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Industrial development and trade patterns in the AEMs

This chapter presents data on the ways in which the AEMs' industries have grown and diversified. Data is used to illustrate export and import patterns as well. Although the data does not allow a thorough assessment of the topic to be made, so far as possible figures are used to examine the theories expressed by the 'centrist' school, which doubts that progress can continue to be made by the AEMs toward high value-added industrialisation. (1)

The first table shows the US-dollar value of the three AEMs' exports between 1975 and 1984. (The totals shown here and in other tables refer to total exports in four distinct categories: processed to processed; non-processed to processed; processed to finished; and non-processed to finished.) As table 1 shows, total exports grew very rapidly indeed, from \$14.69 billion-worth in 1975 to \$70.92 billion-worth in 1984. It is also apparent how the shares by country moved within the total, with Korea taking a considerably increased proportion and Singapore's share staying relatively stable.

As shown in table 2, the share of manufactured goods in total exports differed markedly among the AEMs. In the case of Hong Kong and Korea, the proportion dipped markedly, while in Singapore the proportion began low and stayed low.

An important piece of evidence about the extent to which the AEMs' rising exports of manufactured goods really do reflect an improving mix of higher

(1) Detailed data is only available for three of the four AEMs - Hong Kong, Korea and Singapore.

TABLE 1

Total export value from AEMs, 1975 to 1984

	1975		1981		1984	
	\$ mn	%	\$ mn	%	\$ mn	%
All	14,692	100	56,458	100	70,918	100
Hong Kong	4,595	31	14,305	25	17,631	25
South Korea	5,069	35	24,187	43	29,234	41
Singapore	5,021	34	20,961	37	24,047	34

Source: UNIDO data

TABLE 2

Manufactured goods exports as % of total AEM exports, 1975-1984

	1975	1981	1984
All	37	31	29
Hong Kong	68	67	62
South Korea	37	27	28
Singapore	7	7	7

Source: UNIDO data

value added items is shown in table 3. Here the proportion of total exports accounted for by exports of the type "processed to finished" is shown, for the three AEMs together and for each individually. The evidence is that the firms in the AEMs were in fact able to push their way up-market to a degree. In the case of South Korea, for instance, 74% of goods exported in 1975 were destined for final consumption whereas by 1984 that proportion had risen to 84%. For the three AEMs taken together, the proportion rose from 79% to 84% over the period.

Looking at the shares of the three aEMS within the total of exports bound for final consumption shows an increase in Korean firm's share and a decrease in the share of Hong Kong-based firms. As table 4 shows, Singapore's firm's share remained stable.

These figures may be compared with those showing the proportion of total exports going on for further processing in the country which imported them. As shown in table 5, relatively small proportions of total exports were of this form. For the three AEMs taken together, the proportion stayed at around 10% over the period 1975-1984.

The implication of tables 4 and 5 is that a relatively small amount of the AEMs' exports are of the non-processed form. In 1984, for the three AEMs in aggregate, that proportion was around 6%.

A quick review of the AEMs' overall trade flows, as shown in tables 6 and 7, reveals that the US is the largest single export market for all three, except for Hong Kong, which exports more to Japan. The US is, however, a much less important source of imports for the AEMs; for all three, the US supplies under one-fifth of their imports by value. China is an increasingly

TABLE 3

Proportion of total exports from AEMs accounted for by goods
destined for final consumption, 1975-1984

	1975	1981	1984
All	79	82	84
Hong Kong	89	92	92
South Korea	74	70	84
Singapore	73	76	79

Source: Calculated from UNIDO data

TABLE 4

Share of each AEM in total exports bound
for final consumption, 1975-1984

	1975	1981	1984
Hong Kong	36	28	27
South Korea	33	37	41
Singapore	32	35	32

Source: Calculated from UNIDO data

TABLE 5

Proportion of total exports from AEMs accounted for by goods
destined for further processing, 1975-1984

	1975	1981	1984
All	10.7	11.7	9.7
Hong Kong	8.3	6.2	6.0
South Korea	14.6	12.5	11.5
Singapore	8.9	12.9	10.5

Source: Calculated from UNIDO data

TABLE 6

AEMs' trade patterns, 1978-1984: Exports (\$ millions)

	1975	1981	1984
<u>Hong Kong</u>			
Total:	11,498	21,796	28,318
Industrial countries	8,033	12,984	16,896
USA	3,490	6,062	9,405
Japan	822	1,022	1,251
China	63	1,957	5,031
Korea	155	288	492
Singapore	532	888	913
Other AEMs: subtotal:	687	1,176	1,405
AEMs as % of total:	6.0	5.4	5.0
<u>South Korea</u>			
Total	12,271	21,231	28,090
Industrial countries:			10,195
USA	4,076		4,464
Japan	2,627		
China	13		231
Hong Kong	385	1,155	1,223
Singapore	144	306	488
Other AEMs: subtotal	529	1,461	1,711
AEMs as % of total:	4.3	6.9	6.1
<u>Singapore</u>			
Total:	10,132	20,970	24,070
Industrial countries:			4,823
USA	1,626	2,770	2,255
Japan	981	2,124	
China	58		243
Hong Kong	177	293	382
Korea	719	1,837	1,488
Other AEMs: subtotal	896	2,130	1,870
AEMs as % of total:	8.8	10.2	7.8

Source: IMF, Direction of Trade Statistics, 1985.

TABLE 7

AEMs' trade patterns, 1978-1984: Imports (\$ millions)

	1975	1981	1984
<u>Hong Kong</u>			
Total:	13,440	24,765	28,567
Industrial countries:			
USA	1,605	2,576	3,121
Japan	3,072	5,731	6,730
China	2,249	5,264	7,131
Korea	382	980	932
Singapore	687	1,896	1,564
Other AEMs: subtotal:	1,069	2,876	2,496
AEMs as % of total:	8.0	11.6	8.7
<u>South Korea</u>			
Total	14,975	26,155	30,796
Industrial countries:			
USA	3,044		6,962
Japan	5,982		7,656
China	0		314
Hong Kong	51	201	487
Singapore	61	153	398
Other AEMs: subtotal	112	354	885
AEMs as % of total:	0.7	1.4	2.9
<u>Singapore</u>			
Total:	13,061	27,571	28,667
Industrial countries:			
USA	1,664		4,179
Japan	2,509		5,261
China	342		1,347
Hong Kong	323	517	601
Korea	148	313	368
Other AEMs: subtotal	471	830	969
AEMs as % of total:	3.6	3.0	3.4

Source: IMF, Direction of Trade Statistics, 1985.

Note: Other AEMs: the other two AEMs.

important trade partner for the AEMs. In the case of Hong Kong, in 1984 around one-quarter of import value came from China, although China absorbed under one-fifth of Hong Kong's exports. Intra-AEM trade is barely growing in importance at all, and remains at a low level. In no case does an AEM export more than 11% of its total exports to the other two AEMs.

Looking next to intra-AEM trade in manufactured goods only, it transpires that the value of this interchange has grown considerably. As table 8 shows, AEMs' exports of manufactured goods to other AEMs has risen from \$103 million in 1975 to \$431 million in 1984. However, it remains a small portion of their total exports of manufactures: in 1975 it represented 1.9% and in 1984 it was 2.1% after peaking at 2.4% in 1981. During the 1980s the three AEMs were each exporting a roughly similar amount to the other two - in the \$100 to \$150 million range per year.

This pattern of intra-AEM trade flow does reveal one other thing: the low level of intra-AEM trade relative to intra-DC trade generally. In manufactured goods trade worldwide, in 1980 and 1982, 38.1% and 37.6% respectively of DCs' exports went to other DCs. (UNIDO, 1985, p.39)

Another way of assessing the relationship between firms based in the AEMs and those in the US which trade with them is to look at the relative importance of the four different types of trade flows between them. Table 9 shows this for 1984; it confirms the overwhelming importance of finished goods exports in total exports to the US. It also reveals different AEMs have different strengths in the various flows. Thus, Singapore is strongest in the non-processed to processed flow only, with a 85.9% share of the total. By contrast, Korea is strongest in the two flows of goods destined for final consumption: Korean firms account for 63.4% and 45.5% of all flows of non-

TABLE 8

Intra AEM export trade: manufactures, 1975-1984

	Partners				AEM total
	World	Hong Kong	South Korea	Singapore	
<u>1975</u>					
All	5,389,690	38,482	1,600	63,095	103,177
Hong Kong	3,138,935	0	1,344	59,940	61,284
South Korea	1,879,689	17,936	0	3,155	21,091
Singapore	371,065	20,546	256	0	20,802
<u>1981</u>					
All	17,730,021	252,219	13,428	164,757	430,404
Hong Kong	9,623,541	0	11,595	148,359	159,954
South Korea	6,625,444	148,664	0	16,398	165,062
Singapore	1,481,036	103,555	1,833	0	105,388
<u>1984</u>					
All	20,868,687	264,471	20,392	146,454	431,317
Hong Kong	10,886,147	0	17,013	127,196	144,209
South Korea	8,225,745	110,105	0	19,259	129,364
Singapore	1,756,795	154,366	3,379	0	157,745

Source: UNIDO data

Table 9
Structure of exports from AEMs to USA,
1984, % of total exports

	<u>\$ million</u>	<u>% of total</u>
<u>Non processed to processed:</u> Hong Kong	18	4.8
Korea	35	9.3
Singapore	323	85.9
Total	376	<u>100</u>
 <u>Processed to processed:</u> Hong Kong	 123	 16.7
Korea	419	57.0
Singapore	193	26.3
Total	735	<u>100</u>
 <u>Non processed to finished:</u> Hong Kong	 14	 10.4
Korea	85	63.4
Singapore	36	26.9
Total	134	<u>100</u>
 <u>Processed to finished:</u> Hong Kong	 7,697	 35.0
Korea	9,987	45.5
Singapore	4,280	19.5
Total	21,965	<u>100</u>

processed and processed goods destined for final consumption, respectively. Plotting these strengths against the relative importance of each flow (as shown in exhibit 1) reveals how widely the AEMs' shares of each flow differ; how Korea tends to be the largest share of each flow (except the non-processed to processed flow); how Singapore is only dominant in one flow (non-processed to processed); and how Singapore's share of the largest flow (processed to finished) is the least of the three countries.

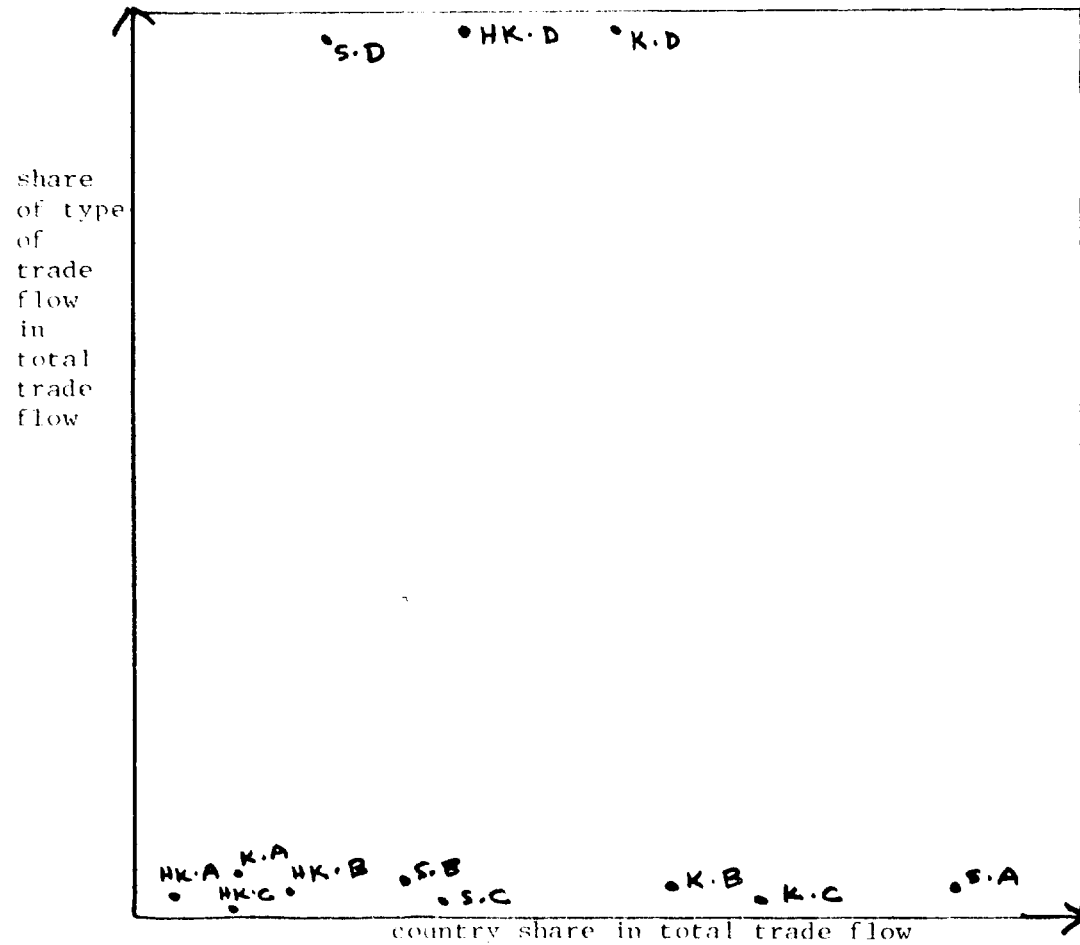
It is tempting to try to interpret these relationships further, but the data do not allow much more analysis to be conducted.

The rapid growth of exports from a relatively small sub-set of all DCs has recently been commented upon elsewhere by UNICO (1985, p.42-3). As shown in table 10, by 1981 the three AEMs for which data is available accounted for 34.2% of the total of this group of DCs' manufactures exports. (Removing "other countries" from the denominator results in the three AEMs' accounting for no less than 61% of the total in 1980.) This share of the top three AEMs rose from 28.5% of the total in 1970. During that period the bulk of the decline in share was experienced by India, Mexico and Pakistan. Even in the case of the three AEMs, however, their annual average growth of manufactured goods exports fell precipitously from 1970-1980 to 1980-1982, although in the case of Korea the fall for 1980-1981 was not nearly as severe as for the others. (Data for 1982 was not available in comparable form.)

A further insight into the AEMs' progress in shifting the mix of their exports comes from other UNIDO data. This reveals that for the larger group Argentina, Brazil, Hong Kong, Kuwait, Malaysia, Korea and Singapore, their share of total exports of capital goods and consumer durables more than doubled, from 12.9% in 1970 to 28.8% in 1981. (UNIDO, 1985, table III.7, p.44).

Exhibit 1

SHARE OF AEMs IN TOTAL AEM EXPORTS BY DEGREE OF PROCESSING



Notes: A: non-processed to processed
 B: processed to processed
 C: non-processed to final
 D: processed to final

HK: Hong Kong
 K: Korea
 S: Singapore.

Source: UNIDO data.

Table 10 Exports of manufactures (SITC 5-8 less 68)
by selected developing countries, 1970-1982
(Percentage)

Country or territory a/	Average annual growth rate b/		Share in total			
	1970-1980	1980-1982	1970	1980	1981	1982
Republic of Korea	37.8	22.1 c/	6.0	14.4	15.2	...
Hong Kong	21.0	0.3	18.5	12.0	11.0	10.6
Singapore	35.7	5.6	4.0	8.3	8.0	8.1
Brazil	35.4	1.5	3.4	6.9	7.3	6.2
India	15.5	...	9.8	4.0
Malaysia	36.2	6.4	1.0	2.2	1.8	2.2
Kuwait	37.2	15.5 c/	0.9	2.0	2.0	...
Argentina	22.4	-0.3	2.3	1.7	1.4	1.5
Mexico	16.1	-5.7 c/	3.7	1.6	1.3	...
Thailand	47.8	5.6	0.3	1.5	1.4	1.4
Pakistan	12.1	4.4	3.8	1.1	1.1	1.1
Philippines	31.4	-1.9	0.7	1.1	1.1	0.9
Other countries	25.6	...	<u>45.6</u>	<u>43.2</u>	<u>...</u>	<u>...</u>
All developing countries	26.3	6.8	100.0	100.0	100.0	100.0

Source: UNIDO data base and data supplied by the Statistical Office of the United Nations Secretariat; United Nations, Monthly Bulletin of Statistics, vol. XXXVIII, No. 5 (May 1984) (ST/ESA/STAT/SER.Q/137; 1981 (United Nations publication, Sales No. E/F.82.XVII.7); Yearbook of International Trade Statistics and estimates by the UNIDO secretariat.

a/ Ranked by value of exports in 1980.

b/ Compound growth rates.

c/ Annual growth rate in 1981 over 1980.

An important respect in which the AEMs differ from most other DCs is in their savings ratios, growth-rate of capital stock, and their incremental capital-output ratios. As shown in table 11, the savings ratios of the AEMs are considerably in excess of those found in other countries of comparable income per capita. In the case of Singapore, largely for institutional reasons, it is virtually double the norm. The use to which those savings are put when applied to capital spending is also high. Fragmentary data on incremental capital-output ratios is shown in table 12, where it appears that in the AEMs the ratio has been about 3.2 over the 1964-1982 period.

The overall impression created by these figures is of the AEMs as a fast-growing and increasingly diversified sub-group of DCs. Their importance within the industrializing DCs is growing; they are also showing an improving mix of completely processed exports in total exports.

Table 11

Ratio of gross domestic savings to GDP, 1965 and 1983

	1965	1983
Hong Kong	29	25
Korea	8	26
Singapore	10	42
Middle income economies (1)	21	21
Upper middle income economies (2)	24	23
Industrial market economies (1)	23	20

Source: IBRD, World Development Report 1985, p.183

Notes: (1) weighted average; country grouping as defined by IBRD.

(2) includes AEMs as defined here.

Table 12

Marginal Capital-Output Ratios
(1964-1982)

Country	Marginal Capital- Output Ratio	Average Ratio (Weighted)
Newly Industrializing		
China, Rep. of	3.3	
Hong Kong	2.6	
Korea, Rep. of	3.2	3.2
Singapore	3.8	
Southeast Asia		
Indonesia	3.2	
Malaysia	3.4	
Philippines	4.0	3.4
Thailand	3.5	
South Asia		
Burma	2.7	
India	4.8 ^a	
Pakistan	2.4	4.2
Sri Lanka	2.9	

^a 1964-1981

Sources: *Key Indicators of Developing Member Countries*, at AIDP, April and October 1983, and World Bank Data Table "Economic Data Sheet I."

A Preliminary Evaluation of 'Centrist' Views

As outlined earlier, when all the elements of the 'Centrist' view of economic - and more specifically, industrial - development are taken together, they constitute a powerful challenge to conventional thinking. Whereas for some years policy analysts have argued that industrial development will bring a steady growth of income to the late-industrializing countries, and one which should help to move these countries to a permanently higher level of welfare, the centrist view undermines this. It undermines the argument by bringing to the fore an explicit consideration of market structure.

This chapter will draw together as much empirical material as possible to confront the various elements of the "centrist" view. Unfortunately, much of the data supplied by the developing countries is late and incomplete - although the AEMs are to an extent an exception to that rule. Interpretation of the data is nonetheless difficult because a lot of trans-Pacific trade is intra-firm and thus proprietary.

Branding

The arguments about the importance of brands (marketing goods under widely-recognized labels or brand names), and consequently about AEM-based producers' long-term market share and pricing prospects, have become keenly debated. A number of questions have been raised about the true value of branding. They include:

- even if brand names are important in a market (such as toothpaste, where branding appears always to have been important) it is never the only factor in determining share. The intrinsic merits of the product, its

positioning, the life of the product (some, like shampoos, are traditionally short-lived while others, like detergents, are long-lived), price, advertising and other components of the so-called "marketing mix", are also important.

- brand names carry very different weight in different industries, and those weights vary over time as industries mature. Thus, in the 1978-1983 period, for instance, brand names were important in the PC industry; since then, the rate of product innovation has dropped, many new entrants have joined the industry, and price has become one of the chief determinants of share. In this phase, brand-names have ceased to matter very much.
- none of the empirical work on brand name value has been vigorous. Indeed, it is virtually impossible to create a laboratory test of the value of brand names, since so manufacturers are changing at once at the point of sale.
- brand name strategies are themselves highly diverse. Four are distinguished in the marketing literature: (Kotler, 1980, p.370).
 - (a) individual brand names (e.g. Proctor & Gamble's Tide, Bold, Dash, Oxydol).
 - (b) One brand name for all products (e.g. Heinz).
 - (c) Separate family brands for all products (e.g. Sears' Kenmore appliances, Kerrybrook women's apparel).
 - (d) Company brand names and individual product name (e.g. Kellogg's Rice Krispies, Kellogg's Raisin Bran).

It follows that since branding can itself take so many different forms, that the cost of creating and sustaining each type of brand is virtually bound to differ. It is also likely that manufacturers based in AEMs will find one or two of these four varieties of branding more useful than others; to the

extent that this is true, the scope of their overall branding effort will be narrowed and may thus yield a better cost to benefit ratio.

Overall, then, the arguments which see brand names as essential for building non-price differentiation in developed country markets do not seem to be strongly borne out in the literature. There may indeed be a need to sustain brands in some industrial categories - such as the ones which 'no brand' or generic products have deliberately not been introduced. However, the rapid acceptance of Korean TVs and VCRs, with initially little known brands, suggests that brand names may not be the insuperable barrier that some would contend.

Evidence on this last point comes from the fact that Korean companies took 8% of the VCR market in the USA in 1985, concentrating on relatively inexpensive half inch models. (Fortune, 3 March 1986, p.47) For 1986 Goldstar and the other Korean firms plan to move into 8 mm and VHS camcorders - both segments where heavily branded Japanese names such as Sony (with a 35% share of the 8 mm segment) and Matsushita have hitherto been dominant.

Transport costs

Given their location, the firms based in the AEMs are critically affected by transportation costs across the Pacific and beyond. The 'centrist' view is that transportation costs will increasingly obstruct the AEM-based firms' growth in their main marketplaces. What is the evidence for this?

First, the worldwide glut of shipping over the past decade has sent long distance sea freight rates tumbling. More nations are ignoring union manning agreements and more and more companies are undercutting the rates set by the freight conferences.

As far as air freight is concerned, the Pacific routes have become notably more competitive since 1984 with the advent of more Flying Tigers freight flights, all-freight runs by Lufthansa and by the entry of All Nippon Airways, a Japan-based freight carrier. Freight rates on the Pacific have come down markedly.

A further issue is that for transportation costs to be increasingly important to AEMs, given falling rates, there would have to be a decline in the unit value of their exports. There is no evidence that this is happening; indeed, the reverse seems to be happening. All the data shown in Chapter 2 points to rising unit values.

Market structure

Another of the main contentions of the 'centrist' view is that the output of the AEMs is typically sold into highly concentrated markets in the US, in which oligopsony prevails. The impact of this is to set many small and distant suppliers in the AEMs off against a few large buyers in the US, Japan and Europe. In this way the bargaining power of the AEM-based firms is further eroded, and their ability to achieve long term satisfactory rates of return diminished.

There are several ways to look at this topic. The most direct is to assess the market structure of the industries into which the bulk of AEM-derived output is sold, to see to what extent they are in fact oligopsonistic, or in some other way are organised to undermine the AEM firms' position.

Looking at the industries in which AEMs are involved in fact reveals that very few if any are clearly characterised by the structure cited by the 'centrist' school.

Retailing: US and Japanese retail stores absorb a large - although not easily quantifiable - share of the apparel and textiles goods imported from the AEMs. It is true that, in the US in particular, there is concentration of purchasing power in this sector. For instance, the three biggest chains (Sears, K-Mart and J.C. Penney) accounted in 1985 for about \$59 billion-worth of consumer purchases. (Wall St. Journal, Feb.7, 1986). However, all department stores put together only accounted for about 16,600 outlets, a tiny percentage of all outlets. As table 13 shows, there are nearly 600,000 retail outlets in the US. Intense rivalry, both between types of outlets and between companies of the same type, is the central characteristic of US retailing. The chairman of Sears referred in 1986 to the past few years as being "the most competitive environment in retailing history".

Overall, the evidence points to retail groups in the US not behaving like oligopolists at all, but being price-takers rather than price-setters. The implications of this for their suppliers is often unwelcome: it means sudden changes in orders, price-cutting and tight deadlines. On the other hand, the fact that there are many outlets for the AEMs means that they in turn have the potential for finding more attractive clients if their current client base cuts its tender prices for apparel and textiles. The balance of power in this industry does not in fact appear to be as one-sided as the 'centrists' argue.

Computers and electronic capital goods:

Just as the US retail industry turns out not to be so highly organised as the 'centrist' theories contend, so too does the US computer industry appear not to be an oligopsonistic competitor. The dominance of IBM in mainframes and certain types of PCs is clear. But there are hundreds of other manufacturers in the US who need to source all or part of their products from overseas (as, of course, does IBM to a degree) to keep competitive on price

Table 13
US retail outlets, 1985

Type of retailer	No. of outlets	Total sales (\$ million)
supermarkets	123,300	236,900
gas stations	144,700	106,500
mass merchandisers	66,100	66,600
department stores	16,600	57,163
hard goods	44,500	45,030
specialty stores	92,550	42,484
convenience stores	51,150	37,200
drug stores	44,500	35,850

Source: Madisons Consulting Group

and design criteria. The central change likely to occur in the US office automation, networking and even mainframe sectors in the next five years is the role of the value added retailer (VAR), who is forecast to be selling 20% of all computer hardware and software by 1990. (Datamation, 1 March 1986) The VAR will bundle pieces of equipment with pieces of software and sell them as a running, installed system specifically suited to the needs of the client. So far, VARs have tended to concentrate on one industry or occupation - for instance, auto dealerships, small insurance offices, or dentists. They cut the risks and search costs of their clients, and so large are these costs that the VARs are seen as the most potent computer retailing force of the future. The relevance of this for AEM-based firms is that they will have opening up to them a large (tens of thousands), and variegated group of buyers, typically small, who will need unbranded or branded equipment designed to certain specifications. What is important here is that the potential sources of demand for the AEM firms will be growing rapidly; it remains the case, however, that the retail presence of the AEM firms will remain constrained.

Consumer electronics:

In consumer electronics the product life cycle appears to have become extremely short, and price-based competition to arise very soon after the introduction of a product which was initially differentiated on technical grounds. In the case of PCs in the US market, for instance, price competition has eroded the base price of the IBM PC from an initial level of over \$3,000 in 1983 to an expected price of less than \$1,000 in 1986. This has opened the way for many non-branded entries to compete. Now that the technology embodied in a PC is felt to be 'mature', the risks of buying a lesser-known product are lessened, so the price premium which a branded name is able to command falls. The entry of "Leading Edge" and other AEM-based names to the PC market in 1985 illustrates the possibilities for new, possibly AEM-based, entrants into fast-

growing sectors of the US economy once certain early phases of their growth have elapsed.

An illustration of the way in which the AEMs' mixture of aggressive public and private sector industrialization efforts come together is Taiwan's fledgling electronics industry. In 1984 this group of firms for the first time overtook textiles and garments as the largest contributors to export value. At the Hsinchu Science Park, 46 companies made goods for export worth \$232 million in 1984, as opposed to only \$95 million in 1983. Moreover, whereas information products (i.e. terminals, monitors and non-IC components for computers) accounted for 5.3% of total electronics exports in 1982, in 1984 they accounted for 20%. In the first half of 1985 they accounted for 23.2%. (FEER, 21:11:85, p.139.)

The personal computer (PC) industry in the US provides a further illustration of the myriad ways in which the AEMs can in fact become significant exporters of high value-added items to the industrial countries.

Contrary to the predictions of the Centrist model, this is happening on a large scale, with AEM-based producers sending a variety of components, fully assembled and designed items, and PC design services, even in the face of immense branding efforts by such giants as IBM and AT&T.

The way this has happened reflects three forces -- distribution-pull, designer-pull and product-push.

Distributors of PCs in the US have long been discontented with selling only IBM and other heavily-promoted brands. This is because large manufacturers often bypass retailers for their bigger sales, and use their sales force leaders (the so-called national account managers) make direct factory-to-user agreements. Moreover, these suppliers also have built up retail networks of their own, and these naturally receive more promotional backing than do independently-owned outlets. Finally, the margins available to retailers of name brand PCs have been shrinking over the years, while the financing terms offered by the manufacturers have been disadvantageous to the outlets. For all these reasons, the retailers began looking for alternative PC suppliers. This has had two results. Some of the larger retailers have begun offering AEM-produced machines with their own retail name brand, such as Computerland, while others have simply been keener to bring in AEM-produced items which give higher margins for the retailer. Thus, successful branding by US manufacturers has led US distributors to look to AEM producers to provide an alternative source of supply. When this has happened, margins to the supplier and distributor have not necessarily been any lower than for US-made goods. As Table 1 shows, suggested retail

prices vary by more than \$1,000 but manufacturing costs vary by only about \$200. Despite this, margins on the Leading Edge entry (the Model D, made by Daewoo of Korea) are no smaller than on the Japanese-built Epson. Moreover, the US headquarters of Leading Edge requires that retailers pay for their inventories in advance of shipping. This points to AEM made goods, with the right attributes, by no means always being offloaded to reluctant retailers at terms disadvantageous to the manufacturer.

The second force working to pull AEM-produced PCs into the US market at attractive margins is the growing phenomenon of the freelance product designer who is commissioned to create a set of product specifications for a manufacturer. An example is the Up To Date Technology Inc., established in California by a Korean designer. This company, and others like it, is responsible for bringing in a number of AEM made PCs. Indeed, the aim of the president is "to make Korea the leading manufacturer of PCs." (Wall St Journal, June 17, 1986.) Recent assignments include bringing in a file server built by Samsung, designing an IBM look-alike to be built by Lucky Goldstar, and designing a PC to be sold through the Computerland chain of stores.

The third force at work is product-push -- or relying on the inherent price and performance attributes of products to gain market share. An example is Taiwan's new chip-finishing plant, jointly sponsored by Philips of the Netherlands and the Taiwanese government at a cost of \$207 million. This plant will allow chips hitherto only assembled in Taiwan also to be etched onto silicon there - thus adding an important further stage of value added.

The PC business thus illustrates a variety of ways in which sales

of high value added items can be achieved in industrial countries.

Table 13a

1986 Prices and margins of PCs in the US

<u>Company</u>	<u>List price (\$)</u>	<u>Manufacturing Cost (\$)</u>
AT&T	2,600	625
Compaq	2,399	650
Zenith	2,298	625
IBM	1,995	700
Tandy	1,799	525
Kaypro	1,595	500
Leading Edge	1,495	575
Epson	1,444	500

Notes: 1. Cost includes parts, labour and import duty.

2. Source USA Today, 19 June 1986.

Exchange Rates

An aspect of international production patterns which seems to have been overlooked by many writers in recent years is exchange-rates and their impact on production locations. In particular, the decline of the US dollar against the Japanese yen in the last quarter of 1985 and continuing in 1986 has had a fairly strong effect on the relative price-competitiveness of AEM suppliers and the countries in which their long-term export prospects appear good.

The key to the AEMs' prospects in the exchange-rate context is the fact that the Korean won is tied closely to the US dollar, so that as the dollar falls against the yen and the mark, so does the won. Early in 1986 C. Fred Bergstern of the Institute of International Economics observed that: "They (AEMs) get a substantial competitive edge that will enable them to pick up Japanese market share in (the USA). But they will also become a bigger component in the foreign competitive picture that US manufacturers face," (WSJ, April 8, 1991986, p.1)

Two impacts from this exchange rate realignment can be distinguished. The first is a price-competition effect which become apparent in the short-term; the second is a long-term product mix effect, whereby manufacturers in countries with rising currencies (notably Japan and Germany) shift the type of goods they offer to overseas markets.

The short-term effect is illustrated by the following cases. Japanese construction equipment suppliers have been forced to

raise their prices by 10% to 15% in the US following the 31% appreciation of the yen against the US dollar between September 1985 and April 1986.

There is, on the other hand, a partially off-setting cost for AEM suppliers as their currencies fall against the yen. This is the fact that they still need to import significant amounts of capital goods and spares for their capital goods sectors. Korea imports 60% of its machinery imports from Japan, for instance. (FEER, 3/?/1986) Recently, for instance, it has been reported that efforts by video cassette recorder manufacturers based in Korea to sell more in the US have been constrained by their need to source some parts in Japan. In 1986 Gold Star Electronics of Korea raised its US export prices for VCRs by 2% to 4% to reflect the rising cost of the precision video heads it imports from Japan. Daewoo Construction Equipment, also of Korea, is faced with steeply rising hydraulic assembly and pump costs, but is attempting to defuse the impact by intensive efforts at more domestic sourcing. The Korean government, cognizant of the problem, refers to this as "localization" of components. Over the Korean economy as a whole, a large increase in capital investment is expected in 1986 to increase export capacity. A survey reported that a 42% increase in plant and equipment spending over 1985 levels by Korean manufacturers is expected. (B.Week, Mar 24, 1986, p.48)

Particularly strong export growth is expected in certain product lines, chiefly those in which AEM manufacturers have already established a bridgehead. Samsung Electronics and Gold

Star, Korea's two largest electronics producers, increased their 1986 production plans twice in the first quarter of 1986, increasing their VCR output from 2.2 million units to 3.5. One analyst believes that their US market share could be as high as 20% in 1986, three times its 1985 level.

Overall export growth is expected to be very high in dollar terms. As the table shows, in all the AEMs significantly improved export values are expected.

TABLE

Forecast 1986 Export Value, US\$, % Change

	<u>1985</u>	<u>1986</u>
Korea	3.5	11.0
Hong Kong	6.0	7.6
Singapore	-2.3	3.0
Taiwan	0.9	6.3
Memo: Japan	3.3	5.5

Source: DRI, Bus.Wk., 24 Mar, 1986, p.48.

Another type of effect of the radical re-pricing taking place in 1985 and 1986 is the shift by many US manufacturers and assemblers away from out-sourcing to Japan and toward more out-sourcing from the AEMs, and with Japanese firms in turn out-sourcing to the AEMs more and using less domestic sourcing. Both forces, clearly, promise to enhance the volume and mix of AEMs' exports to Japan and the US.

Examples of US firms changing the pattern of sourcing include Marantz, the California-based audio manufacturer, who is buying more parts in Korea now that it is faced with price differentials of up to 30%.

In the case of Japanese firms, Bandai Co. is shifting more of its toy-making production to Macao and Thailand; Sanyo Electric is importing colour TV tubes from two Korean sources - the first time that Japanese TVs have had imported tubes. Sanyo may also start making its stereos and telephones in Singapore. Canon is planning to use Taiwanese parts more in its cameras. Mitsubishi plans to move household appliance production out of Japan, to AEMs and the other Asian sources, while leaving the higher value-added products to be made in Japan. JVC plans to boost output of radio-cassette recorders from its Singapore plant by 30% in 1986; while Toshiba is doing the same with its Singapore plant. Summing up their plans, the planning director of Mitsubishi Electric Co. said "We've been studying moving low value-added production overseas for a long time ... the high yen will have a strong effect on the pace and the volume of the shift." (WSJ, Mar 5, 1986)

An alternative strategy - which, for some firms is a complement - is further investment in production which cedes to the AEMs more of the low end segments of product markets. Matsushita Electric, for example, is increasing its R&D by 8.3% in 1986, to \$1.5 bn (B.W., April 14, 1986, p.50) to retain dominance of certain product lines. This contrasts with an estimated fall in domestic R&D by Japanese manufacturers overall

in 1986 of 4.1% - the first fall in three years.

The following may be the way that the long-term price and mix effects which began to be demonstrated so dramatically in 1985 may play out.

In labour-intensive or low value-added activities, such as household ceramics, metal tableware, bicycle parts, toys and many parts of the textiles industry, the AEMs are likely to continue gaining ground through price competitiveness. The directive of MITI on importing ore may also have an effect here, although it is likely to be marginal at best. Japan's low value-added industries may be able to turn inward to sell more domestically, but this is unlikely to present a long-term solution. More likely is the continued erosion in this part of the Japanese economy with annual output of \$110 billion. (FEER, 6 Mar, 1986, p.59)

In higher value-added areas such as high-quality TVs and VCRs, it is likely that Japanese producers will hold their US prices as long as possible in order to protect the market share positions they had so carefully built up in the past decade. Once AEM-based competition becomes a bigger factor, however, with say 20% of market share, then each Japanese manufacturer is likely to re-evaluate its position and perhaps vary its pricing, mix and sourcing plans.

Some of the firms based in AEMs are not in a position to benefit from the falling dollar anyway, either because they produce goods not in intense demand, or because domestic costs

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have risen so fast as to negate the benefit of the depreciation, Singapore has many such firms. It is important that the preceding analysis therefore not be over-generalized.

"Quick turnaround" solutions

Spurred by lower cost-based competition from firms based in China and India, textile suppliers in the AEMs are themselves increasingly capital-intensive in their production techniques. At the same time US-based textile manufacturers have been penalized by having to buy US cotton at protected prices somewhat above internationally prevailing prices - in 1986, by some 10-15% - a penalty which, however, legislation may change in late 1986. (The Economist, 5 Apr 1986, p.82)

Capital-intensity has long been the simplest form of advice given to manufacturers plagued by low-cost import competition. But the use to which that fresh capital is put is just as important as the overall capital : output ratio. What is significant now in a few US-based industries is the adoption of Japanese "just-in-time" inventory techniques, coupled with tighter working capital controls, to achieve significant unit cost savings and shorter response times. An illustration is provided by the textiles industry. Developments there include using CAD (computer aided design). As in heavy manufacturing such as automobiles, PC-based software and local area networks now allow design experiments to be conducted more quickly and cheaply than ever before, and allow for a virtually direct link between the design phase and the production phase. CAD-CAM (computer aided design/computer aided manufacturing) allows PC-based designs to be realized by computer-controlled machine tools. A significant marketing advantage of this is that order sizes can now be cut, so that niche fashion products can be

quickly created at lower unit cost than was previously possible.

Data on the rate of return on assets deployed in the US clothing industry before and after using such "quick response" techniques are shown in the exhibit. There it is apparent that considerable improvements in the returns available to distributors of clothing can be achieved - lessening distributors' preference for stocking imported items.

Exhibit

Estimated return on assets (%) to distributors in stocking garments sourced from East Asia and the US

Garment type	Source	Typical Delivery Methods		'Quick Response' delivery methods	
		ROA to wholesaler	ROA to retailer	ROA to wholesaler	ROA to retailer
Heavyweight (e.g. slacks)	US	8	10	11	26
	Asia	16	25	13	23
Lightweight (e.g. blouses)	US	11	16	14	27
	Asia	28	36	12	46

Source: Celanese Corp; cited in The Economist, April 5, 1986, p.82.

Summing up

For the most part, the 'centrist' view must be assessed as not proven. It represents an interesting argument, and indeed it should be explicitly considered by AEM policy-making bodies since it points out some of the problems which can arise in a development strategy based on manufactured goods exporting.

It is, however, not clear that the barriers to entry in developed country markets are as intense as stated by the 'centrist' view. Indeed, there is a lot of evidence to suggest that they are not.

Furthermore, there are many problems facing the AEMs which lie outside the 'centrist' view and which may be even more threatening. The entire drift of trade policy is one such problem.

The recent economic difficulties suffered by Singapore, with GDP contracting 1.7% in 1985, in part, ironically, stem from that country's government's effort to anticipate some of the problems forecast by 'centrist'-type thinking. For the rapid wage-boosting over the 1979-1984 period was intended as a way to accelerate the shift out of the most price-competitive parts of the Pacific economy. However, a close look at the sectoral performance of Singapore in 1985 reveals that while manufacturing output contracted by 7.5%, construction was the real dampener, with a 13.1% fall in output. Financial services, which by late 1985 contributed 20% of GDP, grew by 3.4%. While this is less than the 13.2% annual average growth achieved in financial services over 1980-1984, it still shows an ability to keep expanding. (FEER, 6 February 1986, p.58). Transport and communications services also showed net growth in 1985, of around 4%.

It is important that alternative to the usual development policy framework be offered and then debated. The 'centrist' view would seem to offer certain important insights, and help build some of the first bridges between management thinking and development policy. The fact that it is not always borne out empirically does not detract from its importance as an early contribution to that new strain of development thinking.