17 Trade Patterns and Trends of Indonesia

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17.1 Introduction

Indonesia is a vast nation with a population of more than 150 million persons (the fifth largest national population in the world). With an average income per capita of $530 in 1981 she is not a rich country; the World Bank places Indonesia among its "lower middle-income economies." Yet, she surely plays a significant role in the international trade of East and Southeast Asia and beyond. Her size is one factor: Indonesia's GDP is larger than that of any other nation in the region except China and Japan. Oil is another: largely because of oil, Indonesia's total exports in 1981 were approximately equal to those of Korea, Hong Kong, or Singapore, and were second only to Japan among nations of the region (Appendix, table 17.A.1).

Also of great importance is the rapid growth the Indonesia economy has accomplished since the change in government and economic policy in 1966. According to World Bank estimates, Indonesia's GDP grew at an average annual rate of 7.8% over 1970–81. This is a point or two below the growth rates of Korea, Taiwan, Hong Kong, and Singapore but markedly higher than the 2.9% growth rate of the United States or even Japan's 4.5% rate. Compared with middle-income economies generally, Indonesia's growth rate for the decade was about 40% above average, and it was 25% higher than the average rate achieved by middle-income oil exporters.[1]

The manufacturing sector in Indonesia has had comparatively even more rapid growth. Manufacturing output increased at 13.9% per an-

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num for 1970–81 and was outpaced only by Korea (Appendix, table 17.A.2). Of course, this growth in manufacturing started from a very small base, so that even now the manufacturing sector accounts for a comparatively small fraction (12% in 1981) of GDP. More important from the point of view of trade, and in considerable contrast to other nations of the region, it will be seen below that manufacturing has been aimed largely at the domestic market. Manufactured goods certainly account for no more than 5% of merchandise exports; for 1981 the World Bank's estimate of the share is 2% (Appendix, table 17.A.1).

The plan of this paper is to examine in subsequent sections (1) the growth and sectoral composition of output and expenditures over the past fifteen to twenty years and (2) the growth in trade along with its structure by product group and by origin and destination. Government development policy will be discussed with particular emphasis on its consequences for industrialization and the observed patterns of trade. Finally, trends and prospects for the future will be assessed in view of recent policy initiatives.

The data used throughout this paper come from publications of the Central Bureau of Statistics (BPS) in Jakarta. The reliability of BPS import data, in particular, has been questioned in view of the fact that they are generally below alternative import estimates made for balance-of-payments purposes. The figures used here are also used by the International Monetary Fund (*International Financial Statistics*) and, in any event, are the only series for which product composition break-downs are available. In several cases more recent data are available in Jakarta but were not yet available to the author.

17.2   Economic Growth and Structure

The growth of Indonesia since 1966 contrasts sharply with the immediately preceding period. Between 1958 and 1965, under ill-defined principles of "guided economy," planning and mismanagement of the economy by a government distrustful of markets resulted in disastrous inflation (100% and more per annum from 1962 through 1966), virtually stagnant production, and rapidly deteriorating levels of transport and other public services. Export earnings declined, and imports had to be severely restricted in the face of rising foreign debt. Real GDP growth did not keep up with population growth.

The present government, under President Suharto, came to power in 1966. The "New Order" undertook quickly a program of fiscal restraint and financial reform, plus trade and foreign exchange liberalization. Foreign aid began to flow in after 1966 and foreign investment was encouraged again. The policies had enormous and swift success. Hyperinflation was eliminated,[2] investment picked up strongly, real

growth accelerated, and the share of manufacturing in GDP, after having declined in the early 1960s, began to increase. Also, trade was increasing rapidly by the end of the decade.

So strong was the spurt of growth begun after 1966 that even the "oil boom" dating from late 1973 does not show up as a marked increase in the growth rate of the Indonesian economy. Growth of real GDP continued during the late 1970s at approximately the same rate that had been established in the late 1960s and early 1970s.

These changes in the level and structure of output can usefully be examined in more detail. In table 17.1, growth rates of real GDP, real investment, and the level of manufacturing output are reported for various periods between 1960 and 1981 and annually for 1970 through 1982. Looking at the decade averages, real GDP growth appears to

Table 17.1   **Average Percentage Growth in Real GDP, Gross Domestic Investment, and Output of the Manufacturing Sector, and the Inflation Rate in Indonesia** (percentages)

Year	Real GDP	Real GDI	Real Manufacturing Output	Rate of Inflation[a]
1960–65	2.0	3.4	1.7	—
1965–70	7.0	13.5	7.5	—
1970–75	8.0	17.3	12.3	21.2
1975–80	7.9	11.9	15.0	14.7
1960–70	3.9	4.6	3.3	—
1970–81	7.8	14.0	13.9	—
1970	7.5	33.0	3.1	8.9
1971	7.0	21.2	15.1	2.6
1972	9.4	19.0	15.1	25.7
1973	11.3	17.1	15.2	27.4
1974	7.6	19.2	16.2	33.3
1975	5.0	14.6	12.3	19.7
1976	6.9	6.0	9.7	14.2
1977	8.9	15.9	13.8	11.8
1978	7.7	15.0	16.8	6.7
1979	6.3	4.4	12.9	24.6
1980	9.9	17.7	25.4	17.1
1981	7.9	17.7	7.3	7.3
1982	2.2	13.0	1.2	10.0
1983	4.2[b]	7.8[b]	2.2[b]	11.9

Sources: For the periods 1960–65 and 1965–70: World Bank, *World Tables* (1980) (data in constant 1976 prices). For the periods 1960–70 and 1970–81: World bank, *World Development Report 1983*. All others: BPS, Jakarta (real data in constant 1973 prices). BPS = Biro Pusat Statistik (Central Bureau of Statistics).

[a]Through 1979, inflation rate based on changes in year-end cost-of-living index for Jakarta; for 1980 and since, rate based on consumer price index for Indonesia (seventeen cities).

[b]Preliminary

have doubled in the 1970s as compared with the 1960s. But as has been previously noted, the change in regime and, correspondingly, the change in growth rate did not come at 1970 but earlier. The data for five-year periods confirm that the early 1960s were truly dismal and that growth increased sharply in the late 1960s to a rate that was sustained very well until 1982. Real investment and real manufacturing output have grown more rapidly than GDP, indicating structural shifts in the composition of output and expenditure.

Table 17.2 shows first a shrinking of all sectors except agriculture during the early 1960s as the economy languished. Then, it reveals a remarkable transformation of the industrial structure over the next fifteen years of growth and development. In 1965 agriculture and domestic trade accounted for more than 70% of industrial output, but by 1975 they accounted for less than 50%, and by 1980 for less than 40%. These declines were offset by increases in construction, manufacturing, and, most importantly, mining.

Viewed from the expenditure side, there is impressive growth in the share of GDP going to investment. As measured, the share doubled between 1965 and 1970 and tripled between 1965 and 1975, when it reached 20.3%. Although the investment share did not rise appreciably from 1975 to 1980, when it still remained at 20.9%, below the average level of 25% reported for middle-income economies (World Bank 1983, table 5), its opposite number—the savings ratio—was 29.2% in 1980 as compared to 21.0% in 1975. This difference reflects, of course, a surplus on the trade balance. The government could have allowed or forced greater domestic investment. Yet changes in the oil market, and the related trade balance, after 1980 suggest that it may have been only prudent not to increase investment spending in response to the rising oil prices in 1979 and 1980. Note that in 1982 the trade balance had turned substantially negative.

Table 17.3, which evaluates the changing distributions of output and expenditures derived on the basis of constant 1973 prices, allows one to see some sizable effects that oil price increases have had. With sectoral outputs evaluated in constant prices, there is little growth in mining's share of GDP; most of the growth in the mining sector's importance as shown in table 17.2 is due to the higher prices realized for crude oil and petroleum products rather than to greater quantities of production. In table 17.3 a sectoral share increases only when its real growth rate is high relative to the economy-wide average. Thus, in table 17.3 the manufacturing industry shows a pronounced increase in share, because most of its increase in output value was attributable to greater quantity produced and not to a higher price. Construction output, concealed within services, also attains a larger share in table 17.3, where prices are held constant at the 1973 level. Meanwhile the

Table 17.2   **The Percentage Distribution of GDP by Industrial Origin and by Expenditure Category in Indonesia (based on current market prices)** (percentages)

	1960	1965	1970	1975	1980	1982
Industrial origin						
Agriculture	53.9	58.7	47.2	31.7	24.8	26.3
Mining	3.7	2.5	5.2	19.7	25.7	19.6
Manufacturing	8.4	7.6	9.3	8.9	11.6	12.9
Services	34.0	31.2	38.3	39.7	37.8	41.2
Construction	2.0	1.8	3.0	4.7	5.6	5.9
Wholesale & retail trade	14.3	12.4	18.5	16.6	14.1	14.9
Transport & communications	3.7	2.1	2.9	4.1	4.3	4.7
Other services	14.0	14.9	13.9	14.3	13.8	15.7
GDP	100.0	100.0	100.0	100.0	100.0	100.0
Expenditure category						
Private consumption	79.8	88.2	80.6	69.1	60.5	69.9
Government consumption	11.5	5.5	8.8	9.9	10.3	11.5
Gross domestic investment	7.9	6.3	13.6	20.3	20.9	22.6
Net exports	0.8	− 0.4	− 3.0	0.7	8.3	− 3.9
Exports	13.3	5.1	12.8	22.9	30.5	22.4
Imports	− 12.5	− 5.5	− 15.8	− 22.2	− 22.2	− 26.3
GDP	100.0	100.0	100.0	100.0	100.0	100.0

Sources: BPS, *National Income of Indonesia,* various issues; BPS, *Statistical Pocketbook of Indonesia,* various issues.

Table 17.3 **The Percentage Distribution of GDP by Industrial Origin and by Expenditure Category in Indonesia** (percentages)

	Based on Constant 1960 Prices			Based on Constant 1973 Prices			
	1960	1965	1970	1971	1975	1980	1982
Industrial origin							
Agriculture	53.9	52.4	47.4	44.0	36.8	30.7	29.8
Mining	3.7	3.7	5.6	9.9	10.9	9.3	7.6
Manufacturing	8.4	8.3	9.0	8.8	11.1	15.3	15.4
Services	34.0	35.6	38.0	37.3	41.2	44.8	47.2
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Expenditure category							
Private consumption	79.8	82.8	79.5	73.7	74.7	79.4	86.8
Government consumption	11.5	6.7	8.6	9.3	11.0	13.3	14.4
GDI	7.9	8.4	12.2	15.6	21.6	25.9	29.5
Net exports	0.8	2.0	− 0.3	1.3	− 7.3	− 18.6	− 30.7
Exports	13.3	13.0	14.4	17.0	18.5	15.4	11.7
Imports	− 12.5	− 11.0	− 14.7	− 15.7	− 25.7	− 34.0	− 42.4
GDP	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Sources: BPS, *National Income of Indonesia,* various issues; BPS, *Statistical Pocketbook of Indonesia,* various issues.

relative decline of agriculture, because of price effects, is moderated when table 17.3 is compared with table 17.2.

Investment growth also shows up more visibly when the distribution of expenditures is calculated on the basis of constant 1973 prices. The most striking changes occur in the export and import shares, however. The oil price increases of 1973 and later obviously represent a large improvement in the terms of trade of Indonesia. Even though the number of units, or quantity, of oil exports increased relatively little, the value of exports increased greatly. These extra foreign exchange earnings were what allowed the quantity of relatively stably priced imports to be increased.

One might hope and expect that the ability to finance an expanded flow of materials and capital goods from abroad would produce an acceleration of economic growth. Yet, as was seen in the data of table 17.1, there was no acceleration of GDP growth in the late 1970s, and the growth rate of GDI declined. Increases in imports during the period tended to be concentrated on intermediate goods and materials.

17.3   Trade and Its Product Composition

17.3.1   Exports

Indonesia has long been an exporter of agricultural and mineral products. Many different crops and products have been exported and are still exported, but their number cannot gainsay the fact that the bulk of export earnings has always been concentrated on a very short list of primary commodities. At one time—during the 1930s and the 1950s—rubber was Indonesia's most important export. It regularly accounted for a third or more of total export earnings (Sievers 1974, 343 and 356). In view of things to come, it may be of some interest to note that the second most important export of the period was oil.

The oil industry is not a newcomer to Indonesia. Production and export had already begun before 1900. It has been reported that in 1911 Indonesia produced 13 million barrels, equal to about 3.4% of world production (Ooi 1982, 3). More recently, Indonesia has accounted for only about 2%–2.5% of world production. By 1940 Indonesia was producing at a rate of 61.5 million barrels per year, precisely one-tenth the peak production level achieved in 1977. About half of 1940 oil production was exported, accounting for 20.6% of the total value of Indonesian exports (Ooi 1982, 7 and 125; Sievers 1974, 343). The industry was greatly disrupted by World War II and the subsequent struggle for independence, but nevertheless, in 1951 oil production reattained the 1940 level and then continued to increase. During the rest of the 1950s petroleum exports accounted for a rising share of total

exports, averaging about 25% of total value (Ooi 1982, 9; Sievers 1974, 356).

Table 17.4 charts total exports and the values of major export commodities from 1960 to 1983. One can pick up the story of developments in the oil industry and relate them to the table. During the renewed growth period of the late 1960s, oil maintained its already substantial share of total exports. With stable world oil prices, this came about through increases in oil production, which, of course, also contributed to the growth of GDP. Oil price increases in late 1971 and late 1973, along with continued increases in volume of production, raised oil's share in total export value to 50% for 1972 and 1973. Then the major price increase announced at the end of 1973 (amounting to a quadrupling of price in the space of a year) caused the huge 1974 jump in share from 50% to 70%. Since then, petroleum has been overwhelmingly the dominant Indonesian export.

Table 17.4 also gives the record of export earnings from five other commodities: timber, rubber, coffee, palm oil, and tin. As the data show, these commodities, plus oil and gas, account for more than 90% of export earnings in every year since 1974. And even in the early part

Table 17.4   **Principal Indonesian Exports** (values in millions of U.S. $ and percentages of total, by year)

Year	Total Exports	Oil and Gas	Wood	Rubber	Coffee	Palm Oil	Tin and Tin Ore
1960	841	221 (26)	—	377 (45)	14 (2)	21 (2)	51 (6)
1965	708	272 (38)	2 (—)	222 (31)	32 (5)	27 (4)	38 (5)
1966	679	204 (30)	4 (1)	223 (33)	33 (5)	33 (5)	31 (5)
1967	665	239 (36)	6 (1)	169 (25)	44 (7)	24 (4)	49 (7)
1968	731	298 (41)	12 (2)	176 (24)	44 (6)	20 (3)	26 (4)
1969	854	383 (45)	29 (3)	226 (26)	60 (7)	24 (3)	25 (3)
1970	1,108	446 (40)	104 (9)	253 (23)	69 (6)	35 (3)	54 (5)
1971	1,234	478 (39)	161 (13)	222 (18)	55 (4)	45 (4)	52 (4)
1972	1,778	913 (51)	229 (13)	189 (11)	77 (4)	41 (2)	64 (4)
1973	3,211	1,609 (50)	574 (18)	391 (12)	78 (2)	70 (2)	93 (3)
1974	7,426	5,211 (70)	725 (10)	479 (6)	98 (1)	157 (2)	175 (2)
1975	7,102	5,311 (75)	500 (7)	258 (4)	100 (1)	152 (2)	140 (1)
1976	8,546	6,004 (70)	780 (9)	530 (6)	238 (3)	136 (2)	165 (1)
1977	10,853	7,378 (68)	954 (9)	588 (5)	599 (6)	184 (2)	250 (2)
1978	11,643	7,985 (69)	995 (9)	716 (6)	491 (4)	209 (2)	286 (2)
1979	15,590	10,164 (65)	1,797 (12)	937 (6)	614 (4)	204 (1)	404 (3)
1980	23,950	17,781 (74)	1,852 (8)	1,165 (5)	658 (3)	255 (1)	510 (2)
1981	25,164	20,663 (82)	874 (3)	828 (3)	346 (1)	107 (0.4)	461 (2)
1982	22,328	18,399 (82)	548 (2)	602 (3)	342 (2)	96 (0.4)	379 (2)
1983	21,146	16,141 (76)	342 (2)	844 (4)	427 (2)	112 (0.5)	310 (1)

Sources: BPS, *Ekspor,* various issues; BPS, *Indikator Ekonomi,* various issues; BPS, *Statistical Pocketbook of Indonesia,* various issues.

of the period clear back to 1960, this same short list of commodities accounts for 80% or more of export earnings. The combination of an initial high concentration of exports in a few primary products and an improvement in terms of trade for the major initial export commodity would appear to create, owing to numerical considerations alone, an imposing barrier to achievement of a substantial share in exports by the manufacturing industry. Despite some gain in the export share achieved by Indonesian manufacturing, the share remains quite small.

Table 17.5 allows one to examine the distribution of exports by SITC sections for recent years, 1978, 1980, and 1982. If manufacturing is defined to consist of the one-digit SITC sections 5 through 8, then manufactured goods account for 4.2% of the total value of exports in 1978, 3.9% in 1980, and 5.4% in 1982. By this measure, exports of manufactured goods fill about half the gap remaining after the six commodities of table 17.4 have been taken into account. Relative to GDP, it would appear that manufactured exports have risen in importance only slightly since 1978 and are in any case a very small percentage of GDP.

Further examination of specific products makes the summary estimates appear more dubious as indicators of the importance of manufacturing for export. In particular, the major item under section 6 is

Table 17.5   **Indonesian Exports by SITC Sections** (values in millions of U.S. $ and percentages)

SITC Section	1978		1980		1982	
	Value	%	Value	%	Value	%
0. Food and animals	989	8.5	1,291	5.4	905	4.1
1. Beverages and tobacco	55	0.5	61	0.3	42	0.2
2. Crude materials, inedible	1,891	16.2	3,569	14.9	1,581	7.1
3. Mineral fuels, lubricants	7,986	68.6	17,783	74.2	18,408	82.4
4. Animal and vegetable oils	214	1.8	285	1.2	133	0.6
5. Chemicals	55	0.5	84	0.4	61	0.3
6. Manufactured goods	332	2.9	615	2.6	817	3.7
7. Machinery and transportation equip.	71	0.6	109	0.5	180	0.8
8. Misc. manufactured articles	34	0.3	120	0.5	141	0.6
9. Other	16	0.1	33	0.1	59	0.3
Total exports	11,643	100.0	23,950	100.0	22,328	100.0
Export of manufactures (5–8)	492	4.2	928	3.9	1,199	5.4
Addendum						
Exp. of manufactures as % of nonfuels total		13.5		15.0		30.6
Exp. of manufactures as % of GDP		1.0		1.3		1.3

Source: BPS, *Ekspor,* various issues.

"unwrought tin," or tin ingot. In 1980 it accounts for $423 million of the $615 million total value listed in section 6. Its inclusion there rather than in section 2, where "tin ore and concentrates" appears, is at best likely to be somewhat misleading. The main point is that the extent of manufacturing involved in turning tin concentrate into tin ingot (unwrought tin) is not great. It involves only smelting; and the value added in this process is small, probably accounting for no more than 2% of the ingot value (Gillis and Beals 1980, 270–71). Consistency is also a question: Smelting to produce ferronickel adds substantial value to nickel ore. Yet the data of table 17.5 include ferronickel under category 2 as a crude material. On balance, it seems desirable and reasonable not to consider unwrought tin a manufactured good and, accordingly, to adjust the total value of manufactured goods exports substantially downward.

For 1980 and 1982 the adjusted figures are shown in table 17.6. After adjustment, the total value of manufactured exports is reduced to $504.4 million in 1980, or 2.1% of the total value of exports.[3] Between 1980 and 1982 the adjusted value of manufactured exports increased, although total exports did not; thus the share of manufactured goods in exports rose fairly sharply to 3.7%.

Table 17.6 also shows export values for important manufactured goods exports. It lists every three-digit SITC division of manufacturing for which Indonesia was a net exporter in 1980. Under section 7, almost all 1980 exports are accounted for by the subcategory "diodes, transistors, etc." Yet, the majority of the increase in section 7 exports between 1980 and 1982 is accounted for by aircraft.

Many of the goods in table 17.6 may be classified as natural resource based: leather, plywood, other wood manufactures, pearls, cement, essential oils, and quinine. With the exception of plywood, hardly any of these show immediate potential for growth or are labor-intensive so as to offer much promise of accompanying employment expansion. Apart from natural resources, Indonesia's major resource is its large labor force, and thus, comparative advantage would appear to lie in labor-intensive activities. Among its major exports, clothing and textile products appear to be most labor-intensive, although production activity in Indonesia's transistor industry is at present also labor-intensive.

In any event, the list of important manufactured goods exports for 1980 is obviously not long. Further, it could reasonably be shortened to only three really significant product lines. Only plywood, transistors, and clothing exports are valued at more than $50 million. Collectively, these three product lines accounted for half of all manufactured goods exports in 1980. The 1982 data make the importance of these three product lines even more clear: in 1982 their share was almost two-thirds of the total. And, while overall manufactured goods

Table 17.6   **Important Manufactured Goods Exports** (values in millions of U.S. $)

	1980	1982	Change
Total exports, SITC sections 5–8	927.7	1,199.4	271.7
Less unwrought tin	*423.3*	*367.4*	*−55.9*
Adjusted value: total exports of manufactured goods	504.4	832.0	327.6
5. *Chemicals*	*83.8*	*61.5*	*−22.3*
* Fertilizer (urea, etc.)	34.9	10.1	−24.8
Essential oils (patchouli, citronella, etc.)	21.2	17.4	−3.8
* Medicinal products (quinine, etc.)	11.7	11.7	0
* Organic chemicals (alcohol, glycerol, etc.)	9.0	13.3	4.3
6. *Manufactured goods*	*191.4*	*449.8*	*258.4*
Veneers, plywood, sawn timber	68.5	316.1	247.6
* Woven fabrics	27.7	24.3	3.4
* Cement and products	25.5	8.5	−17.0
Floor coverings (rattan mats)	7.7	7.1	−0.6
Leather	6.5	7.4	0.9
Other wood manufactures	5.0	6.7	1.7
Pearls, worked and unworked	3.4	4.7	1.4
7. *Machinery and transport equipment*	*109.0*	*179.6*	*70.6*
* Other electrical machinery and apparatus	*94.0*	*116.8*	*22.8*
Diodes, transistors, etc.	90.6	114.3	23.7
Dry batteries	2.4	0.6	−1.8
* Aircraft	2.1	43.3	41.2
8. *Miscellaneous manufactured articles*	*120.2*	*141.1*	*20.9*
Clothing	98.3	116.4	18.1
* Music instruments and accessories	*7.3*	*10.8*	*3.5*
Tapes in cassettes	5.9	7.6	1.7

Source: BPS, *Ekspor* (1980 and 1982).
'Indicates Indonesia is a *net importer* of the product category.

exports increased by $328 million between 1980 and 1982, the three major items increased by $290 million, accounting for 88% of the total increase.

A further look shows that the values of transistor exports and clothing exports grew moderately between 1980 and 1982, while the value of plywood exports soared. Increased export earnings from plywood account for three-quarters of the entire increase over 1980–82. A still closer look takes price, or unit value, into account. Doing so makes performance in production of clothing for export look stronger. In the case of clothing, value of exports increased by 18%, but the weight of shipments was up by 82% while nominal unit values fell by 35%. In the case of transistors, etc., unit value increased, but the volume (weight) of shipments decreased. Despite a 22% drop in volume, the total value of shipments rose 26% between 1980 and 1982.

The growth in plywood exports looks less impressive on further examination. Calculated on the basis of unit values of exports, plywood prices rose about one-third between 1980 and 1982, while log prices were unchanged. This increase in plywood price suggests a somewhat less rapid growth of output and employment than might be inferred by looking at export values alone.

Further, one should recognize the costs of achieving the increases in exports of processed wood products. Government policy limiting log exports and tying them to plywood exports has resulted in a great deal of investment activity in plywood plants and sawmills. It has also, for the present, markedly reduced earnings from log exports. To a considerable extent, the growth of plywood exports represents a displacement of timber exports. This may, in a sense, always be true; only value added is true production. But the abrupt actions by the Indonesian government have gone beyond that simple truth by reducing log exports even when they cannot yet be processed domestically. In view of the recession it is virtually impossible to sort out the magnitudes of the various effects. Nonetheless, one should notice that the $248 million increase in manufactured plywood exports was accompanied by a decline of $1,304 million in earnings from timber exports (cf. table 17.4).

Finally, a word about one other new export: aircraft. The $43 million of export receipts from aircraft in 1982 represent sales by P. T. Nurtanio. This company, under the directorship and aegis of the Minister of Research and Technology, has been hailed as a source of pride and as evidence that high technology is the way to development. Although Nurtanio has shown it can produce airframes, it is extremely doubtful that it can sell them at a price and rate that will allow the company to cover its very substantial capital costs. So far, its sales have largely been to other public enterprises that have been given little or no choice about what to buy.

17.3.2 Imports

Indonesia's imports have grown rapidly as its export earnings have increased. The division of import demand among consumption goods, materials, and capital goods shifted at the beginning of the 1970s away from consumer goods and toward capital and intermediate goods (see table 17.7). The pattern has been relatively stable since then, although a large increase in government rice purchases in 1973 and subsequent large imports of fertilizer caused noticeable fluctuation in the percentage distribution. The capital goods share was about 5 percentage points lower in 1973 and 1974 than in 1972 and 1976. During the late 1970s the share of capital goods imports again declined a bit.

The price of petroleum products was kept low during the 1970s even as the number of motor vehicles increased rapidly. As a result, domestic

Table 17.7   **Indonesian Imports by Economic Groups** (values in millions of U.S. $ and percentages of total, by year)

Year	Total Imports	Consumption Goods	Raw Material and Auxiliary Goods		Capital Goods
			Petroleum	Other	
1960	578	—	6 (1)	—	—
1965	695	231 (33)	13 (2)	230 (33)	221 (32)
1966	527	225 (43)	7 (1)	173 (33)	122 (23)
1967	649	232 (36)	12 (2)	226 (35)	179 (28)
1968	716	266 (37)	6 (1)	246 (36)	190 (27)
1969	781	221 (28)	11 (1)	310 (40)	239 (31)
1970	1,002	251 (25)	15 (1)	362 (36)	374 (37)
1971	1,103	210 (19)	20 (2)	408 (37)	465 (42)
1972	1,562	252 (16)	31 (2)	567 (36)	712 (46)
1973	2,729	649 (24)	44 (2)	929 (34)	1,107 (41)
1974	3,842	707 (18)	183 (5)	1,399 (36)	1,553 (40)
1975	4,770	678 (14)	254 (5)	1,707 (36)	2,131 (45)
1976	5,673	916 (16)	438 (8)	1,586 (28)	2,733 (43)
1977	6,230	1,105 (18)	732 (12)	1,720 (28)	2,673 (43)
1978	6,690	1,197 (18)	579 (9)	2,085 (31)	2,829 (42)
1979	7,202	1,182 (16)	793 (11)	2,535 (35)	2,692 (37)
1980	10,834	1,543 (14)	1,744 (16)	3,064 (28)	4,483 (41)
1981	13,272	1,399 (11)	1,722 (13)	3,979 (30)	6,173 (47)
1982	16,859	1,260 (7)	3,545 (21)	3,916 (23)	8,138 (48)
1983	16,352	1,295 (8)	4,144 (25)	3,875 (24)	7,038 (43)

Sources: BPS, *Indikator Ekonomi,* various issues; BPS, *Statistical Pocketbook of Indonesia,* various issues.

demand for gasoline and other refined products grew rapidly, so that petroleum began to take an increasing share of imports. In response to this, the government has raised domestic prices of petroleum products substantially in recent years.

The general pattern of table 17.7 is confirmed by the distribution of imports across SITC sections, as shown in table 17.8. Imports are concentrated in section 7 (machinery and transport equipment) and section 6 (manufactured goods), with the share of fuel imports rising very noticeably. Between 1978 and 1980 there was little change in the distribution except for shared reductions in sections 0 (food) and 7 (machinery) to offset the increases that raised fuel imports from a 9% share to a 16% share. Even as fuel imports continued to gain from 1980 to 1982, machinery imports also gained with most of the matching decline in shares being borne by food.

In view of government policy that encouraged capital-intensive investment in import-competing sectors, it is not surprising that capital goods and intermediate goods to be processed have gained and held a large share of imports.

Table 17.8   **Indonesian Imports by SITC Sections** (values in millions of U.S. $ and percentages)

SITC Section	1978 Value	1978 %	1980 Value	1980 %	1982 Value	1982 %
0. Food and animals	1,042	15.6	1,285	11.9	1,074	6.4
1. Beverages and tobacco	27	0.4	42	0.4	51	0.3
2. Crude materials, inedible	295	4.4	491	4.5	609	3.6
3. Mineral fuels, lubricants	582	8.7	1,754	16.2	3,550	21.1
4. Animal and vegetable oils	65	1.0	9	0.1	13	0.1
5. Chemicals	756	11.3	1,255	11.6	1,804	10.7
6. Manufactured goods	1,263	18.9	2,053	18.9	2,732	16.2
7. Machinery and transportation equip.	2,434	36.4	3,634	33.5	6,260	37.1
8. Misc. manufactured articles	198	3.0	285	2.6	376	2.2
9. Other	28	0.4	27	0.2	390	2.3
Total imports	6,690	100.0	10,834	100.0	16,859	100.0
Import of manufactures (5–8)	4,651	69.5	7,227	66.7	11,172	66.3
Addendum						
Imp. of manufactures as % of nonfuels total		76.1		79.6		83.9
Imp. of manufactures as % of GDP		9.0		10.0		12.4

Source: BPS, *Impor,* various issues.

17.4   The Distribution of Trade by Destination and Origin

17.4.1   Exports

Table 17.9 summarizes the Indonesian export trade pattern from 1965 through 1982. Overall, Japan emerges as the largest customer, accounting for a slowly growing share equal to nearly half the total since 1970. Meanwhile, Europe appears to have been a steady loser of relative share.

A more useful picture is obtained, however, when petroleum is separated from other exports. The vast majority (more than 80%) of Japan's purchases from Indonesia are oil or, recently, liquified natural gas. The same holds for the United States. Europe, on the other hand, buys virtually no oil from Indonesia.

The market for nonpetroleum exports is more dispersed, and the shares are more constant. Japan's share is largest at 25%–30%. The U.S. share is 10%–15%, while the EC (European Community) accounts for 20%. The Association of South East Asian Nations (ASEAN) also

Table 17.9   **Indonesian Exports and Distribution by Area or Country of Destination** (values in millions of U.S. $ and percentages)

Area or Country of Destination	1965		1970		1975		1980		1982	
	Value	%	Value	%	Value	%	Value	%	Value	%
Total exports	708	100.0	1,108	100.0	7,102	100.0	23,950	100.0	22,328	100.0
Japan	123	17.4	452	40.8	3,132	44.1	11,833	49.4	11,193	50.1
USA	153	21.6	144	13.0	1,866	26.3	4,798	20.0	3,546	15.9
EC	168	23.7	156	14.1	405	5.7	1,388	5.8	896	4.0
ASEAN	27	3.8	234	21.1	732	10.3	3,265	13.6	3,499	15.7
Other	237	33.5	122	11.0	968	13.6	2,666	11.1	3,194	14.3
Petroleum exports[a]	272	100.0	446	100.0	5,311	100.0	17,781	100.0	18,399	100.0
Japan	71	26.1	314	70.4	2,600	49.0	10,074	56.7	10,287	55.9
USA	42	15.4	61	13.7	1,670	31.4	4,067	22.9	2,961	16.1
EC	10	3.7	1	0.2	41	0.8	42	0.2	107	0.6
ASEAN	24	8.9	31	7.0	385	7.2	2,057	11.6	2,578	14.0
Other	125	46.0	39	8.7	615	11.6	1,541	8.7	2,466	13.4
Nonpetroleum exports	436	100.0	662	100.0	1,792	100.0	6,169	100.0	3,929	100.0
Japan	52	11.9	138	20.8	532	29.7	1,759	28.5	906	23.1
USA	111	25.5	83	12.5	196	10.9	731	11.8	585	14.9
EC	158	36.2	155	23.4	331	18.5	1,346	21.8	789	20.1
ASEAN	3	0.7	203	30.7	283	15.8	1,208	19.6	921	23.4
Other	112	25.7	83	12.5	450	25.1	1,125	18.2	728	18.5

Sources: BPS, *Ekspor,* various issues; BPS, *Indikator Ekonomi,* various issues; BPS, *Statistical Pocketbook of Indonesia,* various issues.

[a]Includes liquefied natural gas.

appears to have about a 20% share, but this may be problematic. About 85% of the ASEAN total goes to Singapore. It is often claimed that much of this flow is simply reexported from Singapore to other markets. The residual Other category includes quite a variety of nations and probably represents no clear or persistent trade pattern.

Despite Japan's overall importance as a buyer of Indonesian goods, Japan is not generally a prominent destination for the traditional agricultural exports of Indonesia. Only small percentages of rubber, coffee, palm oil, tea, tobacco, pepper, and teak exports go to Japan. A major exception has been timber: Japan has regularly accounted for half or more of revenues from log sales. In 1980 Japan purchased a billion dollars worth of logs from Indonesia, amounting to 55% of export earnings from timber. Sharp curtailment of log exports, mentioned earlier, had much to do with Japan's 1982 log purchases being only $277 million, which still represented almost half of total log exports.

Increases in plywood exports have been absorbed in great measure by the so-called Gang of Four—Hong Kong, Singapore, South Korea, and Taiwan. Japan had not by 1982 made significant purchases of plywood, even though its timber supply from Indonesia had been reduced to a quarter of its earlier level.

Japan does buy Indonesian minerals: about 20% of tin exports and three-quarters of copper output, all of which is for export. Another substantial and new export from Indonesia to Japan is shrimp: recently exports of shrimp have amounted to about $180 million annually, of which about 85% goes to Japan.

Japan is a major investor in the Indonesian textile industry, the output of which is sold almost exclusively on the domestic market. Of the approximately 2% of fabric output that was exported in 1980, Japan took about one-sixth. Almost no clothing was shipped to Japan. A sizable fraction of fabric exports go officially to Singapore, and possibly elsewhere from there; the Middle East is also an important destination. Indonesia's markets for clothing are the EC and the United States. In 1981 they each accounted for about 40% of total clothing exports. Much of the remainder went to or through Singapore.

Diodes, transistors, and other electrical apparatus are shipped almost exclusively to Singapore, presumably to be used as components in various electronic manufactures. Plywood output is expanding rapidly and finding markets in Asia, the United States, and Europe.

17.4.2   Imports

Table 17.10 shows the distribution of imports by area of origin. The petroleum import pattern, not surprisingly, differs sharply from the petroleum export pattern. Indonesia sells oil to Japan, while importing refined products and lower-quality crude to meet domestic needs. These

Table 17.10 **Indonesian Imports and Distribution by Area or Country of Origin** (values in millions of U.S. $ and percentages)

Area or Country of Origin	1965 Value	1965 %	1970 Value	1970 %	1975 Value	1975 %	1980 Value	1980 %	1982 Value	1982 %
Total imports	695	100.0	1,102	100.0	4,770	100.0	10,834	100.0	16,859	100.0
Japan	159	22.9	295	29.4	1,477	31.0	3,413	31.5	4,279	25.4
USA	66	9.5	179	17.9	670	14.0	1,409	13.0	2,417	14.3
EC	126	18.1	219	21.9	885	18.6	1,445	13.3	2,653	15.7
ASEAN	52	7.5	76	7.6	412	8.6	1,350	12.5	3,302	19.6
Other	292	42.0	233	23.2	1,326	27.8	3,217	29.7	4,208	25.0
Petroleum imports	12.6	100.0	15	100.0	254	100.0	1,744	100.0	3,545	100.0
Japan	0.1	0.8	5	33.3	5	2.0	10	0.6	30	0.8
USA	5.4	42.9	2	13.3	10	3.9	29	1.7	28	0.8
EC	3.7	29.4	1	6.7	2	0.8	4	0.2	11	0.3
ASEAN	—	—	3	20.0	154	60.6	709	40.7	2,290	64.6
Other	3.4	27.0	4	26.7	83	32.7	992	56.9	1,186	33.5
Nonpetroleum imports	682	100.0	987	100.0	4,516	100.0	9,090	100.0	13,314	100.0
Japan	159	23.3	290	29.4	1,472	32.6	3,403	37.4	4,249	31.9
USA	60	8.8	177	17.9	660	14.6	1,380	15.2	2,389	17.9
EC	122	17.9	218	22.1	883	19.6	1,441	15.9	2,642	19.8
ASEAN	52	7.6	73	7.4	258	5.7	641	7.1	1,012	7.6
Other	289	42.4	229	23.2	1,243	27.5	2,225	24.5	3,022	22.7

Sources: BPS, *Impor,* various issues; BPS, *Indikator Ekonomi,* various issues; BPS, *Statistical Pocketbook of Indonesia,* various issues.

imports come largely from Singapore refineries and from the Middle East.

Examination of the origin of particular imports shows Japan to be a major supplier of capital goods: iron and steel pipe, industrial and commerical machinery, and motor vehicles. The United States and the EC have smaller shares in imports of these products. Except for the case of motor vehicles, where Japan's share has grown substantially, the share distribution for capital goods imports seems fairly stable.

A comparison of nonpetroleum imports and exports shows no geographic area to be dominant in trade. There is a rough balance of exports and imports in trade between Indonesia and the rest of ASEAN. For all other areas, Indonesia tends to have a substantial trade deficit when petroleum is ignored.

17.5   Manufacturing Growth and Industrial Policy

If manufacturing output has grown so rapidly in Indonesia, as indeed it has, why do exports of manufactured goods remain so limited? As has been seen, after adjustment exports of manufactured goods amounted to only about 2.1% of total exports in 1980 and 3.7% in 1982. Relative to GDP, the total value of manufactured goods exports was only 0.7% in 1980 and 0.9% in 1982.[4] The answer lies in the structure and composition of manufacturing output. Circumstances and government policies have steered investment and industrial growth away from areas of Indonesian comparative advantage and into import-competing sectors.

17.5.1   Manufacturing Output and Employment

Overall Estimates

There are no really good, or widely accepted, estimates of manufacturing employment in Indonesia; there are many conflicts and inconsistencies in the existing data. Yet there is general agreement that employment in manufacturing has grown quite slowly in comparison to growth in manufacturing output (value added) or even in comparison to growth in real GDP. Estimates reported by the World Bank (1982, 95) put employment in manufacturing at 4,540,000 in 1980 compared with 3,204,000 in 1971. These figures yield an average annual growth rate of 3.95%, in comparison to 2.65% for total employment and 13.80% for value added in manufacturing. BPS revisions[5] have since lowered the 1980 manufacturing employment estimate to 4,361,000 and imply a reduced average employment growth rate of only 3.5% for 1971–80. At the same time, the estimate of 1980 value added in manufacturing

was increased, with the result of adding 1 percentage point to the 1971–80 average growth rate of output originating in manufacturing.

These figures represent poor performance for employment growth, especially so given the government's often-stated goal of increasing employment through promotion of labor-intensive industry. For 1971–80 the apparent elasticity of manufacturing employment with respect to manufacturing output was only about one-quarter. Fairly clearly, manufacturing growth has been rather capital-intensive.

Sectoral Estimates

There is a vast range of sizes among Indonesian manufacturing enterprises, and there are many, many tiny firms with fewer than five workers. These cottage enterprises account for about 60% of those employed in the manufacturing sector, but a much smaller fraction of total manufacturing output. The larger firms are categorized either as "small" (five to nineteen employees) or "large or medium" (twenty employees or more). Survey data are available annually for the latter category and periodically for "small-scale enterprises."

In 1979 the large and medium firms accounted for 870,000 workers with average measured productivity (value added per worker) of Rp 1,908,500, while the 827,000 employed in small-scale establishments had average productivity of only Rp 226,500 (11.9% of productivity in the large and medium firms). These huge differences make it imperative that not only product sector but establishment size be taken into account in analyses of manufacturing. Accordingly, table 17.11 shows employment and productivity by manufacturing sector and establishment size. Among the large and medium establishments, textiles, wood, paper, and the "other manufactures" sector appear to be relatively labor-intensive. Yet in each case, the small-scale firms appear to be much more labor-intensive; for no sector is labor productivity in the small establishments more than one-third that in the larger firms. The lowest average productivity is found among the small firms in nonmetallic mineral processing, while the large, capital-intensive (cement and sheet glass) firms in that sector have very high value added per worker. The food, beverage, and tobacco sector also is bifurcated, with the larger firms tending to be much more capital-intensive.

There is a remarkable difference between the two groups of establishments in the way employment responds to increases in output. Table 17.12 shows that, overall, the employment elasticity for small-scale establishments was unity in the late 1970s, while for the large and medium establishments it was only about 0.4. The textile industry shows an especially small employment elasticity of only 0.10 for the larger firms. According to Hill (1980), changes in clothing preferences—away from traditional cloth toward Western-style garments—and the

Table 17.11   Employment and Value Added per Worker by Sector and Enterprise Size in the Manufacturing Industry, 1979

Sector	Large and Medium Establishments		Small-Scale Establishments	
	Employment (thousands)	Value Added per Worker (Rp 1000s/ year)	Employment (thousands)	Value Added per Worker (Rp 1000s/ year)
Food, bev., tobacco	299.4	2,289.4	403.5	204.4
Textiles and leather	227.8	909.2	91.4	302.9
Wood and wood products	51.2	1,224.2	110.9	263.7
Paper and printing	29.9	1,694.4	11.9	390.5
Chemicals and rubber	103.8	2,547.9	17.4	504.3
Nonmetallic minerals	43.0	2,675.3	133.7	138.7
Basic iron and steel	8.2	7,171.7	—	—
Metal products	105.7	2,116.5	49.5	285.7
Other manufactures	6.0	824.8	8.7	204.8
Total	870.0	1,908.5	827.0	226.5

Source: BPS, *Statistical Pocketbook of Indonesia* (1982), 153–64.

increased demand for synthetic cloth, difficult to produce on hand-looms, combined to cause consolidation and growth of output and employment in large firms in the early 1970s. But by the late 1970s incentives for greater capital intensity—in the form of negative real interest rates for the textile industry, fiscal incentives to foreign investors in textiles, low tariffs on textile machinery, and a ban on import of (usually less mechanized) second-hand machinery—produced a situation in which weavers could increase textile production without adding appreciably to employment. For the late 1970s the evidence of table 17.12 shows that low employment elasticity is not limited to the large textile firms; small-scale establishments exhibit a higher, but still low, elasticity of only 0.42.

In the food, beverage, and tobacco industry there is a marked difference between small and large firms. The large firms—cigarette, sugar, beer, and vegetable oil producers and processors, among others—tend to be capital-intensive, high-capacity firms with a low employment response to output growth. At the same time, in the small-scale establishments the employment elasticity is extraordinarily high, nearly 1.3. This might seem to indicate declining average product of labor for small-scale firms in this sector. But the high employment elasticity is almost certainly due to a changing product composition within the sector, with low-productivity activities proliferating, expanding much faster than other activities in the sector.

Table 17.12   **Sectoral Employment Growth in Relation to Output Growth in the Manufacturing Industry**

Sector	Large and Medium Establishments, 1975–80			Small-Scale Establishments, 1974/75–79		
	Average Annual Growth Rate		Employment Elasticity	Average Annual Growth Rate		Employment Elasticity
	Employment	Value Added		Employment	Value Added	
Food, bev., tobacco	2.4%	8.3%	0.29	21.7%	16.9%	1.28
Textiles and leather	0.8	7.7	0.10	10.5	24.8	0.42
Wood and wood products	11.6	30.2	0.38	21.6	23.5	0.92
Paper and printing	4.4	8.4	0.52	8.0	13.5	0.59
Chemicals and rubber	13.1	16.1	0.81	7.0	12.5	0.56
Nonmetallic minerals	7.1	17.7	0.40	23.3	23.1	1.01
Basic iron and steel	25.4	91.6	0.28	—	—	—
Machinery and equipment	14.8	21.6	0.69	17.5	20.0	0.88
Other manufactures	5.1	29.5	0.38	9.6	12.0	0.80
Total	5.1%	13.4%	0.38	19.2%	19.3%	0.99

Source: See Appendix, tables 17.A.3 and 17.A.4.

Important Manufactured Products

Even within sectors there is tremendous diversity of activities and enterprises. Productivity and inferred labor intensity range widely as do growth rates. In Appendix table 17.A.5 value added is shown in relation to employment for a sampling of major products and subsectors of large and medium manufacturing industries. Within sector 31 (food, beverage, and tobacco), for example, value added per worker varies from Rp 19.25 million per year for white cigarettes to Rp 2.72 million and Rp 2.21 million for the products of greatest employment significance (*kretek* cigarettes and sugar refining, respectively) to as little as Rp 0.22 million for tea processing. The chemicals sector includes the highly capital-intensive fertilizer industry along with relatively labor-intensive plastic ware, rubber product, and match industries.

Table 17.13 shows production levels and growth rates for selected items of industrial production. Again, there is a wide range of experience. Among the fastest-growing products are cement and fertilizer, both quite capital-intensive and both actively supported by substantial government investments through state-owned enterprises. Although

Table 17.13   Production of Selected Industrial Goods in Indonesia

Product	Unit	1970/71	1975/76	1980/81	Average Growth Rate, 1975/76–1980/81
Cigarettes	billion pieces	34	57	84	8.1%
Vegetable oil	1,000 tons	284	299	889	24.4
Textile yarn	1,000 bales	217	445	1,184	21.6
Fabrics	million meters	598	1,017	2,027	14.8
Paper	1,000 tons	22	47	232	37.7
Urea	1,000 tons	103	387	1,985	38.6
Car tires	1,000 pieces	401	1,796	3,320	13.1
Bicycle tires	1,000 pieces	2,164	7,129	7,596	1.3
Soap	1,000 tons	132	165	213	5.2
Matches	million boxes	322	780	586	−5.6
Toothpaste	million tubes	25	108	123	2.6
Cement	1,000 tons	562	1,241	5,852	36.4
Glass bottles	1,000 tons	11	32	68[a]	20.7
Reinforcing iron	1,000 tons	10	202	640	25.9
Steel pipes	1,000 tons	3	97	154	9.7
Sewing machines	1,000 pieces	14	520	525	0.2
Radio sets	1,000 pieces	393	1,101	1,111	0.2
TV sets	1,000 pieces	5	166	730	34.5
Automobiles	1,000 units	3	79	173	17.0
Motorcycles	1,000 units	31	300	410	6.4

Source: Supplement to the President's Report to Parliament, August 1982.
[a]1979/80.

small shares have been exported, these products both are aimed at the domestic market and have substituted for imports. Even though total consumption of cement increased substantially during the 1970s, the share of domestic production rose from about 45% in 1970 (and less in 1975) to virtual self-sufficiency at the end of the decade.

Other industrial products—including glass bottles, automobile tires, dry cell batteries, automobiles, and television sets—had rapid growth under the protection of bans against imports. The production gains are impressive in the short run but not likely to continue since few if any can compete in export markets. It is notable that smaller and "older" goods such as radios, motorcycles, and matches have already experienced a marked slowdown in growth despite imports being banned.

Paper, cooking oils, textile yarns, and fabrics also have grown behind high nominal tariffs and higher effective rates of protection. With few exceptions—such as textiles and clothing—the most protected items tend to be rather capital-intensive. Given Indonesia's abundant labor and low wages, her exportable goods are predominantly labor-intensive. This is confirmed in studies by Pitt (1981, 20) and by World Bank staff, who also show that the most protected areas are predominantly the relatively capital-intensive, import-competing sectors.

17.5.2   The Policy Determinants of Manufacturing Growth

As the growth patterns discussed above strongly suggest, Indonesia has pursued industrialization during most of the 1970s through import substitution. A consequence has been that despite substantial investment in manufacturing and rapid overall growth of manufacturing output, there has been little increase in export of manufactured goods. The industrial structure is biased toward capital intensity and away from comparative advantage.

The principal policy elements behind this pattern of industrial growth may be enumerated as follows:

First, following an early period of liberalization, the New Order government became more protectionist during the 1970s. This was accomplished most evidently by the application of bans and quotas but also by tariff adjustments and extensive use of restrictive licensing. Greatest protection tended to be given to capital-intensive processing of final goods for the domestic market. Tariffs on intermediate materials and on capital goods were kept low, and other restrictions were few.

Second, development of export markets for manufactured goods was hindered by the maintenance of a fixed exchange rate with the dollar for most of the decade (August 1971 to November 1978). Since Indonesian inflation was more rapid than that of its trading partners and competitors, the real effective exchange rate appreciated. The resulting higher costs and wages made it difficult for Indonesian producers to

compete for export markets and, at the same time, encouraged capital intensity by making imported capital goods cheap.

The devaluation of 1978, which raised the rupiah price of a dollar by about 50% (from Rp 415 to Rp 625), was undertaken with the clear goal of improving the international competitiveness of Indonesian labor. By most accounts, even though it helped bring on 25% inflation in 1979, the action had a positive effect on manufactured exports. There was a further 28% devaluation in March of 1983.

A third factor in capital-intensive industrial growth related to controls on interest rates for domestic borrowing and the granting of generous fiscal incentives to approved investment. These incentives included investment tax credits, accelerated depreciation, and exemption from existing duties on capital goods imports. These subsidies to capital, while facilitating manufacturing growth, had predictable effects on capital intensity as well as on total investment.

Fourth, worth separate mention, is Indonesia's energy pricing policy. During the 1970s and indeed until 1982, domestic prices of petroleum fuel were kept below their opportunity cost by implicit and explicit subsidy. This obviously also encouraged use of machinery and equipment.

A final factor is the direct role of government as investor in public enterprises engaged in capital-intensive production of fertilizer, cement, steel, aluminum, petrochemicals, and aircraft.

17.6   Prospects

Indonesia's economy almost certainly will not grow in the 1980s at the pace set during 1966–80. Her prospects for the near future depend on worldwide economic recovery and, in particular, on the state of the world oil market. As officials have apparently realized, Indonesia's longer-run prosperity will require strengthening of the non-oil sectors of the industrial economy to reduce reliance on oil both for government revenues and for foreign exchange and to deal better with the employment problem. This will require restructuring of the industrial sector to increase production of manufactured goods for export.

To achieve such a shift will, of course, require access to world markets. This is not seen to be a major problem if the world economy recovers and trade continues to grow. The very smallness of Indonesia's present trade and the paucity of manufactured goods work in her favor. Growth can be very rapid relative to the existing base level without making much difference in the total volume of world trade.

The problem lies within Indonesia. For reasons enumerated in the preceding section and the additional factor that the "easy" import substitution phase seems to be near an end, prospects for a resumption

of industrial growth fueled by rapid expansion of manufactured exports are not good. A change in strategy is needed, but it is by no means clear that it will come.

There are reasons for optimism, however. During 1983 the government put in place or took huge steps toward several major reforms of economic policy. These include a 28% devaluation in apparent recognition of the importance of the foreign exchange rate to successful promotion of non-oil exports; rephasing or cancellation of a number of government-sponsored, highly capital-intensive industrial projects; and a marked freeing of the banking system by elimination of sector-specific credit and interest rate controls so as to achieve better allocation of capital and reduce subsidy inducements to capital intensity. Also, a sweeping tax reform package was presented to Parliament last fall, and some tax changes have already been implemented. The purpose is to reduce reliance on oil company taxes but also to reduce further the bias toward capital intensity by ending tax holidays and investment allowances.

Nonetheless, so far, questions of tariff and nontariff barriers to trade and their relation to the structure of industry have not been addressed by decisive policy action. If nationalism and protectionism prevail in trade policy, prospects for continued industrial growth and expanded trade in manufactured goods are poor, despite the reforms already achieved in the other aspects of economic policy. Indonesia is an economy considerably less industrialized than its neighbors. Yet it has the potential for rapid expansion of manufactured exports in the future, even if it is not likely to match the dramatic growth of exports achieved by the East Asian newly industrialized countries.

Appendix

Table 17.A.1   **Income, Production, and Merchandise Trade in 1981 in East and Southeast Asia and the United States**

	GNP per Capita (U.S. $)	GDP (U.S. $ billions)	Merchandise Trade (U.S. $ billions and % of GDP)		Manuf. Output as % of GDP	Manuf. Goods as % of Total Exports
			Exports	Imports		
Indonesia	530	85.0	22.3 (26)	13.3 (16)	12	2
Thailand	770	36.8	6.9 (19)	10.0 (27)	20	29
Philippines	790	38.9	5.7 (15)	7.9 (20)	25	37
Rep. of Korea	1,700	65.8	21.3 (32)	26.1 (40)	28	40
Malaysia	1,840	24.8	12.9 (52)	13.1 (53)	18	19
Hong Kong	5,100	27.2	21.7 (80)	24.7 (91)	27[a]	93
Singapore	5,240	12.9	21.0 (163)	27.6 (214)	30	54
Japan	10,080	1,129.5	152.0 (13)	143.3 (13)	30	96
United States	12,820	2,893.3	233.7 (8)	273.4 (9)	23	68

Source: World Bank, *World Development Report 1983* (New York: Oxford University Press), tables 1, 3, and 9.

[a] 1980 figure.

Table 17.A.2   **Average Annual Growth Rates in East and Southeast Asia and the
United States, 1970–81** (percentages)

	GDP	Manufacturing	Exports	Imports
Indonesia	7.8	13.9	6.5	11.9
Thailand	7.2	10.3	11.8	4.9
Philippines	6.2	6.9	7.7	2.6
Rep. of Korea	9.1	15.6	22.0	10.9
Malaysia	7.8	11.1	6.8	7.1
Hong Kong	9.9	10.0	9.7	12.1
Singapore	8.5	9.7	12.0	9.9
Japan	4.5	6.5	9.0	3.9
United States	2.9	2.9	6.5	4.4

Source: World Bank, *World Development Report 1983* (New York: Oxford University
Press), tables 2 and 9.

Table 17.A.3   **Growth in Value Added and Employment, Large and Medium
Manufacturing Establishments**

Sector	1975	1980	1980R[a]	Annual Growth Rate (%)
Value added (Rp billions)				
31	270.9	939.1	404.5	8.3
32	88.8	298.8	128.7	7.7
33	19.0	166.2	71.2	30.2
34	18.0	62.4	26.9	8.4
35	78.3	384.2	165.5	16.1
36	26.8	140.5	60.5	17.7
37	1.2	71.9	31.0	91.6
38	66.0	407.3	175.4	21.6
39	1.1	9.3	4.0	29.5
Total	570.0	2,479.8	1,068.1	13.4
Employment (thousands)				
31	285.0	321.3		2.4
32	244.8	254.6		0.8
33	38.5	66.6		11.6
34	26.0	32.2		4.4
35	63.2	116.9		13.1
36	33.5	47.3		7.1
37	2.9	9.0		25.4
38	61.5	122.8		14.8
39	4.6	5.9		5.1
Total	760.0	976.6		5.1

Source: BPS, *Statistical Pocketbook of Indonesia,* various issues.

[a]Nominal value added for 1980 has been adjusted to a real basis at 1975 prices by means
of the wholesale price index. Since WPI = 202 for 1975 and WPI = 469 for 1980, the
1980R figures are obtained by multiplying each 1980 nominal figure by 0.4307 (= 202/
469).

Table 17.A.4   Growth in Value Added and Employment, Small-Scale Manufacturing Establishments

Sector	1974/75	1979	1979R[a]	Annual Growth Rate (%)
Value added (Rp billions)				
31	25.6	82.5	54.1	16.9
32	6.3	27.7	18.2	24.8
33	7.0	29.3	19.2	23.5
34	1.7	4.7	3.1	13.5
35	3.3	8.8	5.8	12.5
36	4.5	18.5	12.1	23.1
37	—	—	—	—
38	3.9	14.2	9.3	20.0
39	0.7	1.8	1.2	12.0
Total	53.0	187.3	122.9	19.3
Employment (thousands)				
31	151.2	403.5		21.7
32	55.4	91.4		10.5
33	41.7	110.9		21.6
34	8.1	11.9		8.0
35	12.4	17.4		7.0
36	46.9	133.7		23.3
37	—	—		—
38	22.1	49.5		17.5
39	5.5	8.7		9.6
Total	343.2	827.0		19.2

Source: BPS, Statistical Pocketbook of Indonesia (1982), 160–64.

[a]Nominal value added for 1979 has been adjusted to a real basis at 1974 prices by means of the wholesale price index. Since WPI = 189 for 1974 and WPI = 288 for 1979, the 1979R figures are obtained by multiplying each nominal figure by 0.65625 (= 189/288).

Table 17.A.5   Output, Employment, and Productivity for Important Manufacturing Industries within Sectors, 1979

	Gross Output (Rp billions)	Value Added (Rp billions)	Employment (thousands)	Value Added per Employee (Rp millions/yr.)
31. *Food, beverage, tobacco*				
Kretek (clove) cigarettes	632.4	284.8	104.6	2.72
White cigarettes	159.3	117.4	6.1	19.25
Drying tobacco	22.8	4.8	40.7	0.12
Sugar factories	245.2	149.2	67.6	2.21
Beer	38.1	26.6	1.9	13.86
Bakery products	13.5	3.8	11.1	0.34
Tea processing	7.2	0.8	3.5	0.22
Rice milling	16.8	2.0	4.1	0.49
Mfg. of coconut oil	63.0	7.1	5.4	1.31
Mfg. of other veg. oil	47.8	10.7	2.8	3.82

Table 17.A.5   (continued)

	Gross Output (Rp billions)	Value Added (Rp billions)	Employment (thousands)	Value Added per Employee (Rp millions/yr.)
32. *Textiles and leather*				
Weaving	307.8	94.9	115.0	0.83
Yarn	179.7	56.7	39.0	1.45
Batiks	211.0	7.1	15.4	0.46
Knitting	19.5	5.7	11.8	0.48
Gunny & plastic bags	17.5	6.7	10.3	0.65
Wearing apparel	9.9	4.6	5.8	0.79
Other wearing apparel	1.9	1.1	2.6	0.55
Footwear	22.3	12.8	6.0	2.13
Made-up textile goods	10.9	4.9	7.1	0.69
33. *Wood and wood products*				
Sawmills	112.5	39.5	25.5	1.55
Plywood mfg.	61.8	17.7	14.8	1.20
Furniture	5.8	2.6	5.1	0.50
Rattan products	6.9	1.7	3.3	0.52
34. *Paper and printing*				
Paper mfg.	46.4	13.1	6.7	1.97
Containers, boxes	19.7	9.9	2.3	4.30
Printing, publ.	51.5	23.2	18.1	1.28
35. *Chemicals and rubber*				
Fertilizer	136.3	68.2	5.5	12.40
Plastic wares	54.5	15.4	16.5	0.93
Crumb rubber	305.2	39.4	16.3	2.42
Remilling & smoking rubber	37.2	5.7	5.0	1.14
Rubber products, n.e.c.	9.9	2.2	4.4	0.64
Tires and tubes	72.7	27.9	8.4	3.32
Soap, etc.	63.0	9.3	5.5	1.69
Matches	3.9	1.4	5.3	0.26
Perfumes, cosmetics	17.6	6.5	3.7	1.76
Paints	29.1	9.7	3.5	2.77
Drugs & medicine	86.3	30.9	14.2	2.18
Native medicine	3.5	1.7	3.3	0.52
Basic chemicals	36.7	12.5	4.6	2.72
36. *Nonmetallic minerals*				
Cement	133.5	78.1	7.2	10.85
Goods of cement	21.1	10.4	8.7	1.20
Sheet glass	24.0	14.1	1.3	10.85
Mfg. of glass & products	16.1	7.5	7.3	1.03
Ceramics & porcelain	7.8	3.3	5.3	0.62
Roofing tiles	2.4	1.4	5.5	0.25
Other	3.0	1.0	2.7	0.37
37. *Basic iron and steel*	68.4	18.0	4.6	3.96

(*continued*)

Table 17.A.5   (continued)

	Gross Output (Rp billions)	Value Added (Rp billions)	Employment (thousands)	Value Added per Employee (Rp millions/yr.)
38. *Machinery and equipment*				
Electrical appar. & supplies	81.5	18.4	12.9	1.43
Struct. metal prod.	116.3	28.3	11.8	2.40
Sewing machines, etc.	48.0	27.5	11.0	2.40
Radio, TV assembly	114.5	29.7	9.4	3.16
Motor vehicle assembly	75.8	18.4	9.7	1.90
Motorcycle assembly	105.1	38.3	4.5	8.51
Ship bldg. & repair	24.0	14.5	6.9	2.10
Metal container mfg.	15.8	5.8	5.1	1.14
Kitchen apparatus	7.5	2.5	5.7	0.45
Dry cell batteries	35.8	16.8	4.9	3.43
Other metal products, n.e.c.	7.8	2.8	5.4	0.52

Source: BPS, *Statistik Industri* (1979).

Notes

1. According to World Bank 1983, the average 1970–81 growth rate of GDP for middle-income economies was 5.6%, and for middle-income oil exporters it was 6.2%. Also see Appendix, table 17.A.2.

2. As measured by the Jakarta cost-of-living index the rate of inflation was 10% in 1969 and less for the next two years. See table 17.1 for inflation rates after 1969.

3. This agrees with the World Bank estimate of 2% reported in table 17.A.1. The World Bank staff also treats tin ingot as a crude mineral product, not as a manufactured product.

4. Indonesian GDP was Rp 45,446 billion in 1980 and Rp 59,633 billion in 1982. Converting these figures to dollars using the corresponding average exchange rates of Rp 627 and Rp 661 yields dollar GDP estimates of $72,482 million and $90,216 million, respectively. The 1980 ratio of manufactured goods exports to GDP is 505.4/72,482 = 0.7%. Similarly, the 1982 ratio is 832.0/90,216 = 0.9%.

5. BPS, *Statistical Pocketbook of Indonesia* (1982), 44–45, 386.

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