed absorption of depreciation allowances accumulated during the tax holiday has substantially reduced its value to the approved enterprise.

c) An investment allowance. Investment allowance status is another major form of tax incentive which may be granted to selected non-pioneer status firms. The Investment Allowance permits an approved enterprise to set off a maximum of 50 per cent of its fixed investment in machinery and buildings against chargeable income. An investment allowance of amount  $a$  is equal to a deduction of  $ua$ . Thus, the 50 per cent investment allowance is equivalent to a 20 per cent deduction from taxable income.

Firms qualified for investment allowance status may also claim accelerated depreciation on equipment and buildings. Since depreciation allowances can be absorbed immediately without having to carry forward as practised by pioneer firms, the full value of the allowances is appreciated by an IA-recipient firm, subject only to the firm's absorptive capacity. For equipment the present value of the allowances is 0.865, and for buildings it is 0.445. The rental cost for a firm with investment allowance status is given in column (7) of Table 4.2 and is equal to 0.87, indicating that the tax and incentive system actually provides a subsidy to the approved firm on the margin as compared to the no-tax cost. The extent of the reduction of capital cost index due to the IA is as much as 13 per cent, which is by far the greatest reduction for any of the special incentive programs in Singapore.

d) Warehousing and servicing incentive/international consultancy incentive/international trading operations incentive. Income from these three types of activity is taxed at a concessionary rate of 20 per cent for 5 years. The corporate tax rate reduction is translated into the effective tax rate of 28 per cent. The postponement of depreciation allowances until the expiration of the tax holiday period reduces the value of the allowances to 0.525 and 0.270 for equipment and buildings, respectively. The rental cost index for a firm which is granted either of these incentives is calculated to be 1.15 and is presented in column (8) of Table 4.2.

e) R&D incentives. To encourage R&D, manufacturing enterprises conducting R&D as well as R&D institutes servicing industry, the tax incentives outlined in Chapter III are provided. Of all the multiple incentives granted, those which are pertinent to the rental cost calculation include : a year or more of tax-exempt period (on top of the normal 5-10 years granted); an accelerated 25 per cent initial allowance and a 3 per cent annual allowance on R&D buildings; both 50 per cent investment allowance and 3-year write-off on plant and machinery; and exemption from import duties on capital goods not obtainable locally.

In the calculation of the rental cost of capital index for a firm enjoying R&D incentive, we shall assume that the tax holiday is granted for a period of 6 years, which should be viewed as a lower bound. The calculation yields a rental cost index of 0.898, which is slightly higher than that for a firm under the IA. The calculation does not, however, incorporate incentives which do not directly affect the cost of capital investment.

As in the case of Malaysia, differences in the cost of capital goods to firms under the various incentive programs in Singapore can

Table 4.2

Singapore : Calculation of the Rental Cost of Capital  
Index under Different Incentive Programs

	(1)	Special Incentive Programs	
		PI	
		(2)	(3)
Universal	5 yrs.	8 yrs.	
Incentives			
(1) Corporate Tax Rate - $u$	0.4	0.4	0.4
- effective $u_H$	-	0.16	0.09
(2) Tariff Rate - $\tau_E$	0	0	0
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0	0
- $k_S$	0	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	0.865	0.525	0.389
- $z_S$	0.445	0.270	0.20
(5) Cost of Capital			
Goods - $I_E$	1.09	0.940	0.927
- $I_S$	1.37	1.062	1.011
- $I$	<u>1.202</u>	<u>0.989</u>	<u>0.960</u>
(6) Cost of Capital Goods with Benchmark - $I_B$	<u>1.036</u>	<u>0.853</u>	<u>0.828</u>

Table 4.2 (Continued)

	Special Incentive Programs		
	PI	EI	
	(4)	(5)	(6)
	10 yrs.	5 yrs.	15 yrs.
(1) Corporate Tax Rate - $u$	0.4	0.4	0.4
- effective $u_H$	0.06	0.18	0.06
(2) Tariff Rate - $\tau_E$	0	0	0
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0	0
- $k_S$	0	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	0.318	0.525	0.193
- $z_S$	0.164	0.270	0.099
(5) Cost of Capital			
Goods - $I_E$	0.929	0.963	0.982
- $I_S$	0.994	1.088	1.021
- $I$	<u>0.96</u>	<u>1.013</u>	<u>0.997</u>
(6) Cost of Capital Goods with Benchmark - $I_B$	<u>0.828</u>	<u>0.873</u>	<u>0.86</u>

Table 4.2 (Continued)

	Special Incentive Programs		
	(7)	(8)	(9)
	<u>IA</u>	<u>WSI/ICSI/ITOI</u>	<u>R&amp;D Incentive</u>
(1) Corporate Tax Rate - u	0.4	0.4	0.4
- effective $u_H$	-	0.28	0.13
(2) Tariff Rate - $\tau_E$	0	0	0
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0.5	0	0.5
- $k_S$	0.5	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	0.865	0.525	0.475
- $z_S$	0.445	0.270	0.244
(5) Cost of Capital			
Goods - $I_E$	0.757	1.097	0.805
- $I_S$	1.037	1.239	1.037
- I	<u>0.869</u>	<u>1.154</u>	<u>0.898</u>
(6) Cost of Capital Goods with Benchmark - $I_B$	<u>0.749</u>	<u>0.995</u>	<u>0.774</u>

Note : PI - Pioneer Industries; EI - Export Incentive

IA - Investment Allowance; WSI - Warehousing and Servicing Incentive

ICSI - International Consultancy Services Incentive

ITOI - International Trading Operations Incentive

R&D - Research & Development

Benchmark tax rate = 0.16.

Source: Estimates.



be explained quite well by examining the nature and extent of incentives granted under each incentive program. The special incentive programs result in cost differences from that under the generally available incentives and also differences among themselves. The most attractive program as indicated by the rental cost is the Investment Allowance ; for a firm granted IA, the rental cost it faces is approximately 70 per cent of that of a firm under universal incentives. The degree of general pull of capital between sectors is less extensive compared to Malaysia, which is supported by a low value of coefficient of variation of 10.2 per cent. Singapore's incentive system as a whole seems to provide incentives which are quite uniform to all sectors, and thus resulting in low dispersion of the values of the indexes.

#### C. Thailand

The present tax privileges in Thailand are made available for approved investment projects under the Investment Promotion Act 1977 and the BOI Announcement No.1/1983. The approval of promotional status and tax and duty privileges comes under the scope of work of the BOI, while the two concerned government agencies, i.e. the Customs Department and the Revenue Department, jointly administer the implementation of the tax and duty relief schemes.

In this subsection, calculations of the rental cost of capital index will be made, in addition to the generally available incentives, for the three major forms of incentive packages described in Chapter III. The three major incentive packages which the BOI may grant to promoted activities include : promoted enterprise status (PES) ; regional industry status (RIS)/industrial estate status (IES) ; and export enterprise status (EIS).

Under the Revenue Department's Depreciation Guidelines and Rules, depreciation on capital expenditures on machinery and plant may be claimed in 5 annual allowances of 20 per cent, while industrial buildings are depreciated over 20 years at 5 per cent per annum. Although depreciation is generally made on a straight-line basis, any consistent method may be used. The present value of depreciation allowances for both equipment and buildings are calculated on the assumption that firms choose accelerated depreciation instead of straight-line depreciation. To represent the case of accelerated depreciation, the calculations of the present value of the allowances will be based on the sum-of-the-years'-digits method. The value of 0.791 is obtained for equipment expenditure and 0.456 for building expenditure. These two values are applicable to all ensuing rental cost calculations.

One form of tax and duty privilege which may be provided or granted to approved enterprises is total exemption from or 50 per cent reduction in import duties and business taxes (inclusive of a municipality tax imposed automatically at 10 per cent of business taxes) on imported machinery not manufactured locally or if there is no or insufficient local production with quality comparable to the import. The level of duty and business tax relief is to be decided by the BOI, but normally full relief is granted, especially to producers manufacturing for the export market. However, some promoted projects may not be granted this privilege. The exemption from duties and taxes implies  $\tau = 0$  in the rental cost index expression, while the one-half relief results in a value of  $\tau$  at half the normal rate imposed on imports. In the calculations for special incentive programs, only complete exemption is considered.

1. Universal Incentives. The corporate tax rate in Thailand in 1986 was 40 per cent; the present rate, effective as of January 1987, has been lowered to 35 per cent. All calculations will be based on the old rate since we are concerned with the tax and tariff system for the period up to 1986. However, calculations associated with the new rate will also be reported to see the extent to which the cost of capital is affected by the new rate. Under universal incentive package, there are no tax credits or customs duty and business tax relief available. Following Customs Tariff and Business Tax of Thailand 1986, the average rate of tariff on capital goods is 15 per cent and the average business tax rate is 5.5 per cent (including a municipality tax at 10 per cent). The combination of tariffs and taxes is equivalent to a value of  $\tau$  of 21.3 per cent, which amounts to say that the domestic price of capital goods is raised by 0,213 times the world price of imports.

Column 1 of Table 4,3 presents the rental cost calculation for universal incentive program in Thailand. The general incentives available raise the cost of capital goods by 37,4 per cent above the free-regime cost. The benchmark tax rate for Thailand was calculated at 0,14; when this benchmark is included, the index falls to 1,205 per cent. The index relevant to the new income tax rate of 35 per cent reveals that the cost of capital is further reduced by about 5 per cent due to the change in corporate tax rate.

## 2. Special Incentive Programs

a) Promoted enterprise status. In the calculation of the rental cost of capital index, the pioneer tax-exempt period of 3, 5 and the maximum 8 years will be assumed for a promoted investment project. With the normal corporate tax rate at 40 per cent, the preferential treatment of taxation for the approved project lowers

the effective tax rates to 23, 16 and 9 per cent respectively for the assumed tax-free periods. Delayed absorption of unused depreciation during the holiday has lessened the present value of depreciation allowances for equipment and buildings to 0.586, 0.338 ; 0.480, 0.277; and 0.355, 0.205, respectively.

Imports of capital goods are exempted from tariffs and taxes, and investment tax credits do not exist, so that both  $\tau$  and  $k$  are set to 0. The data for the calculations of the rental cost of capital index appear in columns (2) to (4) of Table 4.3. Thus, for a firm which enjoys promoted enterprise status under the BOI's tax and duty privileges, the effect of the tax and incentive system is to i) increase the cost of capital goods by 4 per cent for the minimum 3-year tax-exempt period, ii) leave the cost nearly unaffected from what it would be (if there were no taxes) for the holiday period of 5 years, and iii) reduce the cost by 3 per cent for the maximum 8-year tax holiday. A further comparison between the minimum and maximum tax benefits under the 3- and 8-year holiday shows that their cost indexes differ by 7 per cent.

b) Priority products/areas for investment. For a firm which undertakes an investment project in priority areas or products for investment, an additional year of corporate tax exemption will be provided on top of the normal 3-5 years granted. If we take the case that the approved firm has already been granted a 5-year tax holiday, an additional year offered brings the total period of tax relief to 6 years. Other incentives mentioned above under promoted enterprise status may also be enjoyed. Column (5) of Table 4.3 summarizes the data connected with the calculation of the rental cost index. The index has a value of 0.98, which is lower than that of a firm granted a 5-year tax holiday by 2 per cent.

c) Regional industry status/industrial estate status.

The incentives created under regional industry status/industrial estate status that are pertinent to the calculation include : i) a further year of corporate tax relief period ; ii) further 5 years of corporate tax reduction at 50 per cent of the normal rate after the termination of the holiday period, iii) exemption from import duties and business taxes on machinery imports ; and iv) the normal capital allowances.

As in b) above the total period of tax relief of 6 years will be employed. The combined benefit of preferential treatment of income taxation as stated in i) and ii) above is equivalent to the tax-holiday effective tax rate of 9 per cent, which is lowered by 31 per cent from the normal rate.<sup>3</sup> The calculated rental cost index of 1,003 seems to provide support to the conclusions arrived at in the case of Malaysia and Singapore that the value of the tax holiday appears to have been offset to a certain extent by the postponement of unused depreciation allowances accumulated during the tax-exempt period. A comparison of the value of 1.003 to the indexes calculated earlier in a) and b) indicates that, based on our calculations, the tax benefits under regional industry

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3

The derivation of the effective tax rate expression involved here is rather complicated; nonetheless, estimation of this effective tax rate can be made through the final expression which takes the form:

$$\psi = u - [(u'' - u')(1 - e^{-(r+\delta)N_0})] - [(u - u'')(1 - e^{-(r+\delta)N_1})]$$

where  $\psi$  = the effective tax rate under the holiday ;  $u$ ,  $u'$  and  $u''$  are respectively the statutory corporate tax rate, the tax rate during the first holiday period, and the tax rate during the second holiday period;  $N_0$  and  $N_1$  are respectively the year in which the first and second holiday expires ;  $r$  is the real rate of discount; and  $\delta$  is the rate of economic depreciation.

incentive cannot be said to be more attractive than those granted under the regular holiday period.

d) Export incentive status. For a firm granted export incentive status, a further year of income tax relief as well as a number of duty and tax exemptions and an extra deduction from taxable income of 5 per cent of the increment in export earnings may be provided as additional incentives. The rental cost of capital under export incentives is calculated at 0.98, which is the same as that under priority areas for investment incentive. As in the case of Malaysia, interpretation of the value of the index alone might understate the actual benefit of incentives received by an export enterprise since the various duty and tax exemptions and the extra deduction at 5 per cent, though quantifiable, are not included in the calculation of the rental cost as these incentives do not directly affect the cost of capital investment.

The same pattern of cost differences is repeated in the Thai case as in the case of the previous two countries, with a firm enjoying promoted enterprise status (with maximum 8-year tax holiday) having a rental cost which is 30 per cent less than that of a firm without any special tax incentive. On the whole, the benefit of the special tax concessions to capital investment granted by the BOI can be said to only neutralize the disincentives created by fairly high tariff rates and corporate income tax. The mean value of all indexes is calculated at 1.05, which indicates that the system does not tax capital heavily. The degree of capital pull between sectors as indicated by the value of coefficient of variation of 12.73 per cent is moderate as compared to the value for Malaysia of 17.32 per cent.

Table 4.3

Thailand : Calculation of the Rental Cost of Capital  
Index under Different Incentive Programs

	(1)	Special Incentive Programs	
		PES	
		(2)	(3)
	Universal Incentives	3 yrs.	5 yrs.
(1) Corporate Tax Rate - $u$	0.4(0.35)	0.4(0.35)	0.4(0.35)
- effective $u_H$	-	0.23(0.20)	0.16(0.14)
(2) Tariff Rate - $\tau_E$	0.213	0	0
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0	0
- $k_S$	0	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	0.791	0.586	0.480
- $z_S$	0.456	0.338	0.277
(5) Cost of Capital			
Goods - $I_E$	1,382(1,350)	0,994(0,9936)	0,962(0,9674)
- $I_S$	1,363(1,293)	1,123(1,1021)	1,058(1,0500)
- $I$	<u>1,374(1,327)</u>	<u>1,045(1,037)</u>	<u>1,000(1,000)</u>
(6) Cost of Capital Goods with Benchmark $I_B$	<u>1,205(1,164)</u>	<u>0,917(0,910)</u>	<u>0,877(0,877)</u>

Table 4.3 (Continued)

	Special Incentive Programs			
	(4)	(5)	(6)	(7)
	<u>PES</u> 8 yrs.	<u>PAF</u> 6 yrs.	<u>RIS/IES</u> 11 yrs.	<u>EIS</u> 6 yrs.
(1) Corporate Tax Rate - u	0.4(0.35)	0.4(0.35)	0.4(0.35)	0.4(0.35)
- effective $u_H$	0.09(0.08)	0.13(0.11)	0.09(0.079)	0.13(0.11)
(2) Tariff Rate - $\tau_E$	0	0	0	0
- $\tau_S$	0	0	0	0
(3) Investment Tax				
Credit - $k_E$	0	0	0	0
- $k_S$	0	0	0	0
(4) Present Value of Depreciation				
Allowances - $z_E$	0,355	0,434	0,263	0,434
- $z_S$	0,205	0,250	0,152	0,250
(5) Cost of Capital				
Goods - $I_E$	0.943(0.9519)	0.949(0.953)	0.983(0.986)	0.949(0.953)
- $I_S$	1,009(1,009)	1,034(1,014)	1,032(1,028)	1,034(1,014)
- I	<u>0.969(0.975)</u>	<u>0.983(0.978)</u>	<u>1.003(1.003)</u>	<u>0.983(0.978)</u>
(6) Cost of Capital Goods with Benchmark - $I_B$	<u>0.85(0.855)</u>	<u>0.862(0.858)</u>	<u>0.88(0.88)</u>	<u>0.862(0.858)</u>

Note : PES - Promoted Enterprise Status ; PAF - Priority Areas for Investment

RIS - Regional Industry Status ; IES - Industrial Estate Status

EIS - Export Incentive Status

Benchmark tax rate = 0.14.

Source: Estimates.



Cross-Country Comparisons of Capital Cost Indexes

The preceding section has dealt with the calculations of the cost of capital goods in each individual country under the various incentive packages. In this section, we shall utilize the results obtained for individual countries to compare the relative strengths of incentive packages across countries. This direct cross-country comparison of the level of incentives may reveal the extent to which investment incentives are being used by governments of these countries to attract foreign investment.

To allow for cross-country comparisons, average value of the capital cost index under the various incentive programs will have to be calculated. This index is taken to be a weighted average of the rental cost indexes under different packages, where the weights are the shares of capital of firms receiving each type of incentive in the total capital stock. If we let  $\bar{I}$  denote the average value of the capital cost index and  $\gamma_i$  denote the share of capital of firms receiving type  $i$  incentives,  $\bar{I}$  can be calculated according to the formula

$$\bar{I} = \sum_1^n \gamma_i I_i \quad (1)$$

However, the unavailability of individual country data on values of the capital stock under the various incentive programs does not permit us to make a direct calculation of (1) as an average value for each country. Therefore, in making cross-country comparisons of the level of incentives, universal incentive programs and some of the special incentive programs which these countries have in common will be selected for each country. These incentive programs are selected on the grounds that i) they represent the incentives which are universally available to average firms in

each country without their having to meet any predetermined criteria, and ii) the special incentive programs to be selected for individual countries represent the most important programs as reflected by the fact that the majority of capital investments in recent past were accounted for by firms granted these incentives, and that these firms also accounted for the majority of firms receiving special tax concessions. For these reasons, the average value of the indexes for the case of special incentives should not differ significantly from the representative index that has been chosen.

Table 4.4 presents the data on the universal incentives and the special incentive programs that have been selected for each country to be used for comparisons. Since some of these programs are similar in terms of the types of incentives offered, they should prove to be comparable on the margin. The pioneer status (PST) in Malaysia, pioneer industries (PI) in Singapore, and promoted enterprise status (PES) in Thailand are, for example, very similar, whether it be eligibility criteria or the nature and extent of incentives offered. As shown in Table 4.4 that the other form of major tax incentive that the three countries have in common is export incentive package. The regional comparisons of the rental cost indexes will focus on these incentive programs, i.e. the universal incentive program, pioneer incentive program and export incentive program.

The data for the calculations of the rental cost of capital index under universal incentives in the three countries are summarized in columns (1) to (3) of Table 4.4. The results indicate that Thailand has the highest rental cost of capital, while the cost of capital goods in Singapore is lowest. The regional differences in cost of capital goods can be largely explained in terms of the prevailing tax and tariff

system in each country. The ability of firms in Singapore to import duty-free capital goods contributes to the fairly low value of the cost of capital. Despite the relatively high corporate tax rate in Malaysia, the immediate write-off of the cost of equipment and the low value of import duty partially offset the effect of high corporate rate and thus result in the cost of capital goods which is lower than that in Thailand. The higher cost of capital goods in Thailand is attributable to the high tariffs and taxes which offset the fairly generous depreciation allowances for both equipment and buildings. Accelerated depreciation to the extent of the full cost of plant and machinery as employed in Malaysia is the most generous scheme among the three countries. While for building expenditure, the scheme in Thailand appears to be relatively more generous.

The benchmark tax rate required to raise the current level of government revenue (shown in row (6) of Table 4.4) was 0.25 for Malaysia, 0.16 for Singapore and 0.14 for Thailand. The benchmark sales tax in Malaysia is nearly twice as high as that in Thailand, while the rate in Singapore is slightly higher than that in Thailand. When the adjustment for the benchmark tax rates is made, the similar pattern of cost differences is repeated. The cost of capital goods in Singapore is lowest and is 104 per cent of what it would be if the same amount of government revenue was raised by a non-distorting sales or value-added tax, while in Thailand the cost is 121 per cent of what it would be with a non-distorting tax. The aforesaid argument amounts to say that while tax systems in all three countries place burden on capital for a firm with generally available incentives, the net tax position on capital investment in Singapore is lower than that in Malaysia which is, in turn, lower than that in Thailand.

Of all incentive packages examined for each country, the package which represents the most important form of tax incentive is one which allows the profits of certain new approved enterprises to be exempt from corporate income tax for a limited period. The income tax exemption is extended to dividends paid from the tax-exempt profits in the three countries alike.

Although this type of incentive has been known in each country under different names, they are of the same nature and will be referred to as 'pioneer incentive'. The data in columns (4) to (6) of Table 4.4 are taken from Tables 4.1 to 4.3 and correspond to data for a representative pioneer firm in each country which enjoys the maximum holiday period granted. The tax holidays are to reduce the firm's total tax liability substantially in the three countries but, as noted earlier in the case of within country comparisons, the value of tax holidays is partly offset by the decrease in value of accumulated depreciation allowances.

Without the adjustment for the benchmark tax rate, a comparison of the value of the tax holiday program among the three countries reveals that the program in Singapore offers the most attractive incentives, with the cost of the approved firm being reduced by 4 per cent below the no-tax cost. When the adjustment for the benchmark tax rates is allowed for, however, the cost of capital goods in Malaysia is approximately equal to that in Singapore, while in Thailand the cost is highest at 85 per cent of what it would be with a benchmark tax. The lower cost of capital relative to the benchmark case in Malaysia reflects the fact that the use of the index I to make cross-country comparisons will overstate the cost of capital indexes in countries where the government sector - as measured by the expenditure side - is large if it is not

possible to raise the current level of government revenue by lump-sum taxes.

The capital cost index relative to the benchmark tax rate in the three countries ranges between 0.83 and 0.85, revealing no significant differences in capital cost across countries. This may result partly from the fact that these countries have competitively employed elaborate tax incentives to provide inducements to foreign investment. It should be noted that the incentive level in Malaysia might have been understated for some firms receiving pioneer incentive since the system of tariff exemption in this country is discretionary and therefore the one-half reduction of import duty is assumed instead of complete exemption.

The other special incentive program to be evaluated in terms of the degree of attractiveness of the level of incentives is the export incentive. Columns (7) to (9) of Table 4.4 present the calculations for the export incentive packages in the three countries. Examination of these data indicates that Singapore is still on top of the list in terms of the relative attractiveness of tax incentives given to capital investment, while the combined benefit of incentives in Thailand is approximately of equal value to that in Singapore. The cost of capital under export incentive in Malaysia is highest despite the generosity of the accelerated depreciation which permits three-year write-off for plant expenditure. The main difference is that, while the depreciation scheme is most generous, the high corporate tax rate in Malaysia more than offsets the benefit of the accelerated depreciation. Moreover, Malaysia does not employ a concessionary corporate tax incentive to assist export producers, while both Singapore and Thailand do so. The effect of the tax holiday adopted by Singapore and Thailand is to reduce

the statutory tax rate on export profits to 6 and 13 per cent, respectively, while export producers in Malaysia are taxed at 45 per cent.

The regional comparisons of capital cost indexes based on the three incentive programs seem to provide evidence that the high-income city state has the lowest rental costs of all the three countries examined in this study. The universally available incentives in Malaysia can be said to be more attractive than those in Thailand, which is due mainly to the extremely generous first-year write-off. For special incentive programs, both Malaysia and Thailand seem to offer tax incentives which are quite competitive.



Table 4.4

Malaysia, Singapore and Thailand : Cross-Country  
Comparisons of Capital Cost Indexes

	Universal Incentives		
	(1) <u>Malaysia</u>	(2) <u>Singapore</u>	(3) <u>Thailand</u>
(1) Corporate Tax Rate - $u$	0.45	0.4	0.4
- effective $u_H$	-	-	-
(2) Tariff Rate - $\tau_E$	0.155	0	0.213
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0	0
- $k_S$	0	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	1	0.865	0.791
- $z_S$	0.233	0.445	0.456
(5) Cost of Capital			
Goods - $I_E$	1.155	1.09	1.382
- $I_S$	1.628	1.37	1.363
- $I$	<u>1.344</u>	<u>1.202</u>	<u>1.374</u>
(6) Benchmark Tax Rate - $t_B$	0.25	0.16	0.14
(7) Cost of Capital Goods with Benchmark - $I_B$	<u>1.075</u>	<u>1.036</u>	<u>1.205</u>

Table 4.4 (Continued)

	Special Incentive Programs		
	(4)	(5)	(6)
	PST*	PI**	PES***
	Malaysia	Singapore	Thailand
(1) Corporate Tax Rate - u	0.45	0.4	0.4
- effective $u_H$	0.10	0.06	0.09
(2) Tariff Rate - $\tau_E$	0.0775	0	0
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0	0
- $k_S$	0	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	0.340	0.318	0.355
- $z_S$	0.105	0.164	0.205
(5) Cost of Capital			
Goods - $I_E$	1.014	0.929	0.942
- $I_S$	1.059	0.994	1.009
- I	<u>1.032</u>	<u>0.96</u>	<u>0.969</u>
(6) Benchmark Tax Rate - $t_B$	0.25	0.16	0.14
(7) Cost of Capital Goods with Benchmark - $I_B$	<u>0.826</u>	<u>0.828</u>	<u>0.85</u>



Table 4.4 (Continued)

	Special Incentive Programs		
	(7)	(8)	(9)
	<u>EI****</u>	<u>EI*****</u>	<u>EIS*****</u>
	<u>Malaysia</u>	<u>Singapore</u>	<u>Thailand</u>
(1) Corporate Tax Rate - u	0.45	0.4	0.4
- effective $u_H$	-	0.06	0.13
(2) Tariff Rate - $\tau_E$	0	0	0
- $\tau_S$	0	0	0
(3) Investment Tax			
Credit - $k_E$	0	0	0
- $k_S$	0	0	0
(4) Present Value of Depreciation			
Allowances - $z_E$	0,926	0.193	0.434
- $z_S$	0,233	0,099	0,250
(5) Cost of Capital			
Goods - $I_E$	1,061	0,982	0,949
- $I_S$	1,628	1,021	1,034
- I	<u>1,288</u>	<u>0,997</u>	<u>0,983</u>
(6) Benchmark Tax Rate - $t_B$	0,25	0,16	0,14
(7) Cost of Capital Goods with Benchmark - $I_B$	<u>1.030</u>	<u>0.859</u>	<u>0.862</u>

Note : PST\* corresponds to data in Table 4.1 for a pioneer firm which enjoys the maximum holiday period of 8 years.  
 PI\*\* corresponds to data in Table 4.2 for a pioneer firm which enjoys the maximum holiday period of 10 years.  
 PES\*\*\* corresponds to data in Table 4.3 for a promoted firm which enjoys the maximum holiday period of 8 years.  
 EI\*\*\*\* is obtained from Table 4.1.  
 EI\*\*\*\*\* is obtained from Table 4.2.  
 EIS\*\*\*\*\* is obtained from Table 4.3.

Source: Estimates.