

Gross, Martin

Working Paper — Digitized Version

The extent, structure and change of German, Japanese and US American direct investment in ASEAN countries

Kiel Working Paper, No. 239

Provided in Cooperation with:

Kiel Institute for the World Economy – Leibniz Center for Research on Global Economic Challenges

Suggested Citation: Gross, Martin (1985) : The extent, structure and change of German, Japanese and US American direct investment in ASEAN countries, Kiel Working Paper, No. 239, Kiel Institute of World Economics (IfW), Kiel

This Version is available at:

<https://hdl.handle.net/10419/46693>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Kieler Arbeitspapiere Kiel Working Papers

Kiel Working Paper No. 239

The Extent, Structure and Change of German,
Japanese and US American Direct Investment
in ASEAN Countries*

by

Martin | Gross

Institut für Weltwirtschaft an der Universität Kiel

ISSN 0342 - 0787

Kiel Institute of World Economics
Department IV
Düsternbrooker Weg 120, D-2300 Kiel

Kiel Working Paper No. 239

The Extent, Structure and Change of German,
Japanese and US American Direct Investment
in ASEAN Countries*

by
Martin | Gross

August 1985

A 93754 / 85 Weltwirtschaft
Kiel

* This paper reports research undertaken in a project on the competition among German, Japanese and US suppliers to ASEAN markets. The project is carried out with financial support of the VW Foundation. The author wishes to thank Rolf J. Langhammer and Ulrich Hiemenz for many valuable suggestions.

The author himself, not the Kiel Institute of World Economics, is solely responsible for the contents and distribution of each Kiel Working Paper.

Since the series involves manuscripts in a preliminary form, interested readers are requested to direct criticisms and suggestions directly to the author and to clear any quotations with him.

ISSN 0341 - 0787

The Extent, Structure and Change of German,
Japanese and US American Direct Investment in ASEAN
Countries

1. Introduction

Foreign direct investments (FDI) in a particular country or area are frequently made to strengthen the sales position there. Even if FDI replace some direct exports to the host country, empirical evidence for the US and West Germany lends strong support that on net balance a home country's production in overseas markets tends to promote home country exports (Lipsev and Weiss, 1981)¹. Seen from this angle, a fast growing market such as the countries of the Association of South East Asian Nations (ASEAN) should appear particularly attractive for investment, although that market still may be rather small in comparison to the large OECD markets or the group of Latin American among the developing countries. In the ASEAN markets, however, German exporters face stiff competition from various other exporting countries, notably Japan and the United States. Langhammer and Hiemenz (1985) found that, while the United States and especially Japan

¹ In a recent article, Milton (1984) presented results establishing for all German manufacturing industries a positive correlation between direct investment abroad and sectoral trade balances.

gained market shares in ASEAN imports of advanced manufactured goods, West German losses for instance were mainly absorbed by US competitors, whereas U.S. losses in some industries were generally accounted for by Japanese gains.

Departing from a close positive relationship between trade and foreign direct investment one may hypothesize that FDI from EEC countries in ASEAN¹ are as small as are the trade flows. To gain further insight into the investment side, the paper aims to analyze volume and structure of investment in ASEAN by the three large investing countries, Japan, United States and West Germany. The two indicators of investments largely determine the degree of market representation achievable through overseas production. The three home countries selected supplied more than three quarters of ASEAN imports (1982) and were the home countries for just under two thirds of OECD FDI in ASEAN (1977)². They are thus major sources of both private capital and trade flows towards ASEAN³.

The paper presents the different investment volumes and patterns for the three home countries and the ASEAN hosts, and compares the respective structures with each other. The

¹ Without Brunei henceforth.

² The OECD total is taken from Table E.1 in OECD (1979), p. 474. Notable other investing countries are the U.K., The Netherlands, and Hong Kong (see Table 3 in Kanapathy, 1979).

³ For the composition of total capital flows see Hill and Jones (1985, p. 357).

hypothesis that different trade performances of two countries are coupled with comparatively different investment structures is tested employing some measures of structural similarity. In the second part, the FDI in developing areas are contrasted with the holdings in industrialized countries. The third part deals with the industry structure of FDI in ASEAN manufacturing industries only, thus abstracting from the distorting effect of capital intensive resource oriented investment. The intra-ASEAN structure of foreign direct investment is analyzed in the following paragraph by linking sectoral and regional structures to each other. The final section summarizes the results.

2. Patterns of FDI in Developing and Industrialized Countries

The total foreign investment volume of United States companies is by far the largest of any single country (see Table 1). Of the total US \$ 226 billion, three quarters are located in industrialized countries, whereas less than a fifth went into less developed countries. For Germany, the proportions of FDI held in developed and in less developed countries are about the same as for the United States, but the overall volume of US \$ 45 billion reaches merely twenty percent of the US volume. Great Britain's foreign direct investment, totalling 37 billion US \$ without oil companies, banks and insurance companies, is even more concentrated in industrialized countries. Japanese companies invested around 53 billion US \$ abroad, of which less than half went into

Table 1 - Direct Investment Shares in ASEAN Countries and Selected Regions, by Country of Origin, 1983, in Percent (World = 100)

	Total Volume (Bill. US \$)	DC's ¹	LDC's ¹	LDC's in Asia	ASEAN
Japan					
All sectors	53.1	46.05	53.43	27.39	20.06
Manufacturing	17.0	37.52	62.15	34.21	24.91
Mining	10.3	27.73	71.73	52.31	51.20
Trade	8.5	84.28	15.55	7.69	2.38
Banking and Finance	3.8	76.78	23.22	9.47	3.39
United States					
All sectors	226.1	75.00	18.76	5.88	3.52
Manufacturing	90.1	79.61	18.91	3.24	1.62
Mining	66.5	64.40	21.85	7.95	7.21
Trade	28.5	79.47	18.43	5.87	1.85
Banking and Finance	28.7	89.74	8.41 ²	7.85	2.17
West Germany ³					
All sectors	44.9	75.52	15.09	2.04	1.25
Manufacturing	20.4	76.89	21.78	1.79	1.04
Mining	5.5	54.96	21.53	0.29	0.0
Trade	8.3	94.00	4.65	1.55	1.24
Banking and Finance	4.6	83.51	16.41	7.04 ⁴	4.23
United Kingdom ⁵					
All sectors	36.9	78.37	17.52	7.73	2.71
Manufacturing	23.3	81.38	16.62	5.89	3.00
Mining ⁶	1.6	85.55	14.75	0.91	1.55
Trade	6.1	72.23	18.44	7.71	3.14

¹Without OPEC countries - ²Some banking affiliates (especially in the Caribbean) hold net claims against their US parents which reduces the direct investment position of the US parents. - ³1982. ⁴1981.- ⁵1978, without oil companies, banks and insurance companies. - ⁶Without oil companies.

Source: Deutsche Bundesbank, Die Kapitalverflechtung der Unternehmen im Ausland, various issues; Ministry of Finance, Japan's Private Overseas Investments, various issues; Business Monitor, Census of Overseas Assets, Supplement 1978; U.S. Dept. of Commerce, Bureau of Economic Analysis, US Direct Investment Abroad, 1977, and unpublished data.

- own calculations

developed countries. Thus the less developed countries were much more prominent in the investment considerations of Japanese firms than of companies of other home countries. This is the more remarkable as the United States as a host country naturally are expected to play a very important role in the location of market oriented investment of Japanese firms due to her market size.

Among the developed countries' direct investment in developing countries one can in general observe distinctive differences in the importance of Asian LDCs as host countries, and the ASEAN countries in particular. Geographic proximity as well as politico-economic and cultural linkages originating from, among other, colonial history seem to determine largely the investment patterns¹. The relatively low degree of representation through FDI in Asia of German, US and British investors in Asia mirrors their strong engagement in other regions, most prominently (with investment into capital intensive, domestic market oriented ventures in the manufacturing sector) in Latin America, but also in Africa. Companies based in Japan had 20 percent of their holding abroad in ASEAN countries, more than five times higher the percentage of the home country following next, the US. Consequently, investment in Southeast Asia figures eminently among all Japanese LDC investment. Hence, as from 1981, more than half of the four countries' combined total FDI volume in ASEAN countries is of Japanese origin. How-

¹ On the significance of several economic and political determinants of FDI see Schneider and Frey (1985).

ever, a common feature of the investment activities of all home countries except the U.K. consists in that ASEAN is the most important investment region in Asia, attracting more than half of the volume directed towards Asia.

A similar pattern has been prevailing since quite some time (see Table 2)¹. Up to 1981, West German FDI in ASEAN countries grew faster than Japanese and US FDI, but high rates of growth primarily reflect increments from a very low base². After 1981, the base effect was not crucial any more, and the picture changes. Japanese firms took a clear lead in ASEAN FDI with average annual growth rates of more than 20 percent. A similar rate of growth of Japanese FDI was observed in all other countries in Asia as well as in developing countries on average and worldwide. The US companies, by contrast, have continued to expand their ASEAN investment after 1981, however, at the expense of their presence in other developing countries, with a stagnating overall position. West German firms have reduced their investment in ASEAN slightly, and held their worldwide position approximately constant³.

¹ For the U.K., sufficiently disaggregated data were available only for 1978.

² Latin America took in 80 percent of German FDI in developing countries in 1976, as compared with 77 percent in 1982.

³ As all entries were converted into US dollars, the movement of the exchange rates between the Deutschmark and the Yen against the US dollar, respectively, contributed to the West German low performance. But the Japanese Yen devalued against the dollar, too. The exchange rate movements by far do not account for the wide disparities in the growth rates observed.

Table 2 - Annual Growth Rates of Foreign Direct Investment, 1976¹ - 1983², and subperiods, in Percent

	World	DC's ³	LDC's ³	LDC's in Asia	ASEAN
All sectors					
1976-1983					
Japan	18.3	19.4	17.5	17.7	18.0
United States	7.8	7.6	6.0	13.9	14.7
West Germany	14.9	17.1	8.3	18.6	20.7
1977-1981					
Japan	17.1	18.3	16.2	15.8	15.5
United States	11.8	11.0	11.1	19.2	20.5
West Germany	18.7	21.3	10.9	25.6	26.4
1981-1983					
Japan	20.7	21.6	20.0	21.7	23.2
United States	-0.5	0.6	-7.7	9.4	11.5
West Germany	-0.4	-1.5	-1.2	0.4	-0.8
Manufacturing industries					
1976-1983					
Japan	18.7	25.1	15.9	17.4	20.6
United States	6.6	6.2 ⁴	8.3 ⁴	10.6 ⁴	13.3
West Germany	13.8	17.5 ⁴	5.7 ⁴	14.6 ⁴	16.0
1977-1981					
Japan	20.0	24.7	12.4	19.8	23.6
United States	10.5	9.7	14.4	18.1	24.0
West Germany	18.3	23.0	8.5	18.1	21.0
1981-1983					
Japan	16.1	26.0	11.3	12.6	14.9
United States	-1.2	-0.9	-2.2	0.2	-3.2
West Germany	-2.7	-2.2	-4.5	1.4	-6.6

¹For Japan: 1977. - ²For West Germany: 1982. - ³Without OPEC countries. - ⁴1977-1982.

Source: See Table 1. - Own calculations.

While a good deal of Japanese investment in LDC's was aimed at securing access to raw materials, a notable feature is the importance of investment into manufacturing industries (see Table 1). 60 percent of worldwide Japanese manufacturing FDI compared to about 20 percent for the other home countries went into LDC's, and Japanese firms own about two thirds of all manufacturing investment in ASEAN countries of the home countries considered in the sample. This shows that Japanese companies are much stronger prepared to relocate parts of their production processes.

This fact is also mirrored in the sectoral composition of FDI (see Table 3)¹. Within manufacturing, Japanese investment favoured the textiles, the metal working and the electrical industries, whereas the chemical and electrical industries figured most prominently among US and West German manufacturing investment. One can argue that Japanese manufacturing investment was directed to industries with a more labour-intensive technology, while the other home countries rather chose industries with generally more capital-intensive processes².

Mining is very important in the ASEAN region (here: mainly Indonesia) for Japan and the US, losing much of its weight

¹ The lack of data on investment by British banks or petroleum companies precluded the calculation of meaningful sectoral shares.

² Possibly the German investment follows in ASEAN countries the same pattern as in Latin America, where the capital intensity of German FDI generally exceeds the average of the manufacturing industries (see Juhl (1979), p. 71).

Table 3 - Sectoral Profiles for Home Countries in Percent (All sectors = 100)

	ASEAN	LDC's in Asia	Developing Countries	DC's	World
Japan, 1983					
Manufacturing	39.63	39.86	37.11	26.00	31.91
Food	1.28	1.21	1.19	1.86	1.52
Textiles	6.29	6.89	4.99	1.55	3.38
Chemical	6.10	6.80	8.93	2.62	5.98
Metal	12.60	10.22	9.38	3.85	6.79
Machinery	2.22	2.52	2.37	2.42	2.38
Electrical	2.77	4.42	3.29	5.67	4.37
Transport equipment	2.85	2.41	3.00	3.97	3.43
Mining	49.44	36.99	26.00	11.67	19.37
Trade	1.90	4.48	4.65	29.22	15.96
Banking and Finance	1.21	2.47	3.11	11.93	7.16
United States, 1983					
Manufacturing	18.38	21.97	40.18	42.31	39.86
Food	1.13	1.00	4.49	4.03	4.01
Chemical	3.81	4.79	8.81	9.43	8.94
Metal	(2.51)	1.34	4.62	2.37	2.67
Machinery	(0.12)	1.49	3.88	8.23	6.92
Electrical	6.61	5.86	4.62	3.34	3.41
Transport equipment	(0.00)	0.00	3.99	5.66	5.00
Mining	(65.73)	39.78	34.26	25.26	29.42
Trade	6.64	10.46	12.40	13.37	12.62
Banking and Finance	7.83	14.10	5.69	15.20	12.70
West Germany, 1982					
Manufacturing	37.82	39.95	65.64	46.31	45.48
Textiles	(1.40)	x	x	x	0.37
Chemical	8.83	9.92	16.51	18.81	16.88
Metal	x	0.13	x	1.60	1.99
Machinery	1.18	3.05	8.12	4.04	4.30
Electrical	14.86	12.88	10.17	x	7.70
Transport equipment	x	x	17.28	5.43	6.83
Mining	x	0.72	7.15	3.65	5.01
Trade	18.40	13.96	5.68	22.96	18.44
Banking and Finance	35.10	x	11.24	11.42	10.33

x: not available or not disclosed. Bracketed figures denote poor data.

Source: See Table 1.- Own calculations.

in the other regions. Throughout, the West German mining investment is relatively modest. As for services, we find only a comparatively small fraction of Japanese ASEAN investment allocated to marketing outlets or banks. In view of the good Japanese trade record in ASEAN¹, this suggests that some of the following reasons hold: Either the large Japanese trading conglomerates (Sogo Shosha) operate from their home base or invest in local trading ventures with a minor equity share, or manufacturing firms have trading departments of their own, or the trade success is not so much connected to investment in trading companies, but rather to other factors, e.g. the investment in manufacturing industries². Indeed, one might argue that direct exports come first in the early stages of an emerging FDI relationship between two countries, and investments in manufacturing follow later on. During this advanced stage of a FDI relationship, particularly intra-industry FDI opens the way for intra-firm trade thus promoting investment-induced exports.

3. Industry structure of FDI in Manufacturing in ASEAN countries

Within the single ASEAN receiving countries, the investments of the three home countries Japan, the United States and West Germany display rather different structures. Before

¹ A detailed analysis can be found in Langhammer/Hiemenz (1985).

² Compare Nakajo (1980), p. 468 and p. 472, and Sekiguchi (1982), p. 12 and particularly footnote 9.

analysing in more detail the distribution of investment in the manufacturing sector, the holdings in other sectors shortly shall be presented. Among the ASEAN countries, Indonesia is the most relevant one with respect to the amount invested in mining and its share in overall investment. Both in Malaysia and the Philippines, overseas investors also concentrated on mining; Japanese firms however considerably less than US companies. Apart from this resource based investment, trade and banking receive consistently through all host countries a remarkably higher proportion of US and West German than of Japanese total holdings.

Whereas the industry composition of manufacturing investment has already been sketched for all ASEAN countries together, the composition differs enough between the single ASEAN hosts and the industrialized home countries to allow for a comparative view of the various investment structures. First, we ask whether those manufacturing industries which were earlier of the greatest importance still attract the highest amounts of manufacturing investment. An affirmative finding would indicate that overseas production in a certain, prominent industry mainly induced investment into the same industry ("follow the leader"). Taking the shares of the two leading industries of the base year and comparing it with the shares of the same sectors at the end of the observation period reveals that the Japanese investment cycle rather led to a diversification than to a concentration of Japanese holdings in three out of five receiving countries (see Table 4). The two countries for which instead a further concentration was observed were Indonesia and the

Table 4 - Changes in the Shares of the Two Leading Sectors, 1976-1983, in Percent

	Singapore	Malaysia	Indonesia	Thailand	Philippines
Japan ¹	-26.6	-14.4	17.3	-17.5	6.9
United States	1.6	1.9	9.6	-39.7	-4.2
West Germany ²	-8.8	-8.5	0.7	-12.5	-25.4

¹1977-1983. - ²1976-1982.

Source: See Table 1. - Own calculations.

Philippines, both with a high share of resource-based investment; the metalworking industry (possibly with investment related to mining investment) proved a prominent industry both times.

A similar tendency to industry diversification of FDI within manufacturing can be observed for West German companies, though the relative shifts in emphasis appear to be rather small in comparison to Japanese investments. FDI of US companies however shared the tendency to strengthen the position of the two leading industries in three host countries, and to reduce it slightly in one¹.

Whether two home countries reveal a complementary or a substitutive investment structure in a host country can be answered by constructing an investment overlap index which indicates complementary structures by low values. High values signal a rather substitutive and hence competitive

¹ The result for Thailand has to be judged against the background of a very small total investment in manufacturing. Only two percent of all US investment in ASEAN countries into manufacturing industries is placed in Thailand.

structure¹.

The results given in Table 5 indicate that the industry structures of US and of Japanese FDI in manufacturing industries overlap with each other to a fairly large degree in all host countries. The same can be said of the West German and the US structures, which both grew distinctly closer over time. On the other hand, the Japanese and the West German profiles of overseas production are fairly complementary and there even is no evident tendency that this has changed. The generally high degree of sectoral conformity for investment in Singapore and - to a lesser extent - in the Philippines may be the result of rather clearcut location advantages, together with a comparatively large openness for FDI.

Additional information can be gained by comparing the values for two sets of home countries in a particular host country. So it emerges that the Japanese investment structure has for all ASEAN host countries much more conformity with the US than with the West German investment structure. This suggests the conclusion that Japanese and West German companies chose rather different fields of interest. In view of the trade patterns of the two countries in the ASEAN region (inter-industry specialization, see Langhammer and Hiemenz, 1985) there appears a linkage between the FDI and trade, in

¹ One should not expect too high a degree of overlap since first the comparative advantages of the host country will change with different investing countries, and secondly there may be home country and firm specific factors like the access to the domestic (home country) market.

Table 5 - The Conformity of the Manufacturing Investment Structures of the Home Countries, in Percent

	Singapore	Malaysia	Indonesia	Thailand	Philippines
1977					
US/J	41.9	28.3	15.8	35.7	46.6
WG/J	26.9	15.1	9.4	9.9	40.2
WG/US	40.8	17.3	37.7	17.7	27.8
1981					
US/J	53.5	31.1	15.5	32.5	42.8
WG/J	32.2	15.4	7.3	9.9	28.9
WG/US	67.3	58.8	33.4	66.7	20.0
1983					
US/J	39.2	31.6	11.6	18.5	34.6

The conformity measure was calculated as

$$m_j^{(1,2)} = \sum_{i=1}^7 \min (S_{ij}^1, S_{ij}^2)$$

where S_{ij}^1, S_{ij}^2 denote the shares of industry i in total FDI of home country 1 and 2, respectively, in host country j .

Source: See Table 1. - Own calculations.

that the two countries chose dissimilar paths for investment as well as for trade with little mutual interference yet. The trade and investment data for the US point more to a pattern of intra-industry specialization between the US and West Germany.

Finally, the question was raised whether the German investment composition follows that of the US or of Japan with a certain time lag. If such a latecomer-position could be identified, the composition of German investment would become increasingly similar to the former US or Japanese investment profile of a given previous year. However, as such

an imitation process could not be found, one may conclude that given the dynamics of economic growth in ASEAN, historical patterns of investments become rapidly obsolete as guidelines for latecomers.

4. Intra-ASEAN Structure of FDI

The intra-ASEAN centres of investment activity are of interest for two reasons. First, the distribution of an industry's ASEAN investment over the member countries can be confronted with the economic growth record of the ASEAN countries, to see to what extent direct investment of a certain home country is concentrated in fast growing nations¹. This point would be particularly important, if the investment aims at securing or gaining shares in the local markets. Second, although an investment decision always is taken by a single firm (or a group of firms), it may be interesting to note how diversified over the ASEAN countries the investment of a particular sector is for a given home country.

Taking all sectors together, Indonesia is the main host among the ASEAN nations for Japanese and US investment with Singapore following in the second place and Thailand ranking last. Indonesia's leading and Thailand's last position are time-invariant features in the regional investment pattern,

¹ This is not to say that individual investment projects in less-than-average growth countries are generally performing worse than those in fast growing economies.

but the second rank was formerly occupied by the Philippines (U.S.) and Malaysia (Japan). Such aggregate figures, however, are very much dominated by the capital-intensive petroleum industry as well as by mining investments. If attention is then focussed on the manufacturing industries only, Indonesia falls back in the relative U.S. country spread of investment, and Singapore is now the most important country, as for West Germany. For Japanese firms however, Indonesia still ranks as the main host country for investment, likely linked with resource-based investments to a considerable extent.

Comparing the relative importance of the various ASEAN countries in the investment decisions by foreign firms with the growth record of those countries it emerges that foreign investments were mainly launched in countries growing faster than the ASEAN average. This was particularly true for Japanese firms. The interaction between growth and FDI may however not be unidirectional, although the share of FDI in gross domestic investments ranging just from one percent (the Philippines) to nine percent (Singapore)¹, indicates that countries with rapid economic growth also obtain the largest shares of gross domestic investment from abroad.

On a sectorally more disaggregated level the different growth rates of FDI in the ASEAN countries lead to different degrees of regional concentration of FDI. To gain further insight into the regional distribution of FDI and its change

¹ Cf. Table 2 in Hill and Jones (1985).

Table 6 - The Share of the Leading Country in a Sector's Total ASEAN FDI, in Percent

	Japan		United States		West Germany	
	1977	1983	1976	1983	1976	1983
Food	42.4	T 36.0	83.8	P 66.7	x	x
Textiles	61.5	I 54.6	x	x	92.8 ¹	P 73.7
Chemical	46.8	I,S 42.3	61.5	P 51.2	61.2	I 55.0
Metal	63.2	I 84.6	58.1	S 66.6	x	x
Machinery	73.5	S 77.2	85.7	S 91.5	80.0	S 100.0
Electrical	42.9	S 58.3	34.4	S 67.5	49.0	S 62.4
Mining	85.2	I 91.8	57.6	I 51.6	x	x
Trade	36.6	T,S 40.6	40.1	P,S 49.1	37.8	S 50.8
Banking and Finance	66.3	I 53.5	52.2	P,S 56.7	84.3	S 91.6

T=Thailand, P=The Philippines, I= Indonesia, S=Singapore.

x: Not available.

¹1979.

Source: See Table 1. - Own calculations.

through time, a single measure of concentration was used. Table 6 shows the share of the leading host country in total sectoral FDI of the base and the most recent year; the letters next to the figures indicate the leading ASEAN country in the respective year. The results suggest that the major differences in the regional concentration are to be found between different industries and sectors, and not between different investing countries. Generally, within an industry, the leading country receives similar shares of total international investment of a home country, with the possible exception of the food and textiles industry.

For most industries, the level of regional concentration of FDI rose, generally irrespective of the home country. Singapore underlined her attractiveness in that she increased her share in the machinery, electrical and trade FDI of all three home countries, possibly due to favourable investment incentives for international corporations in producing sophisticated goods and services.

Leader positions, however, did not remain invariant for all sectors. Japanese firms switched their investment in the chemical industry from Indonesia to Singapore. Moreover, each home country chose a different leading host country for the location of its chemical industry, whereas the investment in the mining (and petrol) sector is mainly located in Indonesia. There is hence no evidence for FDI in the chemical industry as a follow-up investment to mining. Another remarkable change is the relative decline of US FDI in the Philippine services sectors. The Japanese and the US firms redirected their investment in trade and banking towards Singapore which had figured already most prominently in West German foreign investment.

Although FDI is concentrated on some, not necessarily the same host country to a similar degree, the regional distribution of the FDI does differ considerably, still. Comparing the intra-ASEAN distributions of FDI from two host countries yields that for the two years considered, the regional investment structure of West German industries resembles most the US investment structure, and not the Japanese (Table 7). Again, Japanese strong engagements in

Table 7 - Similarity of the Regional Distribution of Two Home Countries' FDI, in Percent

	1977			1981		
	WG/US	WG/J	US/J	WG/US	WG/J	US/J
All industries	62.47	44.95	63.89	64.42	45.06	65.84
Manufacturing	57.04	65.74	58.43	63.65	72.01	53.85
Chemical	37.50	75.60	54.57	34.60	38.52	51.82
Machinery	75.00	73.47	83.67	79.73	75.93	79.75
Electrical mach.	(30.20)	42.86	78.58	80.13	75.90	82.28
Trade	67.37	87.01	(34.90)	77.02	79.32	73.23
Banking & Finance	27.69	7.14	39.04	56.16	10.81	39.99

The similarity index was calculated as

$$n_i^{(1,2)} = \sum_{j=1}^5 \min (T_{ij}^1, T_{ij}^2)$$

where T_{ij}^1, T_{ij}^2 denote the shares of host country j in total ASEAN FDI of home country 1 or 2, respectively, in industry i .

Bracketed figures refer to poor data.

Source: See Table 1. - Own calculations.

nesia which were neither imitated by the US nor by West Germany account for this different intra-ASEAN concentration in FDI.

The ASEAN distribution of the three investing countries tends to grow even closer over time, as a comparison of the respective columns for 1977 and 1981 reveals¹. This process of increasing similarity is coupled with a dynamic growth of Japanese and - to a lesser extent - US FDI. It allows the conclusion that niches with little interference from other

¹ The conformity measure was calculated for additional years for a West German/US and US/Japanese comparison yielding the same results.

investing countries become increasingly scarce for German investors. Rather they will be faced with an already strong and rapidly augmenting Japanese presence.

The conformity measure for regional investment patterns was also used to examine the question whether the US or the West German firms moved towards the regional structure displayed earlier by Japanese firms, the clear FDI leaders in ASEAN countries. But although we found an increasing similarity of contemporaneous home country/host country structures, it could not be discovered that the USA or West Germany were lagging behind Japan in their regional investment mix, or that the two countries were actively adapting to a former Japanese regional pattern.

5. Summary

It has been investigated to what extent and with which sectoral and regional focus companies from the United States, Japan and West Germany were represented through foreign direct investment in ASEAN. In comparison to worldwide FDI, investments in the ASEAN countries only played a minor role for the US and West Germany, just contrary to the importance of this region for Japanese firms. The sectoral composition of FDI differs considerably between the different home and host countries. Comparing the sectoral and the regional investment structures of the home countries, respectively, it has been found that the West German and the Japanese structures showed only a low degree

of conformity. For these two investor countries, this indicates differing fields of interest with respect to the main sectors and industries of investment as well as with respect to the main host countries. The relatively modest overlap of investment in manufacturing industries mirrors the pattern of complementarity observable also in Japanese and German exports to ASEAN countries.

References

- Deutsche Bundesbank, Die Auslandsverflechtung der Unternehmen im Ausland, in: Monatsberichte der Deutschen Bundesbank, various issues.
- , Die Kapitalverflechtung der Unternehmen mit dem Ausland nach Ländern und Wirtschaftszweigen, Supplement for "Statistische Beihefte zu den Monatsberichten der Deutschen Bundesbank" various issues.
- , Unpublished Data on German Direct Investment in ASEAN countries made available to the author.
- Economics Office, Asian Development Bank, 1983, Key Indicators of Developing Member Countries of ADB, 14, No. 1, p. 8.
- Hill, Hal and Brian Jones, 1985, The Role of Direct Foreign Investment in Developing East Asian Countries, Weltwirtschaftliches Archiv, 121, No. 2, p. 355-381.
- HMSO, Business Statistics Office, 1981, Business Monitor, MA4, Supplement: Census of Overseas Assets 1978, London.
- Juhl, Paulgeorg, 1979, Deutsche Direktinvestitionen in Lateinamerika, Kieler Studien, 160, J.C.B. Mohr, Tübingen.
- Kanapathy, V., 1979, Investments in ASEAN: Perspective and Prospects, in: United Malayan Banking Corporation Economic Review, 15, No. 1, p. 18-40.
- Langhammer, Rolf J. and Ulrich Hiemenz, 1985, Declining Competitiveness of EC Suppliers in ASEAN Markets. Singular Case or Symptom? Institut für Weltwirtschaft, Kiel, mimeo.
- Laumer, Helmut, 1984, Die Direktinvestitionen der japanischen Wirtschaft in den Schwellenländern Ost- und Südostasiens, Weltforum Verlag, München.
- Lipsey, R.E. and M.J. Weiss, 1981, Foreign Production and Exports in Manufacturing Industries, Review of Economics and Statistics, 63, p. 488-494.
- Milton, Antoine-Richard, 1984, Direktinvestitionen - Eine Konkurrenz deutscher Exporte?, Mitteilungen des Rheinisch-Westfälischen Instituts für Wirtschaftsforschung, 35, p. 73-98.
- Ministry of Finance, Zaisei Kingu Tokei Geppo (Monetary and Financial Statistics Monthly), Special Issues: Japan's Private Overseas Investments, 1977, 1981, 1983.

- Nakajo, Seiichi, 1980, Japanese Direct Investment in Asian Newly Industrializing Countries and Intra-Firm Division of Labour, *The Developing Economies*, 18, No. 4, p. 463-483.
- OECD, 1974, *Zusammenarbeit im Dienst der Entwicklung, Jahresprüfung 1979*, Paris.
- Parry, Thomas G., 1982, Foreign Direct Investment and the Multinational Corporation, in: Ingo Walter and Tracy Murray (eds.), *Handbook of International Business*, John Wiley & Sons, New York, Ch. 16.
- Schneider, Friedrich and Bruno S. Frey, 1985, Economic and Political Determinants of Foreign Direct Investment, *World Development*, 13, No. 2, p. 161-175.
- Sekiguchi, Sueo, 1982, Japanese Direct Foreign Investment and East Asian Market Economics, Paper presented at the International Symposium on "Two Decades of Asian Development and Outlook for the 1980s", Institute of Developing Economies, Tokyo.
- U.S. Department of Commerce. Bureau of Economic Analysis, International Investment Division, 1981, *U.S. Direct Investment Abroad, 1977*, Washington, D.C.
- , Unpublished Data on US Foreign Direct investment 1976-83 made available to the author.