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Multinationals and employment in Indonesia

by Hal Hill,
Department of Economics
Research School of Pacific Studies
Australian National University
Canberra

International Labour Office Geneva

Note:
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1. INTRODUCTION

This report examines the links between foreign direct investment (FDI) and the labour market in Indonesia. The impacts of FDI are variously assessed in terms of direct employment creation, skill and human capital formation, and technology transfer more generally. Particular emphasis is given to the manufacturing sector, as the major recipient of FDI outside the oil and gas sector, and because the data base and range of issues to be investigated are much richer than in the essentially "enclave" foreign investment in mining.

Indonesia constitutes a useful case study of this topic for a number of reasons. First, as all major studies of FDI in Indonesia have stressed,[1] the policy regime has changed dramatically over the past 30 years, from outright hostility and nationalisation (1958-65), to a liberal and open posture (1967-72, 1986-present), and to a restrictive but still open stance (1974-84). Secondly, Indonesia has recovered strongly from a recession in the mid 1980s induced by a sharp fall in its terms of trade, to near boom conditions in the late 1980s; non-oil exports have risen dramatically, and foreign investment has played an important role in this process. Thirdly, within manufacturing at least, there has been intense country specialisation in the source of Indonesia's FDI for the period 1967-87, giving way only recently to a greater diversity of investing countries. Put simply, Japan has been the dominant investor in aggregate and in most branches of manufacturing. Finally, Indonesia's data sources are reasonably good, both with regard to total inflows and approvals, and to the ownership data from several industrial censuses.

Conceptually, what are the links between FDI and employment? There are numerous direct and indirect impacts, and it will be useful to identify briefly some of these. First, there are the economy-wide effects of FDI. Foreign investors introduce a package of productive resources - capital, management, technology, marketing expertise - which provide the bases for their competitive advantage, and which overcome the intrinsic costs of 'being foreign'. The benefits which accrue to the host country depend on the extent to which the latter is able to capture these beneficial effects, whether in the form of new and better products, higher labour productivity, greater exports, and increased government taxation revenue. There are, second, the micro, enterprise-level impacts, such as the effects on industry structure (for example, new competitors, the demise of national, often smaller-scale, firms), on employment conditions and structures (for example, foreign firms generally recruit more skilled workers and pay higher wages), and on commercial relationships with upstream and downstream firms. The impacts are invariably extremely difficult to capture and quantify, but some of the general parameters may be identified and some broad assessments may be made. To this writer's knowledge, there has not yet been a really detailed, enterprise level assessment of the effects of FDI in Indonesia (Rice, 1974; Thee, 1990; and Wells, 1973 come closest), and there is a strong case for such a study. It is, however, beyond the scope of this present paper, as several months of enumeration and field survey time would be required.

This paper is organised as follows. In section 2 there is an analysis of Indonesia's foreign investment regime since 1966 and an overview of foreign investment flows and patterns. Both the policy regime and the country's economic fortunes have fluctuated significantly over these 25 years, and this is reflected in aggregate FDI flows. Next, section 3 provides a brief summary of the structure of and trends in the Indonesian labour market. While still characterised as a "labour surplus" economy, there have been important changes in the sectoral composition and in conditions of employment over this period. Section 4 takes a closer look at foreign investment in the manufacturing

sector, where the more comprehensive data base and a somewhat richer secondary literature permit a more detailed inspection of FDI and employment issues. This is followed by a more general assessment of foreign investment, relating these patterns to the issues of technology transfer, skill formation, and the general policy regime. Finally, in section 6 there is a summary of the key points of the paper.

2. FOREIGN INVESTMENT IN INDONESIA: AN OVERVIEW

Several major features of the Indonesian experience with foreign investment since 1966 need to be emphasised at the outset:

1. From the end of the colonial era - effectively 1939 - until 1966 there was virtually no new foreign investment, and by the latter year almost all foreign capital had been either repatriated or expropriated.

2. The 'New Order' regime introduced a very liberal foreign investment code in 1967, and the door to FDI has remained open - sometimes wide open, sometimes just slightly ajar - ever since. These episodes in the country's foreign investment regime since 1966 need to be emphasised, because there has not been a consistent and coherent foreign investment 'policy'.

3. It is convenient to think of FDI flows as comprising two roughly equal halves. The first comprises investment in the oil and gas sector, and originates mainly for the United States. The second refers to all other sectors, but is dominated by manufacturing, and Japan has been by far the largest source country. The two parts of the economy are administered under separate policy regimes and by different authorities.

4. Related to this point, the data on FDI in Indonesia, while quite abundant, need to be used with great care. Official statistics refer only to the non-oil and gas sector; no official data are available on foreign investment in oil and gas. Moreover, for the non-oil sector, there are two sources of data: those published by the Capital Investment Coordinating Board (Badan Koordinasi Penanaman Modal - BKPM) which refer only to approved investment and which for several reasons greatly overstate the realised foreign equity contribution; and realised figures published by the central bank (Bank Indonesia - BI) which, with a lag, report estimated actual foreign equity investment (and loans). The accuracy of all sets of estimates is hampered by Indonesia's very open international capital market.

5. Indonesia's ownership patterns are unusually complicated, for two reasons. First, in addition to its regulatory powers, the state itself is a large direct investor. Much of the "commanding heights" of the economy is state-owned, or at least in joint venture with foreign interests. (And is an army-run "yayasan" [foundation]), existing mainly on government contracts, "state" or "private"?) Secondly, "foreign" and "domestic private" are often indistinguishable, owing in part to the presence of intense business contacts between Indonesian Chinese investors (the dominant domestic private group) and Chinese business interests in the broader East Asian regional economy. (Is a local firm's partner, a former Indonesian resident now living in Hong Kong, "foreign" or "domestic", for example?) This paper adheres to convention below in identifying three groups: foreign, state, and (domestic) private, but it

needs to be remembered that the distinctions between them are frequently blurred.

Bearing in mind these caveats, let us look first at the policy regime and then at the pattern of inflows. Indonesia's current Government, which took power in 1966, assumed a ramshackle economy characterised by triple-digit inflation, economic decline and sharp political divides. The Soeharto Government quickly signalled a return to economic orthodoxy by carrying out a comprehensive programme of economic stabilisation and rehabilitation. Internationally, it announced its intention to rejoin the United Nations, and to re-establish ties with both the International Monetary Fund and the World Bank. This resulted fairly quickly in Indonesia's reintegration into international capital markets and international aid networks, and most of the debt from the former regime was either rolled over or waived. Eager to obtain access to western capital, technology and markets, the Government, in one of its first major decrees, introduced a new foreign investment code in 1967 (Law No. 1/1967), and foreshadowed the return of property which had been nationalised over the period 1958-65. In the words of one prominent Indonesian academic and sometime Minister, Professor Moh. Sadli:

> When we started out attracting foreign investment in 1967 everything and everyone was welcome. We did not dare to refuse; we did not even dare to ask for bonafidity of credentials. We needed a list of names and dollar figures of intended investments, to give credence to our drive. The first mining company virtually wrote its own ticket. (Quoted in Palmer, 1978, p. 100.)

The new Law, together with a similar provision for domestic investment introduced in the following year, offered a wide range of fiscal incentives: tax holidays of 2-6 years, accelerated depreciation allowances, exemption from duty on the import of capital goods, loss carry-forward provisions, and a guarantee on profit and capital repatriation. Moreover, restrictions on the employment of foreign personnel were minimal, and foreigners were permitted 100 per cent ownership. With the sudden inflow of large amounts of foreign capital, the resurgence of economic growth, the prospect of "made-to-order" protection, and an open international capital market, Indonesia was suddenly transformed from "pariah" status to something of "gold rush" atmosphere among foreign investors. These changes, as we shall see below, coincided with the beginning of the first concerted outward investment flows from Japan, accounting in part for the extraordinarily strong investment (and aid and trade) ties between the two countries.

Ever since 1967, Indonesia has been a significant recipient of foreign investment in most years, but the policy regime has altered considerably. It is possible to explain the swings in the policy pendulum, from a very open regime to an increasingly restrictive one and then reverting back to a more liberal posture, through the interplay of domestic political factors and the international economic environment.

The initial open-door policy lasted about five years. Over this period, the regime achieved its objectives of restoring its international credentials, attracting foreign capital, and acquiring the desired negotiating skills. However, for a country which, only a few years ago, had adopted a hostile posture towards foreign capital, it was not surprising that the open-door policy was not sustainable. Driven by nationalist sentiment, and by a feeling within policy circles that the package was too generous, a more restrictive regime became evident by about 1972, when certain sectors were closed off to foreign firms, and investors began to complain about lengthy bureaucratic delays and difficulties.

But the biggest changes were to occur in January 1974 when, following widespread protest and agitation accompanying the visit of the Japanese Prime Minister to Jakarta, President Soeharto announced measures to support "pribumi" (indigenous) business, and to restrict non-"pribumi" (mainly ethnic Chinese) and foreign enterprise alike. Specific provisions affecting the latter included the requirements that all new firms be joint ventures, that existing wholly foreign-owned firms invite a domestic equity partner within a decade, that employment of foreign personnel be increasingly restricted, and that increasing numbers of sectors were to be closed off to foreign investors. For the next decade, this fairly restrictive attitude towards FDI was maintained. A few simplifications were introduced, such as a nominal "one-stop" service (which proved to be more rhetoric than reality) at the BKPM, and for the first time the BKPM in 1977 published its Investment Priority List (Daftar Skala Prioritas - DSP), which outlined the sectors open to foreign firms; previously no such guidelines were issued - prospective investors had to approach the Board and commence negotiation without ever really knowing the status of their investment and the intended field of activity. These reforms in 1977 reflected a view in Government that the 1974 measures may have been too harsh, as inflows had begun to decline. Shortly afterwards, however, international oil prices rose steeply once again, the Government's bargaining power was enhanced, and the environment became more restrictive. In the early 1980s, buoyed by a second round of windfall oil revenues, the Government announced a series of ambitious heavy industry and infrastructure investment projects. Foreign investors were welcome to participate, it was stated, but this was to be in the context of the evolving state-led industrialisation strategy, whereby a series of giant state enterprises were to lead the push into heavy industry.

However, the strategy was quickly overtaken by external events. Declining international oil prices resulted in a sharp decline in government revenues (up to the early 1980s some two-thirds of the Government's revenue came from oil and gas taxes), and many of the projects were postponed and later cancelled. A major tax package was introduced in 1984 which simplified taxation procedures, altered the mix of taxes, reduced official rates, but also abolished most of the incentives available to investors from the BKPM. Procedural simplifications in dealing with the BKPM were introduced in 1985. Then major liberalisations were enacted in 1986 and 1989. In 1986 foreign firms were placed on the same footing as domestic firms with regard to domestic distribution networks and state banks; exporting firms were given more liberal treatment; reinvestment of profits was facilitated; the joint venture provisions became less harsh; and other simplifications were introduced (see Hill, 1988, p. 32). These provisions were further liberalised in 1987 and 1988, and additional major changes were enacted in May 1989. The major provision of the 1989 reforms was the announcement of a Negative List (Daftar Negatif - DN), which itemised only those sectors specifically closed to new investments. All other activities are now automatically deemed open, thereby removing much uncertainty in the implementation of BKPM authority. For foreign investment, 75 activities were so listed: 9 closed to any new investment, 3 open only if 100 cent of output is exported; 63 fields open only if at least 65 per cent of output is exported; and 20 of these 63 fields would also be open if co-operatives are a partner and with equity of at least 5 per cent. Appendix I reproduces these 75 activities and the four relevant criteria.

Thus, by 1989 there had been a major reversals of the foreign investment regime, to something approaching the position of the late 1960s. Although in some respects the regime is not as liberal as before - tax holidays are not provided, and wholly-owned foreign enterprises are not permitted (except in Batam, adjacent to Singapore, and in the underdeveloped eastern areas of Indonesia) - the regime is now an attractive one. The BKPM has begun to take

its promotional mission seriously, the ground rules for both the authorities and investors are fairly well established, and the economy is growing quickly on the back of impressive export growth. Unlike its neighbours, Indonesia has not been attracted to the concept of export processing zones (EPZ), in part because of the Government's reluctance to relax across-the-board its domestic equity requirements. However, a small EPZ has operated for many years in Jakarta (on which see Warr, 1983), and more recently the Government has promoted the 'Golden Triangle' concept of Batam-Singapore-Johor in co-operation with the Governments of Singapore and Malaysia.[2] Moreover, since 1986 the Government has operated an especially effective duty drawback scheme for exporters which has been so successful that it has obviated the need for such zones (Hill, 1987).

Will the 1990s see the pendulum swing back towards greater restriction? It is too early to be confident about making such a prediction. There are signs of such a tendency, evident in the President's decision in early 1990, in response to nationalist pressure, to require large business undertakings ("konglomerasi" in Indonesian parlance) to divest a portion of their equity to co-operatives (Pangestu and Habir, 1990). Yet, so far, the investment regime has remained largely unaltered, and the striking success of the general liberalisations since 1986 in achieving rapid export and economic growth have had a powerful demonstration effect and built up a strong lobby which has a stake in a continuation of the reform process.

Let us now examine the pattern of foreign investment in Indonesia since 1967, and the relationship between these flows and the policy regime discussed above. It is important to emphasise again that the focus is on the 'BKPM' sectors, since no official data are published for oil and gas and financial services. It also needs to be stressed that the BKPM data used below refer only to approvals. Some approved projects never commence (although in principle these are subsequently deleted from the official statistics), and others have a long gestation period. Moreover, because the BKPM data include the (sometimes inflated) domestic partner's equity contribution and borrowings, the difference between the balance of payments estimate of annual FDI and the BKPM figure is very large. The two data series, simply, measure different things.[3]

Although the two sets of foreign investment data diverge considerably, there are some similarities in the broad trends (table 1). Foreign investors initially adopted a cautious attitude, and in 1968, the year after the introduction of the Foreign Investment Law, there was a net outflow. By the early 1970s, however, the inflows were very sizeable, the real total for 1972 being the fourth largest of all years from 1968 to 1989. The picture becomes somewhat confusing in the mid 1970s, with the realised figure for 1974 being recorded as negative, in contrast to the very large positive approvals total. The explanation is that foreign investors became somewhat apprehensive at the prospect of political disturbances, yet this was also the year when the giant Asahan hydro-electric and alumina plant in North Sumatra was approved, which in turn contributed to the peak realised figure in the following year. Both approvals and realised flows then declined in response to the tighter investment regime. The realised figures in fact remained flat right through the period 1977-86 owing to the restrictive BKPM policy, to occasional disputes in the petroleum sector over taxation and production sharing agreements, and to the sluggish domestic economy after 1982. Approvals data suggest strong investor interest from 1979 to 1984, peaking in 1983 as investors rushed to obtain approval under the old fiscal incentives regime. Part of the explanation for the high figure for the early 1980s relates to the Government's heavy industry programme. Although some of these projects commenced, many received approval but were frozen during the Government cutbacks of 1983-84, thus causing the very large discrepancy between the two

columns over this period. More recently, both series have rebounded strongly in the late 1980s in response to the more liberal investment climate and to the attractive investment opportunities for export.

Table 1. Foreign and domestic investment, 1968-89 ($ million)

Year	Nominal Totals			Real Totals		
	Realised	Approved		Realised	Approved	
	Foreign	Foreign	Domestic	Foreign	Foreign	Domestic
1989	735	4,150	7,190	665	3,757	6,507
1988	542	3,550	5,708	510	3,350	5,375
1987	446	843	3,407	430	814	3,283
1986	258	450	1,464	253	450	1,436
1985	310	859	2,833	310	859	2,833
1984	222	1,121	1,873	227	1,146	1,915
1983	292	2,882	7,707	306	3,018	8,070
1982	225	1,800	2,949	242	1,938	3,174
1981	133	1,092	2,676	151	1,242	3,044
1980	184	914	2,086	231	1,147	2,617
1979	226	1,320	1,242	314	1,833	1,725
1978	279	397	1,715	421	599	2,587
1977	235	328	1,386	383	534	2,257
1976	344	449	672	596	778	1,165
1975	476	1,757	593	880	3,248	1,096
1974	-49	1,417	554	-104	3,021	1,181
1973	15	655	1,465	36	1,594	3,564
1972	207	522	718	521	1,315	1,809
1971	139	426	939	358	1,098	2,420
1970	83	345	319	223	925	855
1969	32	682	101	90	1,916	284
1968	-2	230	13	-6	669	38

Sources: IMF, *International Finance Statistics* for realised foreign investment; BKPM for approved foreign and domestic investment.

Notes: Real data have been calculated using as a deflator the US producer price for finished goods, capital equipment; they are expressed in 1985 prices. Domestic approvals data have been converted at each year's exchange rate. BKPM data exclude the oil and gas and financial services sector; they refer to total planned and approved investments, include foreign and domestic equity and loan contributions.

It is clear that three sets of factors explain these annual fluctuations. The first is the state of the Indonesian and world economies. Rapid economic growth in Indonesia from 1968 to 1981 and after 1986 has attracted investor interest, for import substitution and more recently for export. A benign global economic environment over this period, except for the late 1970s and early 1980s, has contributed further. Secondly, the policy regime has induced large inflows, especially during the liberal periods of 1969-72 and 1987-89. Conversely, political uncertainty or greater restriction has led to smaller inflows. Finally, the fluctuation can be explained by large and 'lumpy' investments which push the figure up in a particular year, such as Asahan in 1974-75.

An additional feature of the aggregate flow data is the comparison between foreign and domestic approvals. Except for the late 1960s, when the Government was particularly eager to attract foreign capital, and the mid 1970s (the 'Asahan bulge'), domestic approvals have generally exceeded foreign investment approvals, and in about half the years by a ratio of 2:1. The trends in the two series are also quite similar, with strong growth through to the mid 1970s and again in the late 1980s. The Government's more nationalist regime is reflected in the much higher domestic figures from 1977 to 1986. But, in general, the relationship between foreign and domestic investors has usually been a complementary one, with each group responding to the same commercial opportunities and each creating opportunities for the other.[4]

Within the BKPM sectors, manufacturing has been by far the largest recipient of foreign investments, absorbing nearly 60 per cent of the total over the period 1967-77, and 64 per cent from 1967 to 1989 (table 2). These figures exclude the very large investments in oil and gas.[5] The dominance of manufacturing is not surprising. Commercial opportunities in agriculture are not very great, apart from the heavily regulated plantations, fisheries and forestry sectors, and Indonesia's land regulations strongly discourage such activities. In services, too, the opportunities are limited for similar reasons, although the tourism sector has attracted a considerable volume of foreign investment in recent years; financial services are excluded from the BKPM's purview. Investments in mining have been substantial, in coal, gold, tin, nickel and copper. But these have been small in comparison with the huge inflows into oil and gas, and in any case state enterprises in mining have sometimes ruled out opportunities for foreign investors.

Within manufacturing, the drive towards industrial maturity has resulted in a pronounced change in the sectoral composition of foreign inflows. Whereas in the first decade textiles dominated, accounting (with food products) for almost half the total, for the period as a whole (1967-89) basic metals - mainly steel and related products - has been by far the most important. This sector, combined with the metals goods industries, has absorbed more than half the total from 1967 to 1989.

Comparing foreign and domestic patterns, for which the approvals data must be used, there are some differences, although in each case manufacturing dominates (table 3). Agriculture is more important in the case of domestic investors, owing to the restrictions placed on foreign companies and to the greater local knowledge of domestic business. Conversely, mining occupies a higher proportion for foreign firms because of their international expertise and knowledge of world markets in this industry, and because most of the domestic investment here has been undertaken by the state. In services the shares are similar. Within manufacturing, and consistent with the theory of foreign investment, domestic investors have tended to be relatively more active in less capital and skill-intensive activities such as food products, textiles, wood products and non-metallic minerals, whereas the share of foreign investors has been much larger in the capital-intensive basic metals sector.

Table 2. Realised foreign investment by sector
(percentage of total)

Sector	1967 up to: December 1977	June 1989
Agriculture	11.7	3.8
Mining	19.8	23.8
Manufacturing	58.7	64.4
Food products	3.5	2.7
Textiles	23.1	9.2
Wood products	0.7	0.8
Paper products	0.5	0.8
Chemicals	8.8	9.9
Non-metallic minerals	11.8	7.6
Basic metals	4.3	27.3
Metal products	5.8	6.0
Miscellaneous	0.2	0.1
Services	9.8	8.0
(Total: $ million)	(2 639)	(6 734)

Source: Bank Indonesia.

Table 3. Foreign and domestic investment approvals by sector
(percentage of total)

Sector	Foreign 1967-July 1990	Domestic 1968-July 1990
Agriculture	5.0	17.3
Mining	19.2	3.2
Manufacturing	60.4	66.4
Food products	4.6	7.4
Textiles	8.2	9.2
Wood products	1.3	6.0
Paper products	3.0	6.5
Chemicals	14.8	15.4
Non-metallic minerals	3.7	8.9
Basic metals	18.2	7.3
Metal goods	6.5	5.4
Miscellaneous	0.1	0.3
Services	15.4	13.1
(Total: $ million; Rp billion)	(15 709)	(30 936)

Source: BKPM.

Outside the oil and gas sector, Asian - particularly Northeast Asian - economies have been the major source of Indonesia's foreign investment (table 4; but see also note 3). Japan has played a dominant role, providing almost 41 per cent of the realised total through to 1989. Moreover if, as seems reasonable, the large 'multi-country' group is allocated on a pro-rata basis according to single country shares, the Japanese figure approaches 60 per cent of the total - an astounding figure, which accounts for the fear in some Indonesian quarters of the Japanese "over-presence". The Japanese role is explained by a number of factors: the coincidence, as noted above, of liberalisation in both investment regimes; the strong complementarity between a resource-poor and resource-rich economy; and strong political ties despite Japan's wartime occupation of Indonesia. Of course, Japan has been the dominant investor throughout Asia since 1970, and its sheer commercial size explains the total also. Nevertheless, as Pangestu (1987) has shown, using investment intensity analysis, the high Japanese figure is explained by intense commercial contact (that is, the investment intensity index exceeds unity, unlike that of all other OECD economies except neighbouring Australia).[6]

Table 4. Major foreign investors (percentage of total)

	Realised		Approved
	to Dec 1977	to June 1989	to July 1990
Asia			
Japan	39.9	40.8	32.8
Hong Kong	10.2	8.8	7.7
Singapore	1.3	0.6	3.3
South Korea	0.1	1.2	1.9
Taiwan	n.a.	0.3	1.2
Europe			
Belgium	1.1	4.3	7.2
Netherlands	1.7	1.9	3.4
United Kingdom	1.0	1.2	2.1
France	0.5	0.4	1.6
Germany	1.3	1.4	1.6
North America			
United States	6.7	3.5	11.8
Canada	0.1	0.1	7.7
Australia	2.7	2.0	4.0
Other countries	6.1	1.9	3.1
More than one country	27.3	31.6	10.6

Source: Bank Indonesia and BKPM.

The next major investor grouping has been the four Asian NIEs, led by Hong Kong in the earlier years, but with large investments from the other three in recent years. These investments have been explained by a number of factors: proximity in all cases, buttressed by close commercial ties within East Asia's prominent Chinese business entities; the search for new low-cost investment sites, as in the case of textiles, especially since 1985 when all four economies have lost their comparative advantage in labour-intensive activities; obtaining access to Indonesia's rich natural resources has also been a factor, as in the case of Korean investments in timber and wood processing. As all four economies have been running current account surpluses in the late 1980s, their loss of comparative advantage has led to a rapid surge in investments in labour-intensive activities, the magnitude of which for Indonesia is understated in table 4 since these are cumulative totals. In recent years these four have been challenging Japan's position as the leading non-oil investor.[7]

European investors have generally played a far less significant role, a position which is likely to be maintained by the changes scheduled for 1992 and by the investment requirements of Eastern Europe. Belgium is actually the largest investor, owing mainly to their country's involvement in Indonesia's now sizeable steel industry. The Netherlands is the second largest investor, reflecting the close economic and political ties between the two countries during the New Order period (and quite unlike the hostilities which were evident before 1966). North American investments in the non-oil economy have never been large, although the United States has been crucial as a market for Indonesia's newly emerging labour-intensive export industries.

Within manufacturing, and before the recent NIE investment surge became fully apparent, Japan and Hong Kong (and the multi-country group) were the major foreign investors in most sectors (table 5). Japan's prominence in the large textiles and basic metals sectors is particularly apparent. Reflecting complementarities in relative natural resource endowments, and similarity in Asian diets, the NIEs have been important in wood and paper products and food products. Only Belgium in basic metals and the US in metal products have been exceptions to the rule of Asia's dominance in major branches of manufacturing.

Table 5. Major foreign investors in manufacturing, 1967-89
(ranking, percentage of total in parentheses)

Sector	I		II	
Food products	Hong Kong	(28.3)	Japan	(23.9)
Textiles	Japan	(64.0)	Multi	(19.8)
Wood products	Hong Kong	(36.4)	South Korea	(32.6)
Paper products	Hong Kong	(41.6)	Taiwan	(17.8)
Chemicals	Multi	(35.5)	Japan	(16.3)
Non-metallic minerals	Multi	(48.0)	Japan	(46.1)
Basic metals	Japan	(84.5)	Belgium	(13.6)
Metal products	Japan	(58.7)	US	(10.9)
Miscellaneous	UK	(33.8)	Japan	(27.7)

Source: Bank Indonesia.

The large oil and gas investments have obviously been region-specific, centred on Indonesia's major reserves in East Kalimantan and Sumatra. For BKPM sectors, investment approvals have been reasonably dispersed on an island basis, with both foreign and domestic totals broadly reflecting the distribution of population and economic activity. Thus Java has about 60 per cent of Indonesia's population and generates a similar proportion of the country's non-oil GDP. The domestic approvals share is almost identical to this, and the foreign share somewhat lower (table 6). At a subregional level, however, the distribution of approvals is much more skewed. Jakarta and West Java (much of the latter being a spill-over from the capital city) have absorbed about 45 per cent of both foreign and domestic approvals, with the remaining two thirds receiving just a fraction of this. Outside Java, much of the investment has tended to be "enclave" in nature.

Table 6. Foreign and domestic investment approvals by region
(percentage of total)

Region		Foreign (1967-July 1990)	Domestic (1968-July 1990)
Java		54.0	59.7
Jakarta		17.2	18.6
West Java		27.7	25.9
Central Java/Yogyakarta		3.8	4.9
East Java		5.3	10.3
Sumatra		25.8	22.6
of which:	North Sumatra	11.9	6.8
	Riau/Batam	6.3	3.3
	Aceh	3.8	3.1
	South Sumatra	0.4	4.2
Kalimantan		6.9	11.1
of which:	East Kalimantan	2.1	6.6
Sulawesi		8.3	3.2
Eastern Indonesia		5.0	3.4

Source: BKPM.

This pattern is hardly surprising and does not constitute a criticism of foreign investors, however. For one thing, a similar regional concentration is evident in the case of domestic investors. For another, foreign firms have particular skills which shape their location decisions. Being large-scale, they need to be near large domestic markets, or ports for export; if the projects are resource-based they will be located near the relevant raw materials. Many of these resources happen to be located in isolated regions, such as the INCO nickel mine in the hinterlands of South Sulawesi, and the very large Freeport Copper mine in Irian Jaya. Providing the project is viable, is undertaken with due sensitivity to local interests, and is taxed in an appropriate manner, the criticisms regarding enclave development are hardly valid.

Three additional aspects of foreign investment in Indonesia should be emphasised in this overview section. First, except for the manufacturing sector, to be discussed in section 4 below, detailed ownership data by sector are not available for Indonesia. However, on the basis of informed estimates, it is possible to estimate a set of figures which is probably not too far wide of the mark (table 7). Although very crude, the data do underline several key points. First, foreign economic participation in the economy is modest. Foreign firms probably generate a little over 10 per cent of Indonesia's GDP (and perhaps as much as 15 per cent of non-agricultural GDP), but only about half this figure if the oil and gas subsector is excluded. Even though these data do understate the foreign presence for a variety of reasons, any suggestion that foreigners dominate the Indonesian economy is clearly preposterous. Secondly, the Government presence in what is nominally a "liberal capitalist" regime is very considerable. Government entities probably contribute about 30 per cent of the nation's GDP, and close to 40 per cent of non-agricultural GDP; government corporations are the key actors in banking, transport and communication, mining, parts of manufacturing and a few agricultural sub-sectors, in addition to public administration and utilities. Thirdly, despite the substantial foreign and government presence, private firms are the largest ownership group, contributing somewhere between 50 and 70 per cent of GDP, depending on definitions. This is, of course, the most heterogeneous of the three main groups, and its activities range from petty traders and small-holders to newly emerging corporate giants.

Table 7. Approximate estimates of ownership shares in Indonesia, late 1980s (percentage of each sector's value added)

	Domestic sector	Foreign	Govt. share (1988)[a]	
Agriculture				
Food crops, smallholders, livestock	100	0	0	18
Fisheries, forestry, plantation	80	5	15	3
Mining				
Oil and gas	0	50	50	15
Other	30	30	40	1
Manufacturing				
Oil and gas	0	0	100	4
Other	59	17	24	14
Construction	90	5	5	5
Utilities	0	0	100	1
Transport and communications	50	0	50	5
Trade and tourism	90	5	5	16
Banking and finance	30	5	65	4
Government	0	0	100	8
Accommodation	90	0	10	3
Other services	100	0	0	4
Total	57	12	31	
(excluding oil and gas)	71	5	25	

[a] Refers to share of GDP at current prices. These shares are used as weights to compute the ownership shares in the last two rows.

A second general observation is that the multinational presence in Indonesia is modest by regional standards (figures 1-5). Indonesia's aggregate inflows, in real terms, exceeded those of Korea, Philippines and Thailand, but much less than those of the liberal regimes in Malaysia and Singapore, over the period 1973-88 (figure 1). It is important to emphasise that Korea has, until recently, pursued a restrictive investment regime, and foreign investors have been reluctant to engage in the unstable Philippine economy. Moreover, the comparative ratios underline these limited totals. Indonesia has received a small proportion of its total capital inflow in the form of FDI (figure 2). The contribution of FDI to gross capital formation in Indonesia is one of the lowest (figure 3). The ratio of FDI to GDP was quite high in the mid-1970s, but has been low thereafter (figure 4). Similarly, on a per capita basis the total for Indonesia is very small (figure 5).

Finally, to obtain a perception of the commercial environment in comparative perspective, it is useful to report the results of a 1988 survey undertaken by JETRO, which included Indonesia, two of its ASEAN neighbours, the Philippines and Thailand, and Asia's other two developing giants, China and India (Appendix II). The survey was undertaken in late 1988, with some subsequent updating, so it presents a picture of Indonesia after most of the recent reforms have been introduced. Indonesia emerges as a fairly attractive environment for foreign investment, although its basic policy is regarded as 'active' rather than the 'positive' stance of both China and Thailand. As noted earlier, it provides no general tax incentives and permits only 100 per cent foreign ownership in two unimportant regions, but in other respects it is comparable in the sample. While uncertainties remain, Indonesia suffers neither the political instability of the Philippines, nor the world-wide condemnation of its human rights policies directed at China; its commercial environment is more liberal than that of India's while it has yet to experience the serious infrastructure constraints evident in Thailand.

3. THE INDONESIAN LABOUR MARKET

Befiting Indonesia's status as an economic laggard up to the mid 1960s and a high growth economy thereafter, there are four major features of the country's labour market over the past 25 years. These are:

1. Very rapid structural change: The share of employment in agriculture has declined very quickly, though not as steeply as this sector's share of GDP. In effect, because of the slow growth and dislocation over the period 1939-66, changes in the employment structure which in most countries might occur over four to five decades have been telescoped into about half this period.

2. Very rapid educational expansion: Similarly, Indonesia has massively underinvested in education for much of its history (for comparative data, see various issues of the World Bank, World Development Report on education enrolment ratios for the three main levels of education). Although there is now near-universal primary education - putting aside quality concerns in many areas - Indonesia's stock of highly trained and vocational manpower is still rather weak.

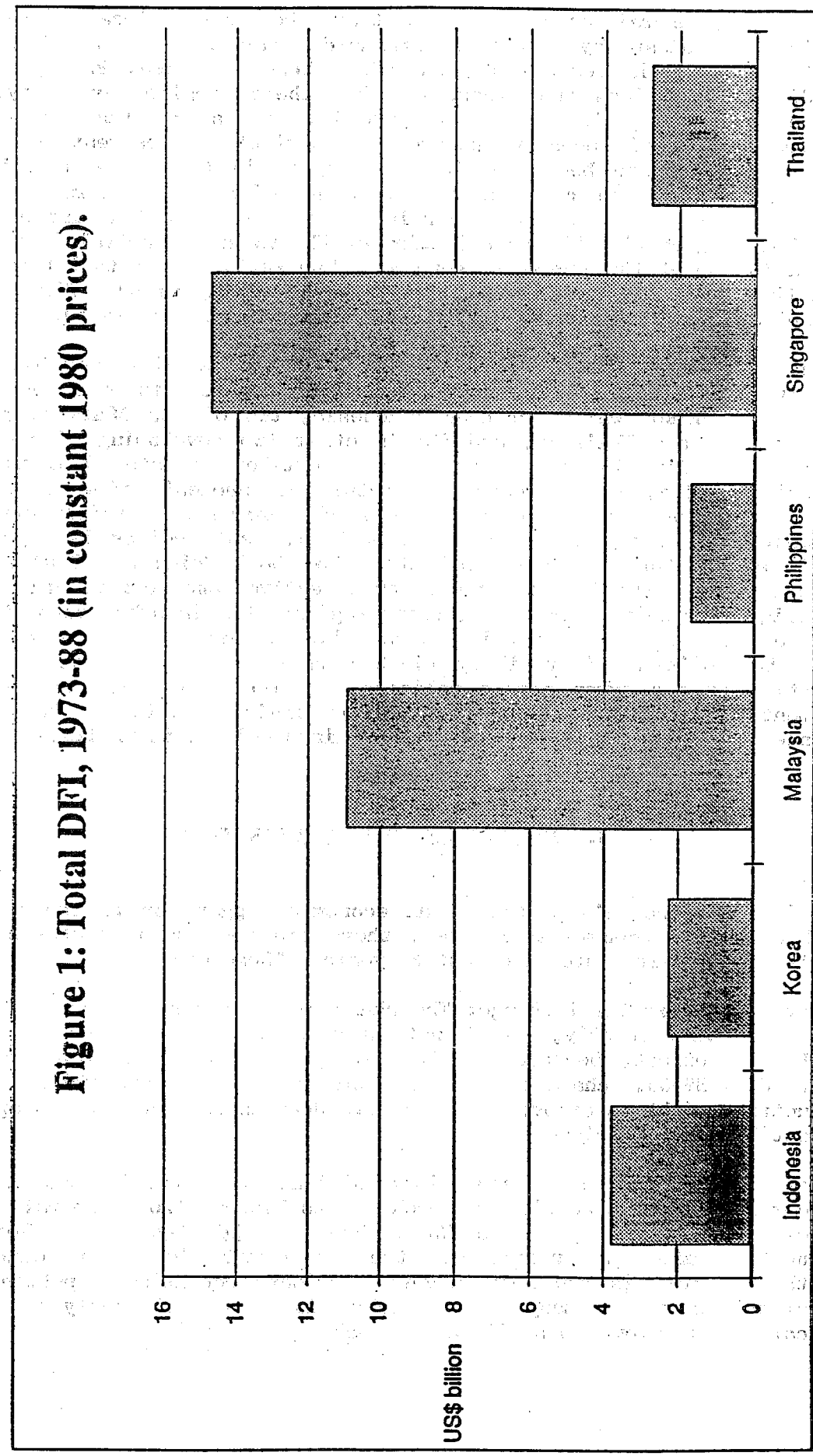


Figure 1: Total DFI, 1973-88 (in constant 1980 prices).
US$ billion
16
14
12
10
8
6
4
2
0
Indonesia
Korea
Malaysia
Philippines
Singapore
Thailand

Notes: (1) The following definitions are used:
Resource intensive - SITC items 61, 63, 66 (excluding 664-666), 671.
Labour intensive - SITC items 54, 55, 65, 664-666, 695-697, 749, 776 ,778, 793, 81-85, 89.
Capital intensive - SITC items 5 (excluding 54 and 55), 62, 64, 67 (excluding 671), 69 (excluding 695-697), 7 (excluding 749, 776, 778, 793), 86-88.
This classification was developed by Krause (1982), as subsequently modified by Ariff and Hill (1985) for ASEAN, and by the author for Indonesia.

(2) The following SITC codes are used for the major exports (corresponding ISIC codes in parentheses): plywood 634 (33113); cement 661 (3631); leather 611 (323); clothing 84 (322); woven fabrics 652-9 (32112); yarn 651 (32111); oils and perfumes 551 (35233); glass and glassware 664-5 (362); electronics 749, 776, 778 (3833); musical instruments 898 (3902); furniture 821 (332); footwear 851 (324); jewellery 897 (3901); fertilizer 562 (3512); paper products 641 (341); steel products 672-9 (371); inorganic chemicals 522 (3511); rubber tyres 625 (3551).

(3) 'n' indicates less than $1 million, and growth rates rendered irrelevant by very small initial base.
'n.a.' indicates comparison not applicable. In calculating the growth of export values, data have been deflated by the relevant US producer price series, as reported in various issues of the Monthly Labour Review, US Department of Labor, Washington.

Source: BPS, Ekspor [Exports], Jakarta, various issues.

Figure 2A: Ratio of DFI to Total Capital Inflows, 1973 - 88.

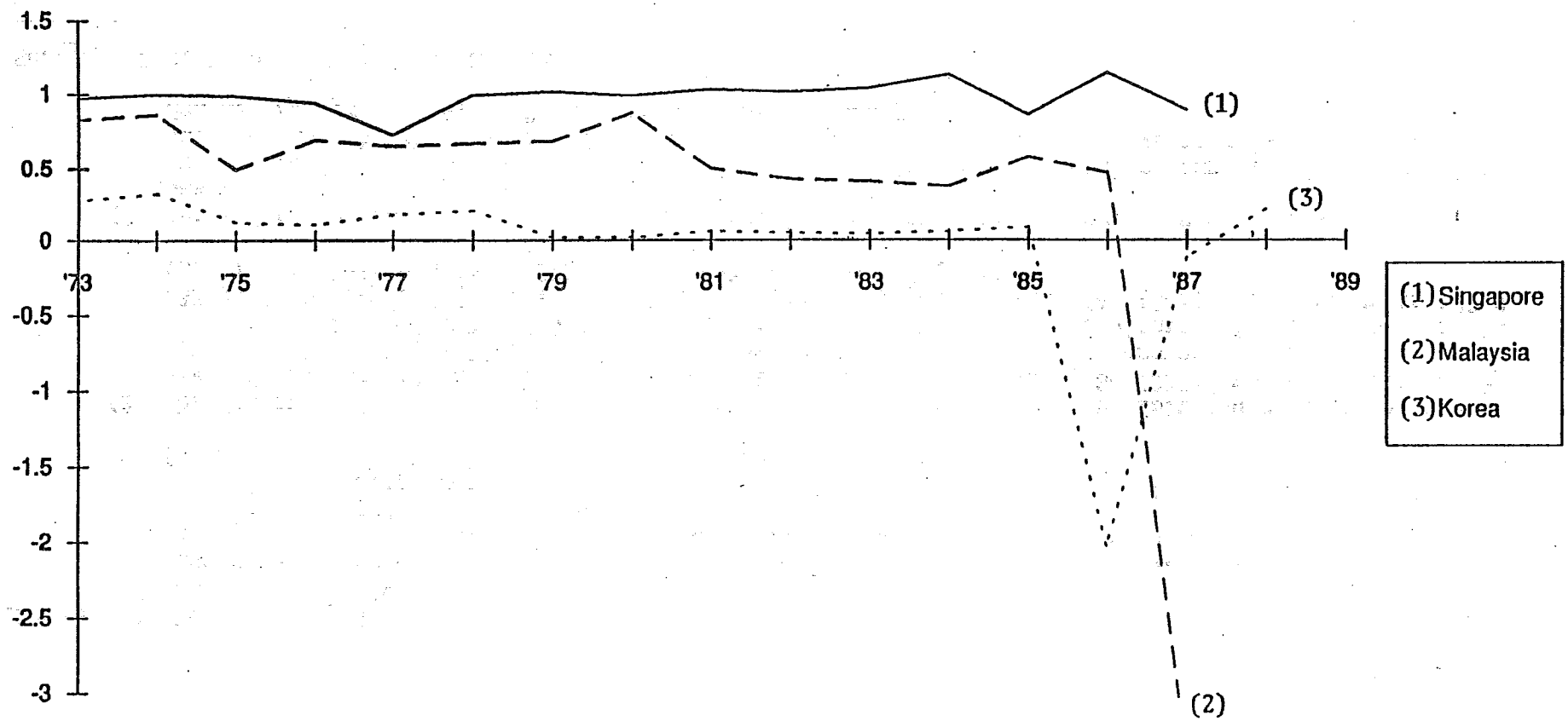


Figure 2B: Ratio of DFI to Total Capital Inflows, 1973 - 88.

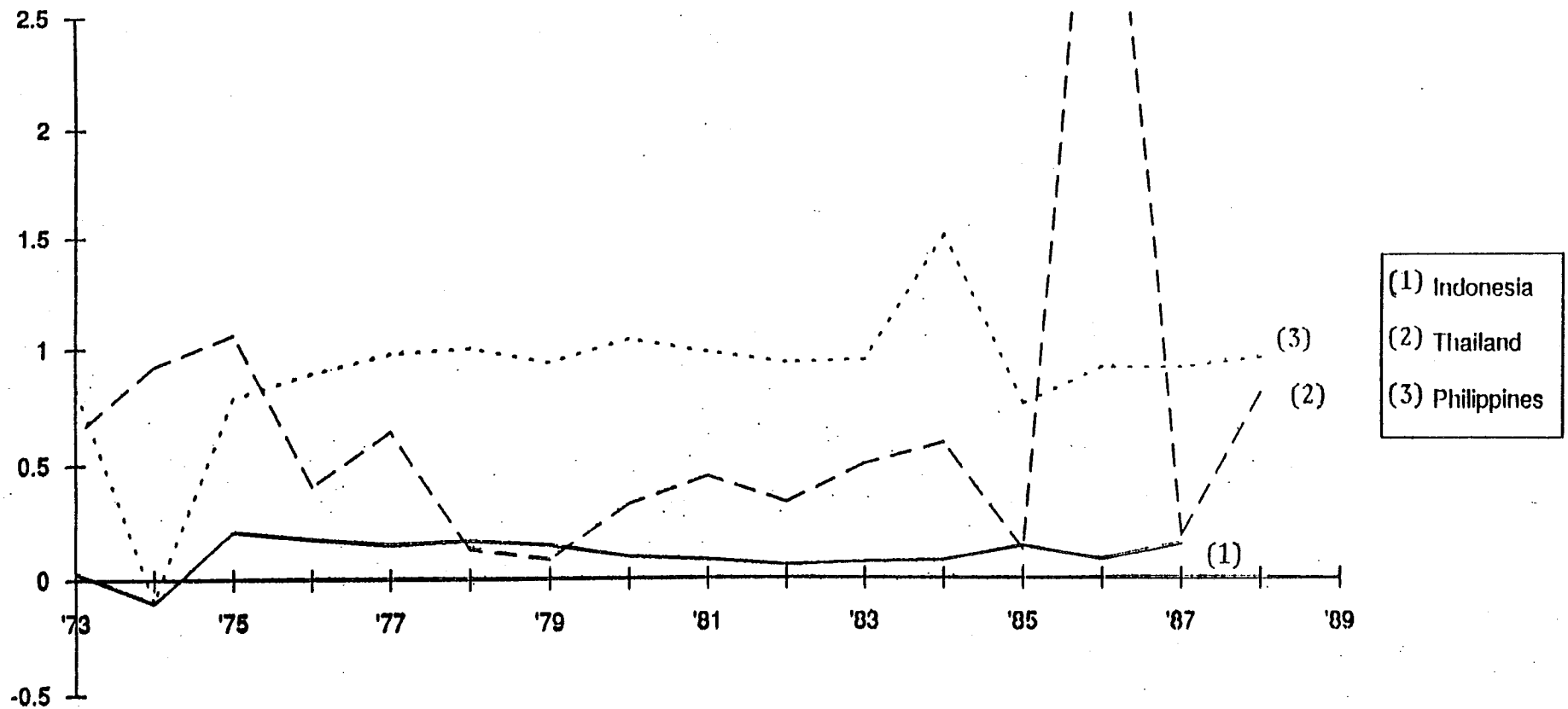


Figure 3A: Ratio of DFI to Gross Capital Formation, 1973 - 88.

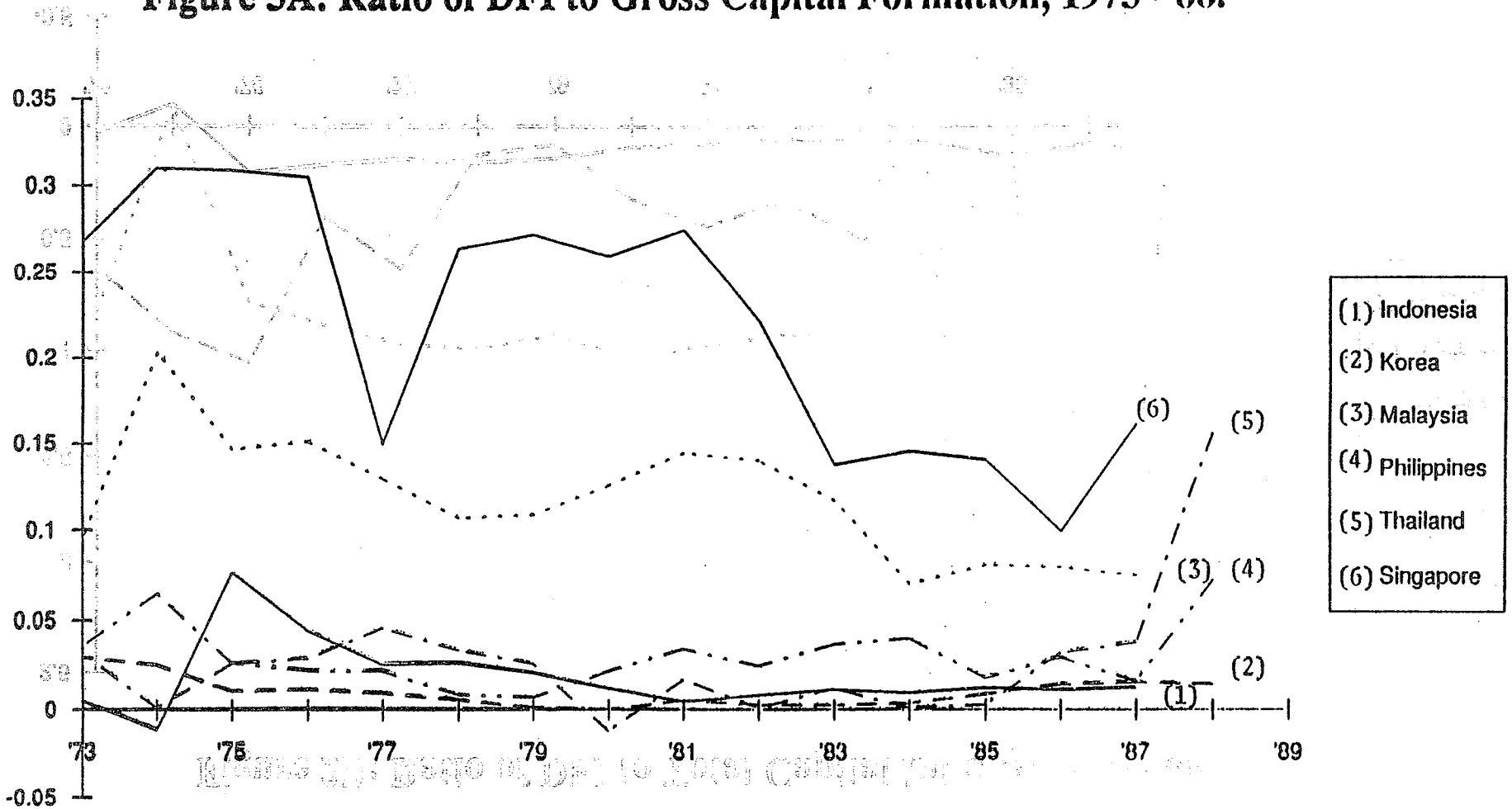


Figure 3B: Ratio of DFI to Gross Capital Formation, 1973 - 88.

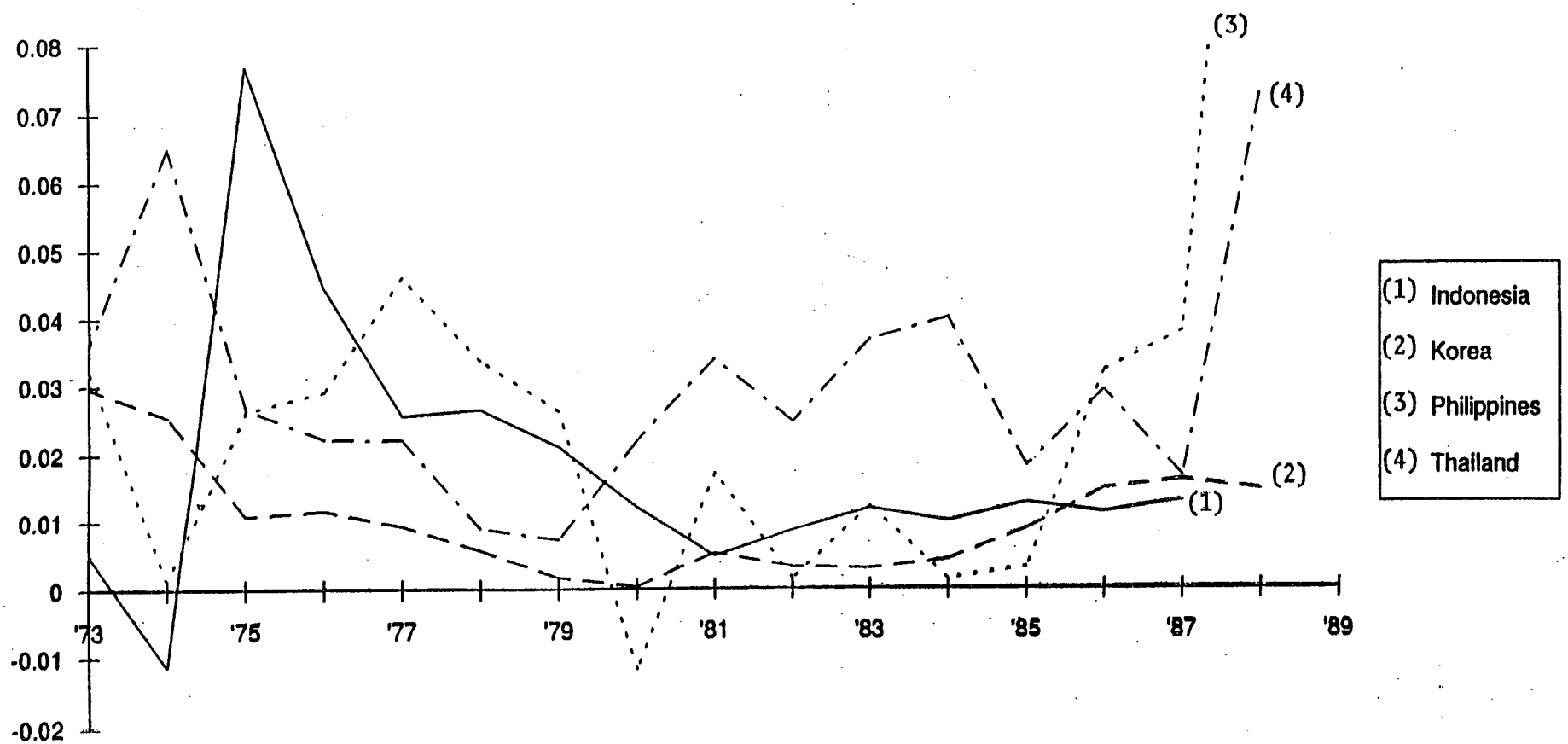


Figure 4A: Ratio of DFI to GDP, 1973- 88.

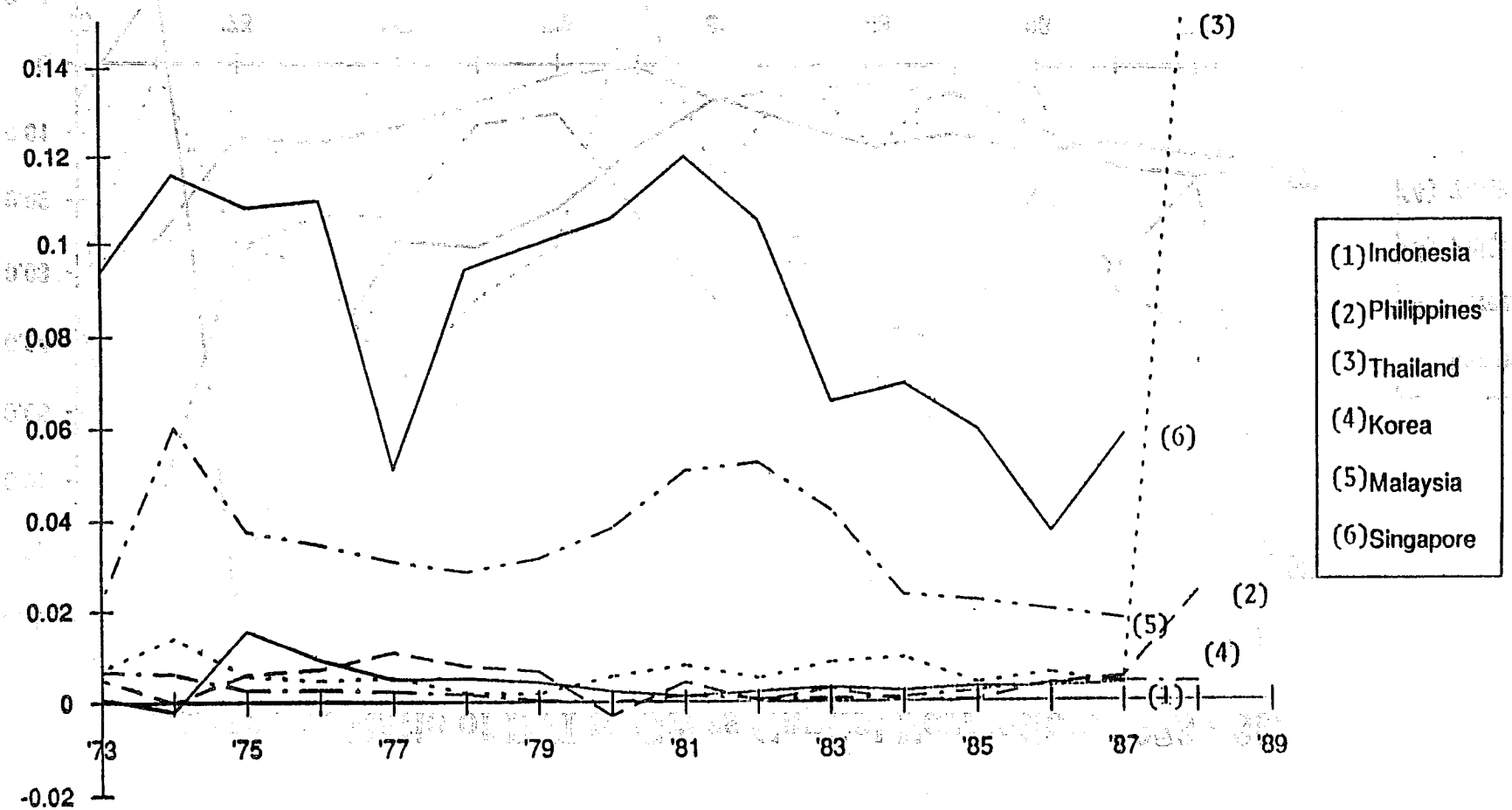


Figure 4B: Ratio of DFI to GDP, 1973- 88.

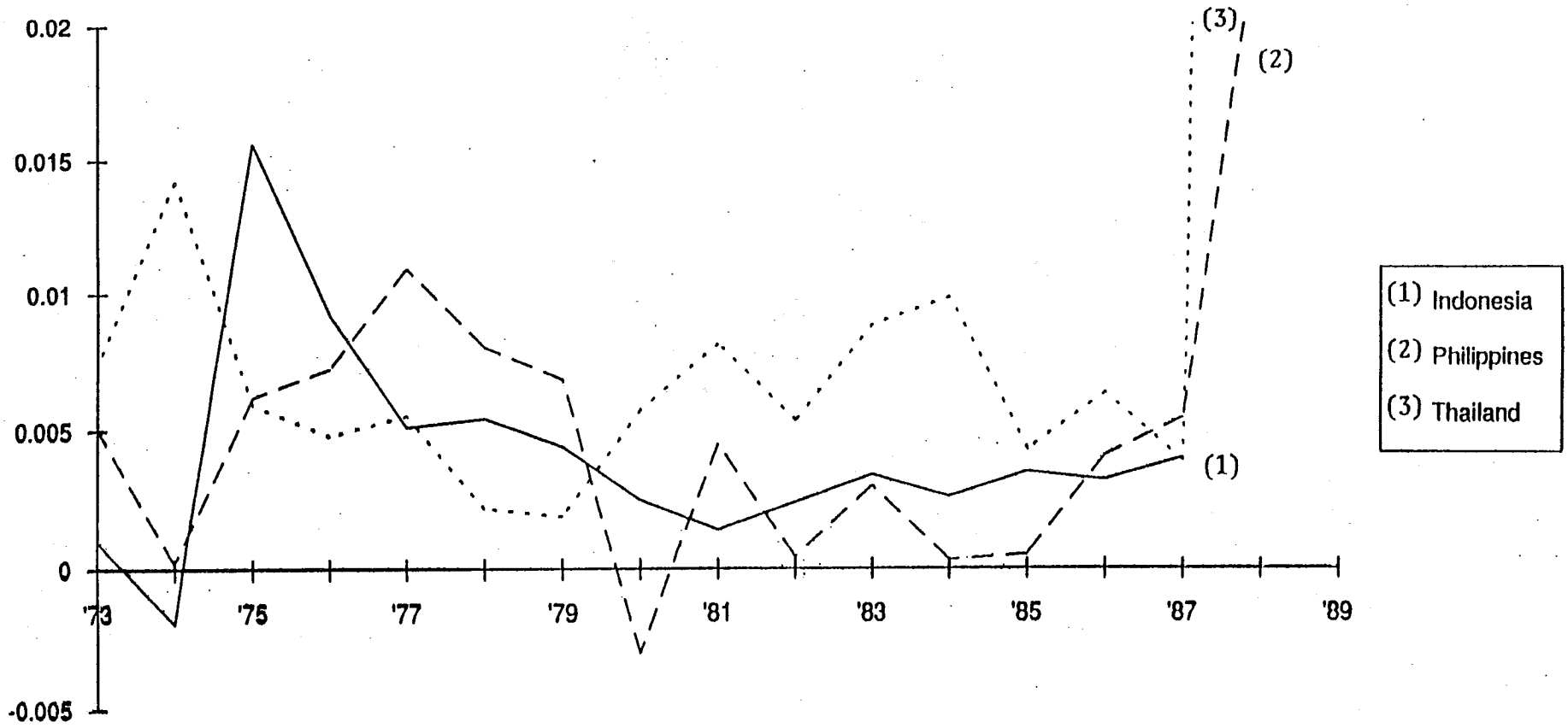


Figure 5A: Per Capita DFI, 1973 - 88.

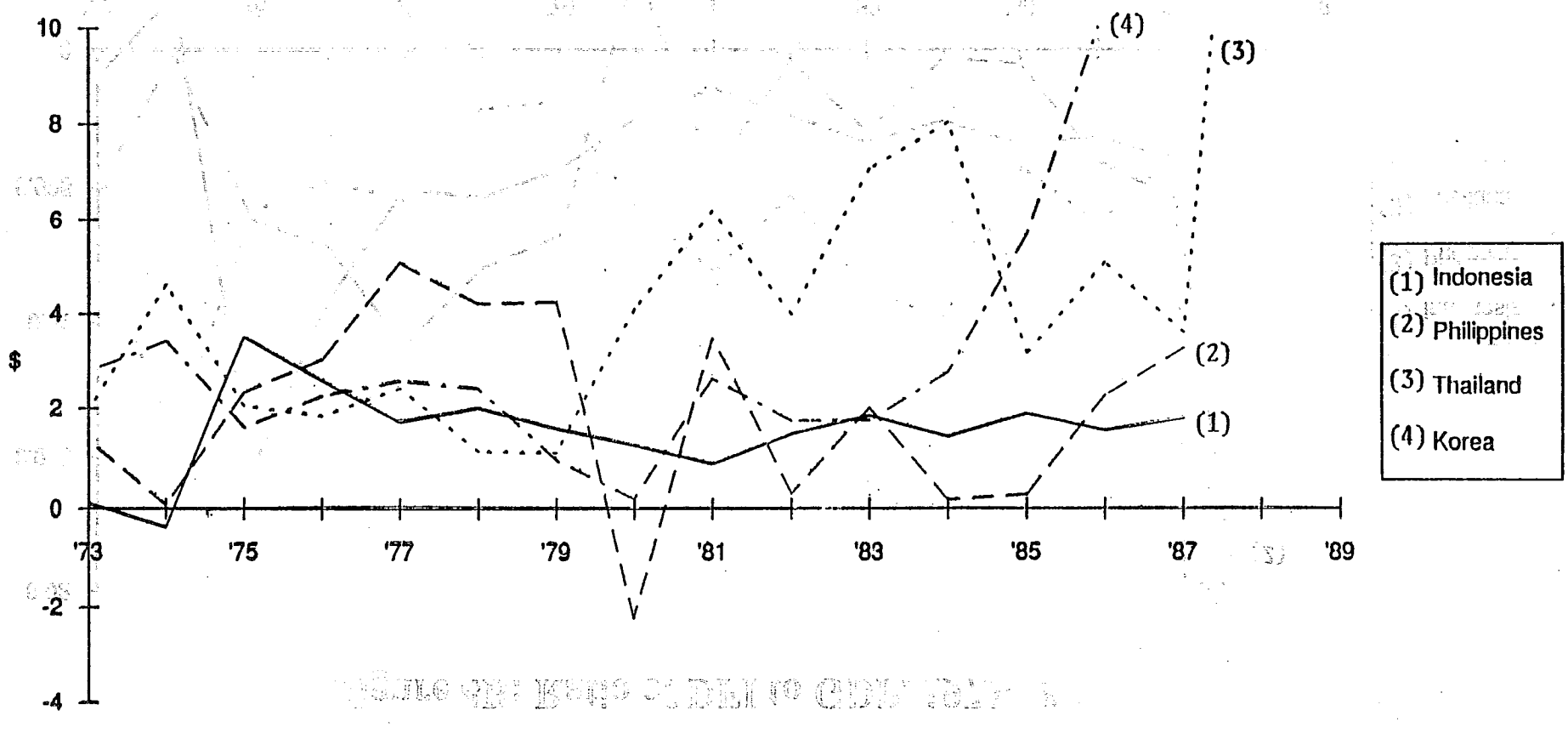
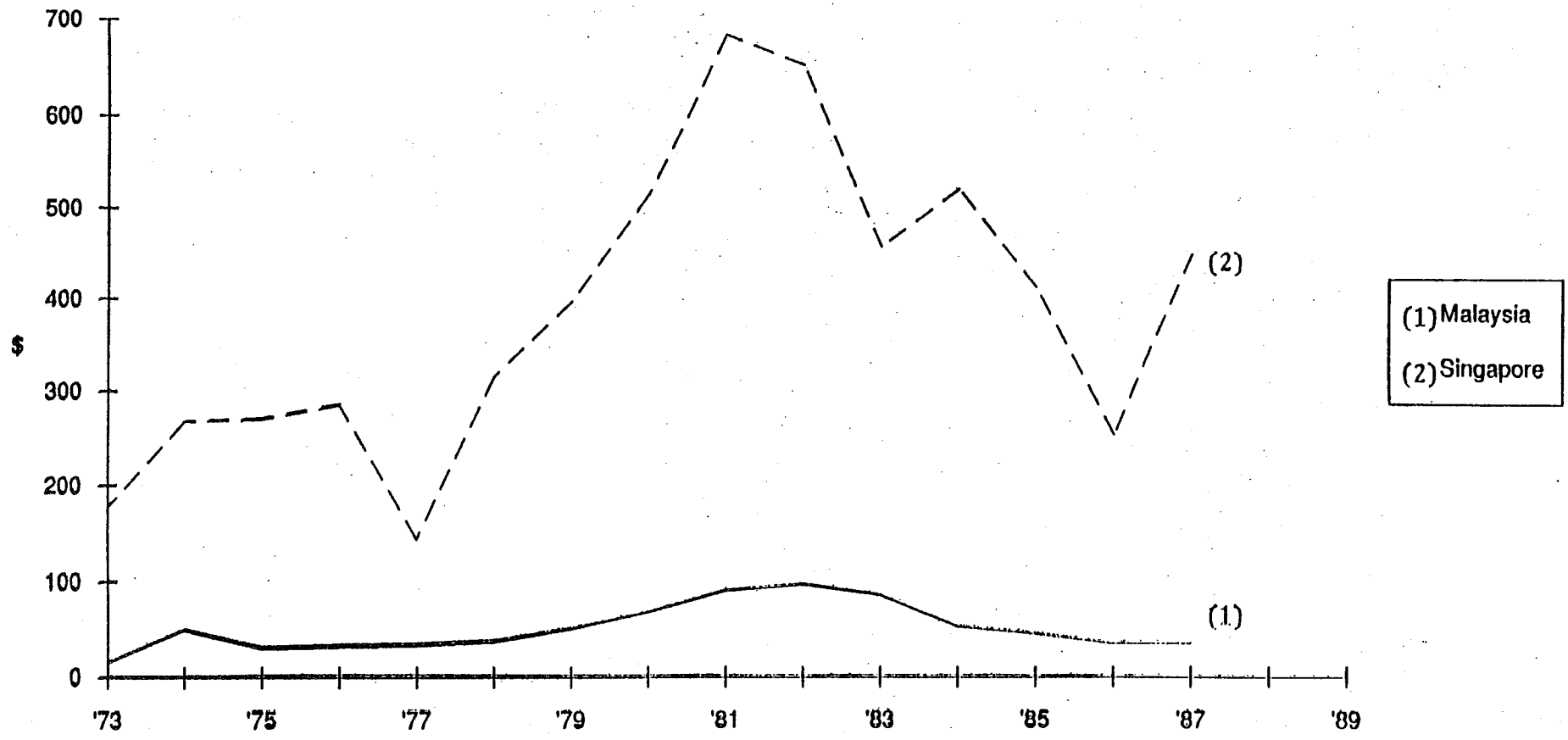


Figure 5B: Per Capita DFI, 1973- 80.



3. Indonesian labour markets are generally well-integrated and function effectively. Population mobility is high, the transport infrastructure now reaches into virtually all parts of the archipelago, there are few caste/ethnic restrictions on hiring (except, perhaps, at the very senior levels of some non-"pribumi" enterprises), government regulation of the labour market is minimal and usually ineffective, and trade unions are fairly weak and have limited reach. The one major restriction relates to the employment of skilled foreign workers, although regulations have been eased in recent years.

4. Wages and employment conditions in Indonesia have improved considerably over the past 25 years. Although accurate, finely-specified longitudinal data are difficult to obtain, the evidence does suggest strongly that real wages have risen in most non-agricultural sectors, and probably also - though with less certainty - in agriculture. Since Indonesia may still accurately be characterised as a labour-surplus economy, these improvements reflect mainly an enhanced stock of human capital and greater labour intensity.

Table 8 summarises the key features of the Indonesian labour force over the period 1971-85.[8] During these 14 years the labour force rose by about 60 per cent in size, became less rural, much better educated, less likely to be employed in agriculture, more feminine, more white collar, and less Java-based. Open unemployment has remained low, in the region of 2 per cent, although in an unregulated labour market without social security provisions the concept has little analytical meaning. Open unemployment is however quite high among educated youth, reflecting job search and extended family support within this group.

Table 8. A profile of the Indonesian labour force, 1971 and 1985

	1971	1985
Number of persons employed (million)	39.2	62.5
% rural	85.2	78.4
% female	33.2	36.0
% aged 15-29	34.4	35.9
% in Java	65.7	62.3
% with at least completed primary education	28.8	45.9
% with at least completed junior high-school education	7.0	16.3
% in agriculture	65.9	54.7
% in professional, managerial or clerical occupations	5.7	7.5

Source: Based on the 1971 Population Census and 1985 Inter-Censal Population Survey; data kindly supplied by Professor Gavin Jones.

The decline in the share of agriculture in the total labour force was particularly marked during the 1970s owing to rapid industrialisation and to the "expenditure-recycling" effects of government programmes in construction, transport and communication and retail trade. Agricultural employment growth was sluggish, as cash crops were neglected and output difficulties were experienced in the dominant food crop, rice. In the first half of the 1980s, the situation was somewhat reversed, as agricultural output grew strongly and much of industry slowed down. Trends in the second half of the decade will be

revealed as the results of the 1990 population census are published. In any case, it is clear that much of Java around the half dozen major urban centres is becoming predominantly an industrial and service economy, thus widening regional differences in the sectoral composition of employment.

The most serious challenge now facing manpower planners in the education sectors is to improve quality and to develop vocational and higher education facilities which are more responsive to the needs of a modern, dynamic industrial economy. Illiteracy among the young is now virtually eradicated, a creditable achievement reflecting big oil-financed investments from the mid 1970s. Yet Indonesia's primary and secondary education sectors face many daunting problems: pupil-teacher ratios remain very high; physical facilities are inadequate, especially outside Java; school curricula are somewhat rigid and highly centralised; and the educational philosophy does not encourage creative and independent thought. In the higher and vocational sectors, the problems are more serious still, with generally poor facilities, inadequately trained and paid staff, and a lack of a tradition of critical scholarship (for more discussion, see Keyfitz, et al., 1989). The tertiary sector produces large numbers of humanities and social science graduates, but there are increasingly acute shortages of accountants, computer operators, financial analysts, engineers, architects, surveyors, and those possessing a middle range of technical skills. This skill gap is of particular relevance to the discussion of foreign investment and technology transfer in section 5 below.

As noted, wages and conditions of employment in the non-agricultural economy have improved steadily since 1965, reflecting the growing employment opportunities and the better skill base. Even within agriculture there appears to have been some real increase in the 1980s, after a decade of stagnation in the 1970s. The strong growth in rice output, continuing investments in agricultural infrastructure, and even some localised labour shortages (in part owing to the Government's transmigration programme, to move people off Java) appear to have been contributing factors (Jayasuriya and Manning, 1990; Naylor, 1990). Wages in the construction sector have generally increased, while an analysis of the two industrial censuses (1974/75 and 1985/86) by the author suggests that real wages have been growing by an annual average rate of about 5 per cent.

4. FOREIGN INVESTMENT AND INDUSTRIALISATION

This section focuses on foreign investment in the manufacturing sector, where the direct and indirect employment consequences of foreign investment in Indonesia are greatest, where the data base is clearly superior, and where other issues, such as skill acquisition, technology transfer and the choices of technology can be examined in the most detail. The analysis relies primarily on the two, generally high quality Indonesian industrial censuses, supplemented by the author's industrial field research in the country over the last 15 years.

There are three main ownership groups in Indonesian industry, although the two industrial censuses since 1970 have actually identified seven different categories: (domestic) private, foreign and Government, the three pairs of joint venture combinations and those firms in which all three groups are in partnership; there is also a further sub-classification - not presented here - within the government group into enterprises owned by the central and provincial governments.

Three main ownership groups dominate Indonesian non-oil manufacturing: (domestic) private, private-foreign joint ventures, and those comprising all three groups (table 9). All three, but especially the former, are quite distinctive. Private firms are by far the most numerous, and employ the largest workforce. Yet they are much smaller - output per firm is just 8 per cent that of the huge government joint ventures while employment per firm is just one-sixth. As expected, the more complete coverage of the census has resulted in a decline in the relative importance of private-foreign joint ventures, from a record 21 per cent of output in 1983 (Hill, 1987, p.93) to 17 per cent. The other four ownership combinations are unimportant. The very small figure for wholly foreign-owned firms may appear puzzling, but it simply reflects the prohibition on new enterprises of this type after 1974 and the pressure on existing ones to divest.

These ownership data need to be interpreted with caution for a number of reasons, as noted above. First, the joint venture combinations are included together regardless of the shares of the respective groups. Secondly, the data refer only to ownership of equity and may therefore provide a limited indication of effective control: foreign partners (or even licensees) may exert much greater power through superior access to technology, finance and markets; firms which are highly 'leveraged' - a not uncommon phenomenon in Indonesia - may behave differently from those where equity is the major part of the capital base. Thirdly, 'Government' is a somewhat slippery concept in the ownership definition. The wholly-owned government firms are very few in number compared to earlier estimates (generating 0.4 per cent of output against 14.4 per cent in 1983), and many may have been mis-classified as government joint ventures; the largest sugar mills are a possible case in point. Moreover, it is not clear how firms which are heavily indebted to state banks are treated, especially those from the Liem group in which there have been debt-equity substitutions (Indocement in 1985, Cold Rolling Steel in 1989). And there is a murky grey area of "yayasan" (foundations), armed forces operations, and other appendages of state apparatus - on which see, for example, Robison (1986) and Yoshihara (1988) - which, although nominally in private hands, are effectively government controlled.

These limitations aside, an interesting feature of the government group is the proliferation of joint ventures involving foreign partners. The Government could have nurtured these firms by restricting foreign inputs to loan capital and technology licensing agreements, as in Korea. That it has not is a little discussed feature of Indonesian industrialisation since 1966. There are, of course, sound economic arguments for such joint ventures, particularly that of ensuring better access to foreign technology, but the 'economic nationalist' rationale for the establishment of state firms might have been expected to result in the exclusion of foreign equity partners. A corollary to the widespread existence of these joint ventures, equally little discussed, is the role these partners will play in the Government's recent proposals to reform the state enterprise sector, including the option of privatisation.

Private firms have always been the major actors in Indonesian non-oil manufacturing. Even during the latter years of the 'socialist' Guided Economy, they provided over two-thirds of the jobs and consumed 60 per cent of the power (a proxy for output, data on which are not available; table 9). In fact, their relative importance has changed surprisingly little, falling to 47 per cent of output in 1974, following the rush of foreign investment after 1966, but rising thereafter as private firms grew in sophistication and confidence. They have always been considerably smaller than their government or foreign counterparts, although the differentials do appear to be narrowing over time (see bottom of table 9).

Table 9. Summary indicators of major ownership groups, 1963, 1974, 1985[a]

		G	P	F	G/P	G/F	P/F	G/P/F	All Firms	(Total)
(1) Shares										
1985	Firms	0.9	92.2	0.4	0.6	0.1	2.7	3.1	100	12,909
	Employment	1.0	74.9	1.3	0.4	0.2	7.4	14.9	100	1,684,726
	VA	0.4	55.8	1.3	0.4	0.5	17.1	24.7	100	Rp 7,153,837
1974	Firms	6.8	87.9	1.4	1.2	0.2	25.0	-	100	7,091
	Employment	19.3	68.9	2.6	1.3	0.7	7.3	-	100	655,821
	VA	25.9	47.2	10.8	1.5	2.2	13.3		100	Rp 478,446
1963	Firms	4.7	95.3						100	10,586
	Employment	31.1	68.9						100	527,717
	Power	39.7	60.3						100	715,520HP
(2) Indices of Relative Size (average = 100)										
1985	VA/firm	40	60	328	64	833	641	794		
	VA/employee	40	75	97	105	244	230	165		
	Employees/firm	101	81	339	61	342	279	480		
1974	VA/firm	398	54	756	88	1,091	534	-		
	VA/employee	129	68	418	123	315	183	-		
	Employees/firm	285	78	181	106	346	292	-		
1963	Power/firm	851	63							
	Power/employee	127	88							
	Employees/firm	668	72							

[a]The data for 1974 and 1985 refer to firms employing at least 20 workers, and exclude oil and gas processing. In this and following tables, G, P and F refer to government, private (domestic) and foreign respectively. Joint ventures refer to firms with equity held by more than one of these groups. There is no separate identification of G/P/F firms in 1974; presumably they were included in the G group. The 1963 data refer to firms employing at least 5 workers and using power. No reliable value added data by ownership are provided, so installed power capacity is used.

The inclusion of oil and gas has a dramatic effect on ownership shares (table 10). Treating oil refining as wholly government (Pertamina) owned, and gas processing as a government-foreign joint venture (between Mobil in Aceh, and Huffco and others in East Kalimantan), the share of firms with government equity rises to over 50 per cent of total manufacturing output; that of private firms falls to less than 40 per cent, while foreign firms (excluding their government joint ventures) become unimportant. For all the discussion about privatisation and market forces in Indonesia, it is clearly not inappropriate to characterise the country's industrialisation in the New Order as not only state led but state owned. Table 11 extends these figures through to 1988, showing that during the era of liberalisation, as expected the share of private sector firms has risen.

The ownership data clearly illustrate the accuracy of the description by Thee and Yoshihara (1987, p.343) of Indonesia's industrial structure as one of 'upstream socialism, downstream capitalism'. The Government's strategic objectives of 'industrial deepening' and controlling the 'commanding heights' of industry, aided by the oil boom of the 1970s, explain much of the pattern of ownership in Indonesian industry. Whereas, in the early 1970s, the prominence of state ownership could have been ascribed at least in part to the lingering effects of the nationalisations of the Old Order, by the 1980s these older investments had become quite insignificant compared to the post 1973 push for state control.

In addition to oil and gas, government or related firms are dominant in basic metals (the two big investments, in steel and alumina), fertiliser and the small machine goods industry; they are also significant in cement, food processing (sugar) and paper goods. For various reasons the significance of foreign firms is understated in these figures. In any case, multinationals in Indonesia have tended to congregate - when permitted by the Government's own investment decisions and regulations - in activities where their superior technology or product advantages confer a decisive benefit. These factors explain their above average shares in industries such as glass products, plastics, electronics, other chemicals, beverages, and textiles. Private firms play something of a residual role, being especially important in industries where local consumer preferences are important ("kretek" being the most obvious example), in simple agricultural processing industries (rubber and food products for example), in labour intensive industries where brand names are unimportant (garments, furniture, leather products, some non-metallic minerals), or where foreign ownership is actively discouraged (such as printing and publishing).

To obtain further insights, it is useful to identify cases of significant (at least 40 per cent) foreign or government ownership at a more disaggregated (5-digit ISIC) level, and to explore associated industry characteristics (table 12). Most of the government cases have been discussed already. The really large investments are in basic metals, fertiliser, cement, and sugar processing: all major industries in terms of output (if not employment), and most well above average in their capital intensity (sugar being the exception, probably because of older equipment and its value added depressed by inefficiency), and skill intensity (as measured by wages per employee). All but sugar exhibit high to very high concentration for reasons associated with the licensing regime and the importance of scale economies. All grew extremely rapidly since 1974 - sugar again being the exception - the period when most of the big investments were undertaken.

Table 10. Ownership shares by major industry group, 1985
(percentage of each industry's output)

Industry		% of total	Private	Government	Foreign	Government (JV)
311)	Food products	10.8	53.4	2.7	8.4	35.5
312)		2.7	56.3	1.7	25.7	16.3
313	Beverages	1.2	31.3	0.1	38.5	30.2
314	Tobacco	9.2	94.1	n	5.6	0.3
321	Textiles	10.7	58.7	0.8	29.8	10.8
322	Garments	1.6	96.4	0.1	1.7	1.8
323	Leather products	0.2	62.2	1.0	31.9	4.9
324	Footwear	0.5	38.6	0	61.4	0
331	Wood products	9.8	71.7	0.5	13.0	14.8
332	Furniture	0.3	94.2	0.1	5.4	0.3
341	Paper products	1.7	53.6	0	12.5	33.9
342	Printing and publishing	1.4	85.5	6.3	0.5	7.8
351	Basic chemicals	6.6	13.2	0.4	9.0	77.4
352	Other chemicals	6.0	56.0	0.1	31.2	12.7
353/	Oil and gas processing	n.a.	0	43.5	0	56.5
355	Rubber products	5.2	82.8	2.1	7.2	7.9
356	Plastics	2.7	41.3	n	58.6	0.1
361	Pottery and china	0.4	96.0	1.2	2.8	0
362	Glass products	1.5	14.4	0	81.3	4.4
363	Cement	3.6	34.0	0.7	24.4	40.9
364	Structural clay products	0.3	82.6	2.1	10.3	5.0
369	Other non-metallic minerals	0.3	93.3	4.0	0	2.7
37	Basic metals	7.3	9.1	0	1.4	89.6
381	Metal products	4.3	63.4	0.2	23.2	13.2
382	Non-electrical machinery	1.2	25.7	0.2	19.9	54.2
383	Electrical equipment	3.8	44.5	n	40.3	15.2
384	Transport equipment	6.4	68.2	n	16.9	14.8
385	Professional equipment	0.1	71.0	0	29.0	0
39	Miscellaneous	0.4	61.5	n	35.3	3.3
Total:	excluding oil and gas	100	55.8	0.8	18.3	25.1
	including oil and gas		38.8	15.8	10.8	34.7

Note: Shares refer to firms with a workforce of at least 20. '% of total' refers to industry's share as a percentage of total output, excluding oil and gas processing, and total employment.

Table 11. Ownership shares in Indonesian manufacturing, 1988
(percentage of each industry's value added)

Industry		Private	Government	Foreign
311)	Food products	53.9	36.7	9.4
312)	Food products	53.8	18.6	27.6
313	Beverages	39.2	34.2	26.6
314	Tobacco	95.9	0.8	3.3
321	Textiles	68.1	7.1	24.8
322	Garments	98.0	0.2	1.8
323	Leather products	99.1	0.9	0
324	Footwear	86.9	0.2	12.9
331	Wood products	83.3	3.7	13.0
332	Furniture	91.8	1.8	6.4
341	Paper products	50.2	10.1	39.7
342	Printing & publishing	64.4	24.3	11.3
351	Basic chemicals	14.6	72.6	12.8
352	Other chemicals	54.6	7.8	38.6
353/4	Oil & gas processing	0	100.0	0
355	Rubber products	47.5	34.9	17.6
356	Plastics	91.2	0.3	8.5
361	Pottery & china	76.3	0.5	23.2
362	Glass products	88.5	3.6	7.9
363	Cement	24.8	61.5	13.7
364	Structural clay products	91.4	1.5	7.1
369	Other non-metal manuf.	95.9	4.1	0
37	Basic metals	6.0	89.1	4.9
381	Metal products	50.8	22.4	26.8
382	Non-electr. machinery	31.9	31.0	37.1
383	Electr. equipment	59.9	13.8	26.3
384	Transport equipment	59.0	13.8	27.2
385	Prof. equipment	77.0	0	23.0
39	Miscellaneous	88.3	0.2	11.5
Total				
	Excl. oil and gas	59.1	24.2	16.7
	Incl. oil and gas	43.8	43.8	12.4

Source: Unpublished data from BPS.

Foreign firms play a significant role in a wider range of industries, where the interrelated factors of brand names and technology are crucial. The former is of relevance in industries such as cigarettes, beer, pharmaceutics, pesticides, batteries and dairy products; while the latter is important in spinning (mostly in synthetic fibres), sheet glass, agricultural equipment and motor cycles. Some cases - notably footwear - may be regarded as little more than historical accidents; knowledge of export markets would have been critical only in the case of electrical equipment, although in the recent wave of export-oriented investment such an attribute has become more prominent.

Table 12. Industries with significant foreign and government ownership, 1985[a]

Industry	Ownership[b]				% of Total		Value Added per Employee[c]	Wages per Employee[c]	Concentration[d]	Real Annual Output Growth 1974-85
					Output	Employment				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Government										
31111 Slaughtering	44.6	55.4	-	-	n	n	77	92	85	10.1
Government JVs										
31181 Sugar processing	64.7	25.0	2.3	8.0	4.0	5.8	68	116	24	1.5
31220 Tea processing	56.3	35.8	1.7	6.3	0.8	1.7	44	59	25	3.2
31490 Other tobacco	53.1	47.0	-	-	n	0.1	22	40	83	9.9
34111 Paper products	47.1	39.0	-	13.9	1.2	0.8	158	126	77	27.4
35120 Fertiliser	99.3	0.7	-	-	5.0	1.0	503	479	85	e
36310 Cement	60.9	17.4	-	21.7	2.3	0.8	286	247	62	21.3
371 Basic metals	89.6	9.1	-	1.4	7.3	0.9	784	181	94	e
382 Machinery	54.2	25.7	0.2	19.9	1.2	1.0	119	124	50	5.0
38340 Repair of electrical equipment	92.4	7.6	-	-	n	n	37	141	100	2.5
38411 Ships	41.8	58.2	-	-	1.2	0.9	131	206	69	17.0
38490 Other transport	99.9	0.1	-	-	0.3	0.3	90	157	100	e
Foreign										
31121 Dairy products	41.7	20.5	24.7	13.1	0.6	0.2	333	278	75	8.3
31270 Seasoning	59.7	40.3	-	-	0.4	0.3	123	166	90	23.0
31280 Cattle food	50.1	49.4	0.1	0.4	0.8	0.3	276	202	49	26.3
31330 Beer	51.4	-	-	48.6	0.7	0.1	668	387	100	7.1
31430 White cigarettes	65.5	34.5	-	-	0.8	0.4	192	194	93	-5.0
32111 Spinning	46.2	46.3	0.4	7.1	4.0	3.9	102	81	38	22.7

Table 12 (cont.).

Industry		Ownership[b]				% of Total		Value Added per Employee[c]	Wages per Employee[c]	Concentration[d]	Real Annual Output Growth 1974-85
						Output	Employment				
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Foreign (cont.)											
32120	Made-up textiles	41.0	59.1	-	-	0.3	0.9	32	48	56	21.5
32190	Textiles nec[e]	42.4	57.6	-	-	n	n	44	83	91	9.6
324	Footwear	61.4	38.6	-	-	0.5	0.5	90	117	71	13.4
33230	Mattresses	63.8	36.2	-	-	n	n	99	150	100	f
35140	Pesticides	58.3	41.7	-	-	0.7	0.4	150	187	64	f
35221	Pharmaceutics	32.6	37.7	-	29.7	2.2	1.6	133	297	31	21.5
35290	Chemicals nec[e]	47.6	46.9	-	5.5	2.0	0.3	754	214	74	f
356	Plastics	58.6	41.3	n	0.1	2.7	2.9	93	72	64	29.9
36220	Sheet glass	99.6	0.4	-	-	1.1	0.1	1,043	327	100	f
38111	Agricultural equipment	41.0	27.0	22.8	9.2	n	0.1	22	66	62	9.2
38140	Metal containers	46.7	48.0	0.4	5.0	0.4	0.6	69	137	47	18.1
38311	Batteries	63.6	35.9	0.6	-	0.2	0.2	99	130	69	f
38330	Electrical equipment	45.2	30.4	-	24.4	2.4	1.2	201	169	50	22.9
38440	Motor cycles	48.2	51.8	-	-	1.3	0.4	285	216	86	11.8
39020	Musical instruments	94.2	5.8	-	-	0.1	n	379	164	100	f

[a]Data refer to firms employing at least 20 workers, and exclude oil and gas processing.
[b]Percentage of each industry's value added. Column (1) refers to the relevant ownership group; columns (2) and (3) to private and government respectively; column (4) to foreign in the case of government JVs, and government JVs in cases of significant foreign ownership.
[c]Value added/wage per employee for the relevant industry, expressed as a percentage of the ratio for non-oil manufacturing.
[d]The share of the four largest firms in each industry's value added.
[e]Not elsewhere classified.
[f]Output in 1974 zero, negligible, or not available.

The factor proportions of the ownership groups vary enormously, using value added per employee as a proxy in the absence of reliable capital stock estimates (table 13). The inclusion of oil and gas obviously results in far higher capital intensities in the two government groups, that for the wholly government owned group being especially high because of the much smaller group of non-oil firms with which the oil operations are combined. Excluding oil and gas, the overall averages accord with a priori expectations, the government joint venture and foreign firms being far more capital intensive than private or government firms. These differences may be decomposed into those due to location in more capital-intensive industries and those due to the adoption of more capital-intensive techniques within industries.

Using a similar data base for the years 1975 and 1983, the author undertook such a decomposition analysis (see Hill, 1988, chapter 6; see also Hill, 1988a). The main conclusion was that the generally higher ratio for foreign firms was explained by both sets of factors, that is, that these firms tended to locate in more capital intensive industries, and they were on average more capital-intensive within a given industry (finely specified at the 5-digit ISIC level); the latter exerted a somewhat greater effect. In the case of a higher ratio for government firms, the location in more capital-intensive industries was generally the dominant factor. These differences were evident in both years, although an important feature of the results was the narrowing of some of the differentials, which is presumptive evidence of Indonesia's greater industrial maturity. Moreover, foreign firms were hardly the 'devil' in the story, in that it was the government joint ventures, rather than the purely foreign or private-foreign joint ventures, which recorded the very high ratios.

Table 13 provides an update of these data using the more comprehensive 1985 census results, and focusing on intra-industry variations in factor proportions. The small government group of firms is the least capital-intensive in most cases, reflecting the older stock of machinery and probable inefficiency. Private firms, too, are usually less capital-intensive than the joint venture or foreign groups. But there are exceptions, especially in the more labour-intensive industries, characterised by mature, standardised technology. Thus private firms exhibit comparable or higher ratios in industries such as food products (where sugar pulls down the joint venture figure), garments, printing and publishing, rubber products, and some non-metallic minerals. The figure is high also for transport equipment, reflecting the strong licensing ties with foreign companies which are excluded from equity participation in several sub-sectors. The government joint venture group is less capital-intensive than foreign firms, unlike the estimates prepared from the 1983 data. Such a reversal almost certainly results from the reclassification undertaken by BPS, in which many of the smaller government-owned firms were placed in the joint venture group. The latter's ratio is pulled up by the figure for basic metals and, to a lesser extent, basic chemicals. In a majority of the remaining industries these firms appear to be less capital-intensive than their foreign competitors.

It needs to be emphasised that these figures have no normative implications, nor do they tell us much about efficiency. Rather, the data indicate simply that foreign and government joint venture firms tend to be located disproportionately in more highly capital-intensive industries (as measured by value added and, probably, capital), and segments within industries. Lacking comparable access to skills, technology, finance and overseas markets, average labour productivity in private firms is a good deal lower. But this in no way implies inferior efficiency; indeed, to the extent that their survival depends less on 'rent seeking' behaviour and political or bureaucratic connections, the social efficiency of private firms could well be higher.

Table 13. Labour productivity by industry and ownership, 1985[a]

Industry		Private	Government	Foreign	Government (JV)
311	Food products	109	113	263	78
312	Food products	74	41	415	122
313	Beverages	43	16	198	414
314	Tobacco	98	10	373	13
321	Textiles	74	65	246	140
322	Garments	102	36	68	82
323	Leather products	67	23	2,574	196
324	Footwear	46	-	377	-
331	Wood products	84	85	108	595
332	Furniture	97	21	245	75
341	Paper products	73	-	142	187
342	Printing & publishing	102	158	79	69
351	Basic chemicals	37	21	93	148
352	Other chemicals	79	90	148	163
353/4	Oil & gas processing	-	87	-	113
355	Rubber products	136	70	59	33
356	Plastics	43	18	1,674	15
361	Pottery & china	109	27	39	-
362	Glass products	22	-	301	66
363	Cement	56	73	498	121
364	Structural clay products	87	131	606	357
369	Other non-metallic minerals	109	68	-	31
37	Basic metals	22	-	26	168
381	Metal products	83	17	168	145
382	Non-electric machinery	41	18	186	213
383	Electrical equipment	66	13	153	271
384	Transport equipment	124	12	147	44
385	Professional equipment	75	-	502	-
39	Miscellaneous	71	2	278	797
All Industries					
Excl. oil and gas		74	58	210	166
Incl. oil and gas		47	832	133	237

[a]The data refer to value added per employee for large and medium firms, expressed as an index with each industry's figure equal to 100.

The final aspect of ownership is the regional dimension. One might expect state firms to assume a more dominant role outside Java, both because the resource base has attracted more of the heavy processing industries in which the Government has a strategic interest, and to ameliorate any regional disaffection with a perceived Java-centric regime. Conversely, foreign firms would be more likely to locate on Java, in proximity to markets, labour supplies and better physical infrastructure.

Both these hypotheses are confirmed by the census data (table 14). If oil and gas are included, the government groups dominate manufacturing in Sumatra and Kalimantan, generating 74 and 82 per cent of output respectively, compared to 30 per cent on Java, 11 per cent in Sulawesi and just 4 per cent in the remaining provinces. Excluding oil and gas, Sumatra still stands out with the highest share (32 per cent), although that of Kalimantan falls below Java, mainly because the former's other boom industry - timber - is mainly in private hands.

The shares of foreign firms reflect their strong concentration in and around the country's biggest urban and industrial complex, Jakarta-West Java. No other province matches their ranking, apart from isolated cases where particular local factors are at work: the engineering investments in Batam, Riau, and some large timber investments in Central Kalimantan. In almost all other provinces the share of foreign firms is less than 10 per cent. They occupy a surprisingly unimportant position in East Java's dynamic industrial base, perhaps as a result of the dominance of private and state firms in two key industries, "kretek" and sugar processing respectively. Their shares are also very low in Sulawesi and the rest of eastern Indonesia. As with government firms, there are very few region-specific advantages in locating there. Markets are small and very fragmented, labour no cheaper than on Java, infrastructure is poor, and the resource base - apart from limited timber reserves - very limited.

Two additional features of this comparative assessment of the major ownership groups need to be emphasised. First, the direct employment effects of foreign investment in Indonesia's manufacturing sector are very small. Accurate estimates of the size of Indonesia's labour force are impossible, owing to the large numbers engaged in cottage industry employment on a casual and seasonal basis. However, combining the results of the 1985/86 Industrial Census and the 1985 Inter-Censal Population Survey, a figure for the mid 1980s of 6,110,300 is probably not too far off the mark. Of this total, some 3,400,800 (or 55.7 per cent) were working in cottage industry (defined as fewer than five employees) and 840,500 (13.8 per cent) were in small enterprise (defined as 5-19 employees). The remaining 1.87 million workforce were in firms of at least 20 employees, the genuine "factory sector", which includes all the foreign firms and whose numbers can be estimated with much greater precision. This group comprises about 30.6 per cent of the manufacturing workforce, or about 3 per cent of the nation's entire workforce. These figures underline the obvious point that, even with rapid growth, the factory sector of manufacturing can at best make only a modest contribution to labour absorption for at least the remainder of this century.[9]

Table 14. Ownership by region, 1985
(percentage of each region's output)

Industry	Private	Government	Foreign	Government (JV)
SUMATRA	**54.8**	**1.5**	**12.8**	**30.9**
+ oil/gas	**21.0**	**21.5**	**4.9**	**52.7**
Aceh	45.4	0.5	9.0	45.1
+ gas	4.8	n	0.9	94.2
North Sumatra	53.2	1.7	10.6	34.5
+ oil	51.4	5.2	10.1	33.3
West Sumatra	59.4	2.7	8.6	29.3
Riau	54.9	0	29.5	15.6
+ oil	16.1	70.6	8.7	4.6
Jambi	91.7	0	8.3	0
South Sumatra	44.1	n	6.5	49.4
+ oil	19.7	55.3	2.9	22.1
Bengkulu	24.0	76.0	0	0
Lampung	70.4	0.3	18.7	10.6
JAVA	**58.6**	**0.6**	**18.6**	**22.2**
+ oil	**52.8**	**10.4**	**16.8**	**20.0**
Jakarta	59.4	1.0	31.2	8.4
West Java	43.8	0.2	22.9	33.1
Central Java	73.5	0.8	8.5	17.2
+ oil	37.2	49.8	4.3	8.7
Yogyakarta	69.8	0.6	0	29.6
East Java	69.9	0.6	6.6	22.9
KALIMANTAN	**66.5**	**0.5**	**11.8**	**21.2**
+ oil/gas	**15.6**	**25.5**	**2.8**	**56.1**
West Kalimantan	97.8	0.2	1.2	0.8
Central Kalimantan	61.1	0.1	38.8	0
South Kalimantan	84.0	0.1	13.9	2.0
East Kalimantan	39.6	1.1	9.9	49.4
+ oil/gas	4.5	29.6	1.1	64.9
SULAWESI	**86.5**	**n**	**2.8**	**10.7**
North Sulawesi	99.3	0	0.5	0.2
Central Sulawesi	98.2	0	n	1.8
South Sulawesi	59.5	0.1	8.0	32.4
Southeast Sulawesi	99.1	0	0.9	0
EASTERN INDONESIA	**94.7**	**1.0**	**1.3**	**3.0**
Bali	89.9	2.0	3.7	4.4
West Nusa Tenggara	93.2	2.6	0	4.2
East Nusa Tenggara	95.2	1.0	0	3.8
East Timor	100	0	0	0
Maluku	99.4	0.1	0.6	0
Irian Jaya	96.0	0.1	0.3	3.7

Consider now the foreign-owned firms within the factory sector. In 1985 these firms employed a little under 9 per cent of this workforce (table 15), far less than the figure for private firms, and lower also than the government sector. In other words, foreign firms provided jobs for just 3 per cent of the total manufacturing workforce, or a minuscule 0.3 per cent of the national workforce. When it is recalled that the only sector in which the multinational presence is large in Indonesia is the highly capital-intensive mining group (table 7), and including also the small foreign presence in construction, trade and tourism, financial services and plantation agriculture, it is most unlikely that the share of all foreign firms in the national workforce would exceed 1 per cent.

Within manufacturing, foreign firms in no cases employ more than 30 per cent of an industry's workforce (table 15). They are most prominent in other chemicals, glass products and electrical equipment, but none of these branches is a significant employer of labour.

The above analysis should not be construed as a criticism of multinationals. These firms are concentrated in such a relatively small portion of the economy which is itself a fairly minor employer of labour. Moreover, the indirect employment effects are a good deal more important, as we shall discuss in the next section. And multinationals could hardly be expected to be major employers, even within their broad spheres of operation. Their principal contribution lies in the area of technology transfer, improving national efficiency and economic welfare, and encouraging the development of a stronger export sector. It is the domestic private firms - smaller in scale, less able to operate effectively modern technology, and mainly located in labour-intensive activities - which would be expected to make the major employment contribution.

Secondly, is ownership an important determinant of wage differentials? A simple comparison of aggregates might suggest it is - average wages in large and medium government-foreign firms are about four times those in private or government-owned firms (table 16, row 3). Even standardising for scale (rows 1 and 2), wage differentials remain very large; indeed, for firms with a workforce of 200-999 workers the range across ownership groups is larger still. These differentials at least partly arise from the fact that foreign and government joint venture enterprises tend to be located disproportionately in high skill and capital-intensive industries.

To obtain a clearer picture, the comparison needs to be undertaken at a more disaggregated level, correcting also for firm size. Focusing on the comparatively few industry cases of more than one ownership group among larger firms, the dispersions are generally much smaller. For the most common pair-wise comparison, private and foreign firms (the latter including private-foreign joint ventures), in about half the cases (11 out of 21) foreign firms pay more by a significant margin (at least 20 per cent higher). However, in six cases the difference is not significant, while in the remaining four private firms offer better conditions. The differences are much less decisive in the 15 private-government joint venture comparisons: the joint ventures pay more in six cases, the private more in four, while in the remaining five they are smaller. The clearest differences emerge in the private-government comparison where, contrary to conventional wisdom, conditions are actually inferior in the latter firms.

The major conclusions regarding ownership and wages are therefore three-fold: (a) foreign firms offer superior working conditions to other ownership groups; (b) among the latter, there are fewer distinct differences - in particular, government firms as a whole do not appear to pay much better; and (c) the major differences among groups are explained by variations in

industrial composition of these firms. However, most important for the purposes of this paper, multinationals emerge as good employers of labour: they pay more, train more (see next section), and have much lower labour turnover rates because of these desirable employment conditions.

Table 15. Ownership shares by major industry group, 1985
(percentage of each industry's employment)

Industry	% of total	Private	Government	Foreign	Government (JV)
311)	13.0	48.9	2.4	3.2	45.5
312)	5.0	76.3	4.1	6.2	13.4
313	0.7	73.0	0.3	19.4	7.3
314	12.2	95.8	0.3	1.5	2.4
321	17.7	79.1	1.2	12.1	7.7
322	4.1	94.9	0.3	2.5	2.3
323	0.3	92.2	4.1	1.2	2.5
324	0.5	83.7	0	16.3	0
331	10.0	85.0	0.6	12.0	2.5
332	0.7	96.9	0.6	2.2	0.3
341	1.3	73.2	0	8.8	18.1
342	2.1	84.1	4.0	0.6	11.3
351	2.2	35.9	2.0	9.7	52.4
352	4.0	70.9	0.2	21.1	7.8
353/4	n	0	43.5	0	56.5
355	5.6	60.7	3.0	12.2	24.1
356	2.9	95.7	0.2	3.5	0.6
361	0.7	88.2	4.7	7.2	0
362	0.6	66.3	0	27.0	6.7
363	2.1	60.3	1.0	4.9	33.9
364	1.4	95.2	1.6	1.7	1.4
369	0.5	85.5	5.9	0	8.6
37	0.9	41.3	0	5.3	53.4
381	3.5	76.0	1.1	13.8	9.1
382	1.0	62.7	1.2	10.7	25.4
383	2.6	67.9	0.2	26.4	5.6
384	3.4	54.9	0.2	11.5	33.4
385	0.1	94.3	0	5.7	0
39	0.7	86.3	0.6	12.7	0.4
Total	**100**	**74.9**	**1.3**	**8.7**	**15.1**

Table 16. Annual labour costs by ownership, 1985[a]

Industry		Firm Size (Employees)	Ownership: All	P	P-F	G-P-F	F	G	G-F	G-P
All Industries		1,000+	100	64	196	141	124	59	-	-
		200-999	100	82	178	130	199	64	391	107
		20+	100	76	219	154	168	69	288	89
31340	Soft drinks	200-999	100	99			103			
32111	Spinning	1,000+	100	90	111	149	92			
		200-999	100	84	132	92	75			
32112	Weaving	1,000+	100	72	193	111				
		200-999	100	98	160	98		68		
33113	Plywood	1,000+	100	89	183					
		200-999	100	95	120					
34111	Paper products	1,000+	100	60		205				
		200-999	100	66	107	144				
35510	Tyres and tubes	1,000+	100	64	296	43				
		200-999	100	46	202	113				
35521	Rubber smoking	1,000+	100	91		111		36		
		200-999	100	139		95	49	49		
356	Plastics	200-999	100	89	295					
36310	Cement	200-999	100	130	67	100				
38320	TVs, etc.	1,000+	100	53	191					
38330	Electrical Supplies	1,000+	100	119		132	86			
		200-999	100	71	137	217				
38430	Motor vehicles	1,000+	100	97	93	110				
		200-999	100	106	99	59				
38440	Motor cycles	1,000+	100	137	55					
		200-999	100	76	144					

[a]Data refer to indices of labour costs per employee for each industry and ownership group, with the figure for all firms in each industry equal to 100. Ownership groups are as defined in Table 9.

5. THE IMPACT OF FOREIGN INVESTMENT: WIDER ISSUES

This section assesses the broader "development contribution" of multinational enterprises (MNEs) in Indonesia, with particular reference to employment, labour market and human resource issues. MNEs introduce a package of highly productive resources into the host economy, and the objective of the latter is to maximise the economic benefits it can extract from this package, consistent with the foreign firms' commercial objectives. In the absence of detailed firm surveys the contribution of MNEs via "leakages and linkages" is inherently difficult to assess - much less quantify - but some general observations may be made on the basis of some informative firm surveys and of the author's own research. This discussion will focus on four main areas - the impact on exports, the contribution to skill formation, the development of linkages and subcontracting networks, and the effects of the policy regime on these and other issues.

5.1 Impact on exports

Table 17 provides a summary of the development of Indonesia's manufactured exports during the 1980s. The record is a spectacular one. At the start of the decade manufactures accounted for just 2 per cent of the total, and there was widespread 'export pessimism' in the country, based on the belief that Indonesia could never emulate the success story of its East Asian neighbours. Within the space of just a decade, however, this picture was totally reversed - the share of manufactures had shot up to 32 per cent, and for the first time in the nation's history it was aspiring to 'near NIE' status. Part of the reason for the sharply increased share was of course the decline in oil and gas exports, but table 17 underlines also the strong growth across many sectors, and the recent trend towards diversification.

Have MNEs contributed to this impressive achievement? The first point that needs to be emphasised is that the fundamental determinant, as in all countries, is the domestic policy regime. In Indonesia's case, macroeconomic management since the disasters of the period 1958-65 has been consistently good. During the 1980s this was supplemented by very effective exchange rate management (the real effective exchange rate almost halved during the decade, declining more than in any other sizeable economy) and by the introduction in 1986 of a very successful duty drawback scheme for exporters. Within these parameters, there is evidence to suggest that foreign investors have contributed to the success of the export drive. One indication of this is the number of 'export-oriented' foreign investment approvals in recent years. In 1986 93 projects were approved, of which 20 (22 per cent) were export-oriented, rising to 130 projects (38 export-oriented) in 1987, 145 (105) in 1988, 294 (231) in 1989 and 204 (155) in the first half of 1990. (Reflecting general improvements in the investment and trade regimes, domestic investment approvals exhibited a comparable increase in both the number and proportion of export-oriented projects.)

Looking at particular sub-sectors, the direct contribution of MNEs is comparatively modest. This can be gauged by comparing the major export items in table 17 with the ownership shares in table 11.[10] For example, foreign firms produced just 13 per cent of value added in wood products (encompassing plywood), 25 per cent of textiles, 2 per cent of garments, 6 per cent of furniture, 13 per cent of footwear, 13 per cent of basic chemicals, 8 per cent of glass products, 5 per cent of basic metals (which includes steel), 26 per cent for electrical equipment and 12 per cent for miscellaneous manufactures. These figures do, however, understate the MNEs' contribution in at least two respects.

Table 17. Major manufactured exports of Indonesia, 1980-89 ($ million)

	1980	1982	1984	1985	1986	1987	1988	1989	Average Annual Growth, 1980-89 Real value	Volume
Resource Intensive										
Total	119	354	832	992	1,209	2,036	2,575	2,838	39.2	n.a.
% of all manufactures	24	44	45	49	46	52	47	40		
Major items:										
plywood	68	316	791	941	1,127	1,901	2,368	2,414	45.5	34.6
cement	26	8	13	22	41	57	80	133	16.6	26.5
leather	6	7	7	8	15	45	68	69	26.8	21.9
Labour Intensive										
Total	287	323	826	785	1,054	1,303	2,061	3,017	26.3	n.a.
% of all manufactures	57	40	45	38	40	33	38	43		
Major items:										
clothing	98	116	296	339	522	596	797	1,170	28.4	28.9
woven fabrics	43	43	183	227	287	385	571	727	33.6	40.6
yarn	3	1	17	13	20	84	109	112	45.8	48.1
oils & perfumes	21	17	29	23	27	34	34	32	1.1	0.6
glass & glassware	3	3	10	8	13	31	75	77	39.5	42.1
electronics	94	117	214	77	29	15	41	67	-6.6	n.a.
musical instruments	7	11	26	39	43	28	33	41	18.4	19.8
furniture	3	2	5	7	9	27	70	167	52.9	62.3
footwear	1	3	5	8	8	22	82	220	n	54.8
jewellery	n	1	8	8	37	5	78	98	n	n
Capital Intensive										
Total	97	131	181	266	377	556	839	1,163	28.1	n.a.
% of all manufactures	19	16	10	13	14	14	15	17		
Major items:										
fertilizer	35	10	37	80	127	86	134	164	14.5	23.0
paper products	5	2	20	21	33	96	128	138	37.3	44.7
steel products	8	8	7	28	58	188	269	343	47.4	47.5
inorganic chemicals	n	2	33	35	27	25	32	35	n	n
rubber tyres	n	n	2	7	11	23	45	65	n	n
Total, all manufactures	501	809	1,839	2,044	2,639	3,895	5,476	7,018	30.3	n.a.
Three largest as % total	52	68	71	74	73	74	68	61		
Manufactures as % of total exports	2	4	8	11	18	23	28	32		

First, they refer to industry, not firm, data. There are no data on the comparative export performance of foreign and domestic firms in Indonesia, but the evidence from other countries and the theory of the multinational enterprise strongly suggest that foreign firms are likely to be more export-oriented (and more import-intensive, too) than local firms. Langhammer (1988) and Hiemenz and Langhammer et al. (1987) do touch on some of these issues for Indonesia and other ASEAN countries.

Secondly, the ties between domestic exporters and MNEs are considerably stronger than the data suggest. Recent research by the author on textiles and garments (Hill, 1991) underscores the important role played by foreign buying groups and arms-length yet close business ties between Indonesian-Chinese exporters and firms from the Asian NIEs. Foreign ownership in the garment industry is minuscule, but these international commercial contacts have been crucial in providing market and design intelligence. Unpublished research by Dr David Wheeler has found a strong link between foreign tourism, long-term foreign residents and the garment export boom on the tourist island of Bali. In footwear, a recent surge in Korean involvement - not all of it in equity form - has resulted in several huge factories being established east of Jakarta, some of them producing up-market brand name products such as Reebok. In rattan furniture, design and marketing specialists have been brought from the Philippines, a country more advanced in such skills but whose raw material supplies are nearly exhausted, to promote the local industry. More generally, Indonesia's export-oriented development phase has coincided with the loss of comparative advantage across a spectrum of labour-intensive activities in the NIEs, explaining the surge of FDI from these countries (see note 7; see also Thee, 1990a) and the development of many other forms of commercial interaction not captured in the official foreign ownership data.

Thus, although their impact is difficult to quantify and although the fundamental determinants lie in the country's policy regime, there is little doubt that MNEs - and foreign interests more broadly - have made a significant contribution to Indonesia's export drive, even though the country has not developed EPZs on a scale rivalling that of most of its neighbours. The downside to this export success is that MNEs are probably more import-intensive than comparable domestic firms, and some restrictive export franchises may be in operation. But these are likely to be relatively minor negative effects, far outweighed by the positive impacts described above.

5.2 Contribution to skill formation

The most comprehensive assessment of the contribution of MNEs to human capital would ideally take the form of a comparison of the earnings stream of MNE (current and former) employees with those of a non-MNE control group. Assuming that labour markets are competitive and that real wage differentials may be attributed mainly to skill, any differences between the two groups could then be attributed to the MNE impact. Unfortunately, such detailed information is not available and so the major source of evidence on the subject has to take the form of firm surveys of training and other labour market policies. Certainly the mere fact of higher wages paid by foreign firms, as reported in table 16, cannot be taken as evidence of the MNE contribution to skill formation. The difference could equally be due to the recruitment policies of MNEs in hiring more skilled and better educated workers.

One of the most detailed studies of technology transfer and adaptation from MNEs in Indonesian manufacturing is that provided by Thee (1990) on the basis of his in-depth survey of 12 firms. He concluded that

> ... most local managers and technical personnel obtained their necessary qualifications mainly through on-the-job training and additional training by working for a certain period ... at the [MNE's] plant in its home country or in its overseas plants in other advanced countries ... In addition, extensive training was also provided to local employees by expatriate managers and technical experts by a [MNE] to work in a joint venture ... for a certain period of time. (Thee, 1990, p. 232.)

The intensity of these training programmes varied, but a common feature was at least on-the-job training for production operatives, and advanced courses abroad for senior staff.

Earlier studies at the firm-level confirm these conclusions. Manning (1979) undertook a detailed study of training facilities in foreign and domestic firms in the cigarette and textile industries. Half the foreign firms he surveyed provided special training courses for production workers, while the other half provided formal on-the-job training. Training provisions among comparable domestic firms were somewhat less - only 20 per cent of these firms offered these special training courses, while 60 per cent provided on-the-job training courses. These training facilities were in turn far more extensive than those of smaller domestic firms. In a survey of 74 Japanese firms in Indonesia, Tsurumi (1980) cited management reports that productivity levels among Indonesian workers were initially some 50-60 per cent those of Japanese or Korean workers. However, "after 12 to 18 months of work experience and closely supervised training" (p. 314) Indonesian workers achieved 80-90 per cent of this level. Rice (1974) and Siahaan, Thee et al. (1978) have also investigated training issues among foreign firms and have found evidence of a strong commitment to training.

Thus the field survey data do point conclusively to the fact that foreign firms do make considerable investments in training, on a scale at least equal and probably exceeding that of the largest domestic firms. MNEs have thus made an important contribution to Indonesian economic development, but such a conclusion requires qualification in a number of respects.

1. Indonesia's shortage of skilled manpower - highly skilled and vocational - is increasingly serious, and this may have limited the benefits Indonesia has derived from the MNE presence. While there is a tendency in some quarters to view FDI as a substitute for domestic training, in fact the beneficial spill-over effects are limited because skilled Indonesian workers are unable to interact productively with their foreign counterparts, and Indonesian workers are less likely to rise in the international hierarchy of MNEs.

2. There is some circumstantial evidence which suggests that the senior appointment possibilities of local staff are restricted, especially among Japanese firms (see, for example, Panglaykim and Pangestu, 1983). Some writers attribute this phenomenon to cultural factors or head office restriction, but it is equally likely to be the result of the shortage of experienced Indonesian staff.

3. Although foreign firms hire better quality staff and train them more, these firms in many cases are able to appropriate the benefits of their investments in education owing to very low turnover levels among their staff, especially at senior levels. This aspect is emphasised by Rice (1974) and several other researchers.

4. The evidence does not point conclusively to FDI as being the only vehicle for the transmission of skills from foreign to domestic parties. Licensing arrangements, even without equity tie-ups, provide training

facilities, although the international evidence and discussions with some Indonesian firms suggest that licensers may be less inclined to undertake such intensive technology transfers as is the case with foreign equity partners, in part because the former often focus more on sales-based (or even lump sum) royalties payments rather than overall company development.

5.3 The development of linkages and subcontracting networks

Inter-firm linkages, including subcontracting networks, are another important means through which the externalities associated with the MNE presence may be appropriated by domestic economic agents. Foreign firms create powerful demonstration effects in their products, marketing procedures and managerial capacities. While these can and do result in firm closures among domestic competitors, on a commercial playing field level the MNE presence can equally act as a competitive spur. In the case of inter-firm linkages, also, such spin-offs are evident, such as in subcontracting relationships between MNE firms and local suppliers.

Thee (1990) studied these networks intensively in his firm survey, finding mixed results:

> ... only the firms in the automotive industry, which is engaged in implementing an official 'deletion programme', have been increasing the local content of the final goods through the mandatory increase of purchases of locally made parts and components. In contrast, in the case of pharmaceuticals, virtually all basic raw materials had to be purchased from the [MNEs] ... In the case of food processing and chemical companies, various raw materials were procured locally, but in general these linkages did not involve an appreciable increase in the technical capabilities of local suppliers. (Thee, 1990, p. 231.)

Thee's conclusions of weak subcontracting ties, except where the Government forces the pace (and even here, the Government has relaxed its deletion requirements in response to indifferent results) is supported by the research of Witoelar (1983) and the author's own interviews. They contrast sharply with the results of the Indian case study conducted by Lall (1980), although they are somewhat similar to the case of the Philippines (see Hill 1985).

Why have these subcontracting networks been so weak? At least three reasons appear to be important. First, the capacity of local suppliers is generally weak, reflecting limited technological capability, unsophisticated commercial expertise, and poor quality control facilities. In interviews the author conducted with MNE assemblers in the automotive industry, for example, even well disposed management with a strong preference for subcontracting reported numerous and costly delays in supply schedules and indifferent quality. A second reason is that, despite official support for subcontracting, the Government's protectionist policies have encouraged the opposite response. This is because of the 'cascading' structure of protection, which offers very high effective protection to final stage, assembly production, but low or even negative protection for intermediate inputs such as electrical and automotive components. In the absence of trade reform, it is difficult to see how this commercial obstacle can be overcome. Finally, it is sometimes alleged that ethnic fractures in the Indonesian business community - in particular between large Chinese concerns and small "pribumi" enterprise - may inhibit the development of such networks. While this may be a factor in certain circumstances, it is unlikely to be a key explanation: the large Chinese firms now employ increasing numbers of

"pribumi" staff at senior levels, and in any case foreign firms would be less constrained in their commercial relationships.

In sum, this aspect of MNEs' contribution to Indonesian development is rather small. But it can be expected to develop over time as the quality of the potential pool of subcontractors improves and on the assumption that the Government continues with its programme of trade policy reform. MNEs have essentially responded to the market signals rather than being the primary cause of the problem.

5.4 The effects of the policy regime

The above discussion has alluded to the importance of the domestic policy regime in providing an environment conducive to maximising the net domestic benefits of the MNE presence. The purpose of this sub-section is to elaborate on this point.

As the world's third most populous developing country, there can be no credible fears in Indonesia of "foreign domination". The Indonesian Government sets the foreign investment policy agenda, consistent with the objective of MNEs in achieving a long-run rate of return on investments in the country comparable to those in other locations. Foreign firms thus respond to the commercial signals established by the Government rather than vice-versa, and in this respect the Soeharto regime's economic policies and priorities shape the benefit-cost calculus of the MNE presence. The interrelationship between the domestic policy regime and the development contribution of MNEs receives too little attention in the literature, and so it will be useful to illustrate the connections with reference to the Indonesian experience.

Firstly, Indonesia's trade regime has reduced the benefits which the country could have extracted from MNEs. In spite of the recent reforms, Indonesia's system of protection features high - and highly dispersed - effective protection for many manufactures, drawing resources into uneconomic activities and discriminating against low protection activities (see Fane and Phillips, 1991; and Wymenga, 1991). Many of the high protection items, such as steel and automotive products, are capital-intensive; conversely, some of the labour-intensive activities, such as garments, "receive" very low, or even negative, protection. In both cases the effects of the protection regime is to draw resources out of the labour-intensive activities and thus retard badly needed employment growth.

Protection hampers the emergence of an efficient industrial sector in other respects. Some MNE-intensive industries exhibit negative value added at international prices, as a result of the inefficiency induced by extremely high levels of protection, thereby resulting in very little domestic benefit from the foreign investment. High protection and high concentration often go hand-in-hand (see Hill, 1987), resulting in very weak competitive pressures. This has important implications for choice of technology and employment creation, as Wells' (1973) case study revealed: firms in competitive industries often adopted excessively capital-intensive technologies when managers were able to express their preference for a 'quiet life' or for sophisticated engineering equipment. More generally, protection has encouraged the development of a rent-seeking, politicised atmosphere in which entrepreneurs - foreign and domestic alike - are encouraged to lobby governments rather than pursue commercial objectives.

A major concern in Indonesia until the early 1980s was that government-induced distortions encouraged firms to adopt excessively capital-intensive technologies. This distortion occurred primarily in the

capital market, where government banks offered subsidised credit, often at negative real rates of interest. Less important were tax incentives which cheapened the cost of capital, labour regulations which drove up the price of labour, and other regulations such as the ban on the import of second-hand equipment (see Hill 1983 for a discussion of these effects with reference to the textile industry). However, following the capital market reforms of the 1980s and the removal of most of the subsidised credit programmes, these anti-employment biases became much less important. In any case, their primary impact - at least in the case of the credit programmes - was on domestic firms, since foreign firms were in principle denied access to loans from state banks.

Throughout the period since 1967, the benefits Indonesia has been able to extract from FDI have been mitigated somewhat by a widespread ambivalence towards foreign ownership and by structural deficiencies in the political system sometimes labelled the "soft state syndrome". The contrast in these respects with neighbouring Singapore is stark. The latter has established clearly defined entry rules for MNEs, it adopts a positive, welcoming posture towards them, and it operates a fiscal regime which ensures that foreign firms are properly taxed. In contrast, at least until recently, Indonesia's BKPM "... had not yet resolved whether its mission was exclusively to regulate foreign investment or simultaneously to promote that investment." (Encarnation and Wells, 1985, p. 71.) Until the negative list, investment priority areas were ill-defined, procedures were cumbersome and time-consuming, and fiscal supervision was lax. In effect, MNEs built a large risk premium into their calculations, but often redeemed it through lower tax obligations or high protection. In such circumstances the domestic benefits were smaller.

Other aspects of the domestic policy regime have been discussed above. Indonesian governments have under-invested in education and training programmes, and in R&D facilities. The recruitment of skilled foreign personnel has sometimes been curbed excessively. And sudden changes in the policy environment unsettle foreign firms and encourage them to focus on short-term, fast-yielding projects.

6. CONCLUSIONS

Our principal conclusions are three-fold. First, foreign firms have entered Indonesia in increasing numbers since the liberalisation of 1967, and the annual trends can be explained by the interplay of domestic and international economic circumstances and the domestic policy regime. Foreign investors have - where the policy regime permits - entered sectors which are consistent with the theory of FDI: large-scale mining activities, some of the more technology-intensive manufacturing industries, and a few niches of the service sector. Despite their growing presence, however, the inflows and ownership reach are comparatively modest in international perspective, and generally less than most of the country's neighbours. Foreign firms play a far smaller role than (domestic) private and state firms.

The second conclusion is that foreign firms have made a significant contribution to Indonesian economic development since 1966. There is hardly a firm in Indonesia's modern sector that has not had some commercial or technological tie-up with overseas interests, whether taking the form of close equity links of the type discussed in this paper; or of strong licensing arrangements which, even without the equity interest, bind the foreign and domestic partners together; or of occasional commercial encounters through the supply of machinery and marketing information. MNEs have been especially

important in providing training facilities; they have also contributed to the export drive, though in other respects the spin-offs are a good deal weaker.

A final key theme of the paper has been that the Indonesian policy regime has meant that the economic benefits associated with the MNE presence have not always been as great as they could have been. MNEs have been permitted to operate in highly concentrated industries behind import protection. This regime has virtually guaranteed them high profitability, even though some of the industries concerned have generated negative value added at international prices. The country's fiscal regime has also been unnecessarily lax. And the "stop-go", ambivalent policy environment may have created much uncertainty in the minds of foreign investors, encouraging them to select quick-yielding high return projects. Appropriate changes in the domestic policy regime should be able to play a role in strengthening MNEs' contribution to economic growth in the country.

Notes

This paper draws to some extent on the author's recent writings on foreign investment and industrialisation in Indonesia. See in particular Hill (1990, 1990a).

[1] These studies, which will be drawn on extensively throughout this paper, include the following: Dickie and Layman (1988), Hill (1988), Kuntjoro-Jakti et al. (1985), Sadli (1972), Thee (1984a, 1984b), Thee and Yoshihara (1987).

[2] It is too early to assess the impact of the Batam development, but it could in principle be an important instrument for strengthening economic ties and complementarities between Indonesia and Singapore, particularly as Singapore has now lost is comparative advantage in labour-intensive activities. For informed accounts of recent developments in the Triangle concept, see Far Eastern Economic Review, 8 March 1990, and Asian Wall Street Journal, 3-5 December 1990.

[3] For discussion of the data limitations, see Hill (1988, pp. 157-164). The omission of FDI in oil and gas distorts the country shares of foreign investment in Indonesia. For the period 1967-84, for example, Japan accounted for about 68 per cent of investment in BKPM sectors but only 3 per cent of oil and gas, giving it an overall share of 21 per cent. The respective shares for the United States were 5, 78 and 58 per cent (Hill, 1988, p. 55).

[4] The comparison in table 1 vastly understates the relative importance of domestic investment approvals because, unlike foreign firms, domestic firms are not required to obtain BKPM approval. It was expected that, following the removal of most of the fiscal incentives in 1984, the BKPM would become virtually irrelevant for domestic investors. However, this has not been the case, partly because such approval is useful for the status that official recognition bestows on the enterprise, and partly because restrictive procedures have been simplified significantly. The remaining incentives, albeit minimal in magnitude, may also have been a factor.

[5] The dominance of oil and gas in the total inflows is revealed by one set of estimates, which concluded that this sector accounted for 57 and 72 per cent of realised cumulative foreign investment up to 1977 and 1985 respectively (Hill, 1988, p. 81). More recently, as petroleum investment has tapered off and manufacturing and service investments boomed, this share would have declined markedly.

[6] The investment intensity index is defined analagously to that of the trade intensity index. For example, if in any given year Japan was the source of 25 per cent of global investment, and also for the same proportion of investment into Indonesia, the index would be unity. If Japan's share in Indonesia was 50 per cent or 12.5 per cent, the index would be 2 or 0.5 respectively.

[7] For example, in 1989, approved investment from Japan totalled $919.5 million (15.5 per cent of the total), compared to $1,210.8 million (20.4 per cent) from the four NIEs, with investments from Hong Kong and Korea being especially significant.

[8] The two major overviews of the Indonesian labour market are Hugo et al (1987, Chapter 8), and Jones and Manning (1991).

[9] Consider, for example, a simplified numerical calculation. At manufacturing's current share of the labour force, and assuming the annual growth rates of the total and factory manufacturing workforces are maintained - at respectively 2.5 and 5.6 per cent per annum - the factory sector could absorb no more than about 10 per cent of the increment to the labour force in the early 1990s.

[10] Note, however, that there is not an exact correspondence owing to the complex concordance between the trade figures reported in SITC and the product data which are based on ISIC.

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APPENDIX I

The 1989 investment negative list

Drs. Siddharta & Siddharta
in association with
Coopers & Lybrand

(a) Closed to any form of new investment (nine industry sectors):

- sponge cultivation;
- marijuana production and processing;
- blockboard manufacture;
- saw milling (except in Irian Jaya);
- plywood manufacture (except in Irian Jaya);
- veneer manufacture;
- processing of raw and semi-finished rattan;
- utilisation of finished rattan (open under (d) below).

(b) Open to new investment on condition that 100 per cent of output is exported (three industry sectors)

- Breeding of chicken stock at the following levels:

  great grandparent;
  grandparent; and
  parent (also open under (d) below);

- tin-plated steel sheet;
- utility boiler;
- non-automotive internal combustion piston engine:

  1. gasoline combustion engines up to 8 kw (10 tk);
  2. kerosene combustion engines;
  3. diesel combustion engines with power up to 25 kw (30 tk) 26 to 375 kw (31 to 500 tk) and above 375 kw (500 tk);

- heavy equipment industry (including bulldozers, loaders and graders);
- complete offshore platforms for oil and natural gas;
- railway parts and equipment;
- medium trucks, light trucks, pick-ups, buses and minibuses;

- multipurpose vehicles/jeeps;
- passenger vehicles;
- diesel engine and gasoline engine for commercial vehicles;
- brake systems, clutch systems, propeller shafts, rear axles and transmissions for commercial vehicles;
- jet engine and propeller aircraft and helicopters;
- weather balloons;
- aircraft engines and communications equipment;
- public television channels;
- casinos and other gambling activities.

(c) Open to new foreign and domestic investment where more than 65 per cent of output is exported (43 industry sectors). Production of:

- animal disease vaccines;
- powdered and condensed milk;
- coconut and palm cooking oils;
- wheat flour;
- cyclamate sugar;
- alcoholic beverages including beer and wine;
- clove cigarettes by machine;
- laminated paper;
- stamps, bank notes, passports and postcards;
- fireworks;
- explosive materials and the like;
- disposable lighters;
- two and three-wheeled motor vehicles;
- pental chlorophenol;
- ammonium chloride (for fertiliser);
- ethyl alcohol;
- nitrogen fertiliser, except for ammonium nitrate (i.e. urea and ammonium sulphate);
- dichloro diphenyl tricholoroethane (DDT);

- isoprene rubber;
- cold rolled low carbon-steel sheets;

(d) Open to domestic investment, with no conditions, and to foreign investment with either:

  - 65 per cent export criteria;
  - 5 per cent equity held by co-operatives.

- intercity passenger transport;
- taxi transport;
- ferry transport;
- local shipping;
- scheduled flights;
- aircraft and components workshop;
- retail trading;
- advertising services;
- public relations services;
- pharmaceuticals formulation;
- formulation of traditional medicines (jamu);
- construction of ruko (rumah toko) buildings;
- construction contractors;
- limited television channels;
- private radio broadcasting service;
- construction and management of movie theatres;
- raising poultry breeders;
- raising poulty broilers;
- breeding of parent chicken stock;
- utilisation of finished rattan.

The JETRO 1988 comparative survey of the investment climate in Asia

	India	China	Indonesia	Philippines	Thailand
Foreign investment policies					
1. Basic policies toward foreign investment	Liberalizing measures have been taken since 1984 when Rajiv Gandhi took power. Strong intentions for highly advanced technologies & achieving high local production ratio and share of foreign equity have been major problems. Now Special preferential measures for export-oriented industries have been announced.	Positive in foreign equity participation (especially industries for export oriented base)	Active in foreign investment. Though activities (i.e. domestic distribution & borrowing from national banks) are still limited, a sequence of deregulation policies have been realized.	Active in foreign investment; The new omnibus act (new investment act) (effective from July 1987) unified preferential measures and related acts. A general conception of tax holiday has been introduced and preferential measures have been intensified.	Positive in foreign investment; Intensive preferential measures for export-oriented industries and remote located factories. Trying to spread to remote areas from Bangkok.
2. Incentives, preferential measures, regulations etc.					
- Tax enterprise tax (basic tax rate & preferential measures)	Corporate tax 40%, 50%; 30% of income tax exempt for initial 10 years for incorporations that start manufacturing by March 31, '91. (extension to be examined by the Congress annually)	Corporate tax 30%; local tax 3%. For two years after turning the first profits, taxes are except. For the next 3 years, 50% of taxes are reduced.	Income tax (both personal & corporate) of 15%, 25%, 35% graduated; 10% VAT; Tax-reduction system (i.e. tax holiday & investment deduction) is abolished.	Corporate tax 25%, 35%; 6 years of tax exemption for new pioneer firms and 4 years for non-pioneer firms. 5 years of tax deduction for 50% of additional labor cost.	Corporate tax 30%, 35% business tax 1.5-50% by items being sold; corporate tax exempt (3-8 years) for investment promoted areas & firms with exports of 80% more.
- Taxation for royalty	30%	10%; Tax exempt for advanced	Reduced according to the tax agreement.	Reduced according to the tax agreement	Tax exempt for 5 years
- Transmittance of foreign currency capital, profit, royalty	Approval of the Reserve Bank required	No restrictions, but balance of foreign currencies' payment and earning must be maintained within an enterprise.	No restrictions in principle, No restrictions imposed as for as foreign exchange control is concerned.	Guaranteed (Approval of the Central Bank required).	Application & confirmation required, except for payments for imports.
- Percentage of equity participation	40% for non-FERA firms (treated same as Indian firms); 40% - 100% for FERA firms (including export-oriented industries)	25% or more; 100% is more welcomed	Only JV is allowed. In principle, initial percentage of foreign capital must be less than 80%, then less than 49% within 15 years.	40% in principle; 40% or more in export oriented & pioneer firms allowed. (license required)	49% & less in principle; (less than 40% for agriculture, stock raising, mining and service sector) Possibly 50% or more according to the ratio of exports. (100% of foreign equity is possible with 80% of exports)

	India	China	Indonesia	Philippines	Thailand
- Imports of raw materials etc.	High tariffs	Custom duties on capital goods including parts be exempt. Raw materials for export be exempt from Taxes.	Customs duties of raw materials for production are reduced or exempt. Tax relief by conditions.	Tax exemption & simplification of procedures for raw materials that create exports.	Customs duties & business taxes deducted for export-oriented industries.
- Local contents ratio	90% in 5 years in principle	Home products more desirable under the same conditions.	Use of specific items (raw materials, parts & equipment) required.	Restrictions and guidelines for specific industries (automobile, electronic machinery)	Restrictions & guidelines for specific industries (automobile, textile)
- Employment of aliens	Limited to posts that require technique & experience	No restrictions	Key-post system & expertise engineers allowed.	Key-post system & expertise engineers allowed.	Key-post system & expertise engineers allowed.
- Land acquisition		not allowed	Acquisition of the right of land use is allowed.	Allowed when foreign equity is less than 40%.	Allowed even for the case foreign equity is 49% or more.
- Partners	Available also through IIC Many MRTP firms have ample financial resources	no restriction	No restrictions	No restrictions	No restrictions
3. Export Processing Zones					
- Tax Incentives	Customs duties of capital goods & raw materials, consumption tax and income tax exempt.	15%; 10% for exporters of manufactured goods & technologically advanced firms.	Custom duties on export be exempt. Custom duties on capital good/raw materials for export products be exempt.	Local tax & tax for real estate for productive equipment are exempt.	Custom duties and Business Tax for imported raw materials & exporting manufactures goods are exempt.
- Percentage of foreign equity participation	Maximum 100%	No restrictions	Maximum 95%	Maximum 100%	Maximum 100%
4. Acquisition of industrial estates					
- Industrial parks			Private industrial parks under construction.	Private industrial parks under construction.	Private industrial parks operating.

ANNEX

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