East Asian investment and trade: prospects for growing regionalization in the 1990s

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This article analyses the extent to which economic proximity in East Asia has increased because of the fast growth of intra-Asian trade and foreign-direct-investment flows in the 1980s. Several indicators of economic proximity are discussed in order to provide insights into the evolving patterns of economic interdependence in the region. The article analyses the extent to which trade and foreign-direct-investment flows in East Asia have been characterized by a growing intraregional bias in the 1980s. It also discusses how FDI and trade flows are linked, with special attention to the role of Japanese transnational corporations in this process and explores the role of foreign direct investment in services in East Asia. The article concludes with a discussion of the proposition that growing integration in East Asia may lead to the emergence of a large discriminatory trading bloc in the region. In this context, it argues that regionalism as a market-driven process will continue to characterize East Asian trade and foreign-direct-investment relations. Preferential trade liberalization, however, should continue to play a secondary role in the development strategy of the countries in the region.

Introduction

During the 1980s, countries in East Asia and the Pacific[1] displayed an impres-

[1] This article focuses on a sub-set of countries in the East Asian and Pacific region: Japan, the four newly industrializing economies (Hong Kong, Republic of Korea, Singapore and Taiwan Province of China) and four members of the Association of South East Asian Nations (ASEAN-4), namely, Indonesia, Malaysia, the Philippines and Thailand. In the text, this group of countries is referred to as East Asia. Whenever data for China are available, figures for an "East Asia plus" (East Asia plus China) region are also provided.

sive performance, leading the developing world in terms of economic growth, trade expansion and poverty reduction (The World Bank, 1993). Although the region encompasses countries that are quite heterogeneous in terms of size, population and natural endowments, the most successful of them share a common feature: all of them have adopted outward-oriented policies. As a corollary, it is argued that the region has an important stake in the stability of an open multilateral trade system, that is, the system built around the General Agreement on Tariffs and Trade (GATT).

The difficulties faced regarding the completion of the Uruguay Round and the proliferation of regional (minilateral) arrangements have led to a renewed interest for regional integration in East Asia. Prospects for a formal trading bloc encompassing Japan and other Asian countries do not seem particularly promising. Geopolitical considerations, memories of the pre-Second World War era, the dependence of the region on other markets for its exports and the apparent lack of enthusiasm of Japan for such a strategy constrain the minilateral route.[2] Still, market-led economic integration (i.e., a natural process that promotes stronger economic ties within a region) seems to continue to evolve in the absence of an institutional apparatus.[3] It has been argued, for example, that flows of foreign direct investment (FDI) from Japan and the East Asian newly industrializing economies are paving the way for an "Asian bloc", ahead of developments at the institutional level (UNTCMD, 1992, p. 39). The dynamism of FDI flows in the region and their potential influence on trade patterns make this proposition worth considering.

This article analyses the extent to which "economic proximity" in East Asia has increased because of the fast growth of intra-Asian trade and FDI flows in the 1980s.[4] Several indicators of economic proximity are discussed below in order to provide insights into the evolving patterns of economic interdependence in the region. The next section analyses the extent to which trade and FDI flows in East Asia have been characterized by a growing intraregional bias in the 1980s. The following section discusses how FDI and trade flows are linked, with special attention to the role of Japanese transnational corporations (TNCs) in this process. The final section explores the role of FDI in services in East Asia. The article ends with a discussion of the proposition that growing integra-

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[2] For a summary analysis of potential new minilateral trade arrangements in the 1990s, see Primo Braga and Yeats (1992).

[3] See Lorenz (1992) for a discussion of this concept.

[4] Economic proximity is bigger the lower the costs arising from geographic distance (mainly transport and communication costs), "cultural" distance (differences in culture, language, business practices etc.) and regulatory barriers (both border and non-border measures) that hamper the international movements of goods, services and factors of production. GATT (1990) used the term "economic distance" to convey the same concept.

tion in East Asia may lead to the emergence of a large discriminatory trading bloc in the region.

Trade and foreign-direct-investment flows in East Asia: is there a growing intraregional bias?

Trade flows

A common measure of the importance of intraregional trade is the proportion of such trade in the total trade of the countries of that region (sometimes called the trade-dependence ratio). Table 1 shows the relevant shares for East Asia, the European Community and North America (encompassing Canada, Mexico and the United States) from 1970 to 1990. The focus of the analysis concentrates on these regions because they are the three main trading "blocs" in the world economy. As already noted, preferential trade is not a major characteristic of the East Asian trading bloc — in contrast, for example, with the European Community — given the limited coverage of the main integration arrangement in the region, the Association of South East Asian Nations (ASEAN). Nonetheless, the share of intraregional trade increased from 23 to 34 per cent between 1970 and 1990. The European Community, which, by 1970, already had a much higher share of intraregional trade (52 per cent) — also saw an increase in its intraregional trade share over the 1980s to 59 per cent by 1990. North America, in turn, experienced a slight decrease in its share, from 39 per cent to 37 per cent over the 1980s.

At first sight, these numbers seem to support the proposition that international trade is becoming regionalized with the formation of three large trading blocs. The movement towards greater dependence on intraregional trade seems particularly pronounced for the European Community and the East-Asian countries. In the former, this trend is often associated with the single-market initiative, a clear example of policy-led preferential regionalization. The East Asian case, on the other hand, can be considered as an example of non-discriminatory market-led integration.

There are, however, a number of criticisms of the share of intraregional trade as an indicator of trade bias. Kym Anderson and Hege Norheim (1993), for example, pointed out that the intraregional trade share is affected by the number of countries included in the region, even if they all have uniform patterns of trade. Further, as the case of East Asia exemplifies, the size of countries in a region also affects the share of intraregional trade independent of trade bias. The trade-intensity index, suggested by A. J. Brown (1949) and popularized by P. Drysdale (1988), attempts to address these problems by dividing the share of a country's exports going to a particular region by that region's share in world markets. Formally, the index can be written as follows:

Table 1. Intraregional and interregional trade in East Asia, the European Community and North America, 1970, 1980, 1985, 1990
(Billions of dollars and percentage)

Item	Billions of dollars				Share of total (Percentage)			
	1970	1980	1985	1990	1970	1980	1985	1990
East Asia [a]								
Total trade of which:	61.32	514.10	594.02	1179.58	100	100	100	100
Intraregional trade	14.36	151.23	167.18	402.50	23	29	28	34
X+M from North America	18.81	118.00	180.34	310.92	31	23	30	26
X+M from BC12	7.74	58.55	63.72	180.53	13	11	11	15
X+M from EFTA	1.27	9.27	11.59	28.94	2	2	2	2
X+M from Australia/New Zealand	3.10	19.19	23.12	37.88	5	4	4	3
X+M from Latin America	2.23	15.54	13.93	23.90	4	3	3	2
X+M from rest of Asia	1.53	13.46	15.14	22.51	3	3	3	2
X+M from rest of the world	12.28	128.86	117.01	172.40	20	25	20	15
EC12 [b]								
Total trade of which:	240.49	1456.14	1303.76	2754.71	100	100	100	100
Intraregional trade	124.13	763.15	701.11	1637.51	52	52	54	59
X+M from North America	28.13	124.14	137.65	233.29	12	9	11	8
X+M from East Asia	7.40	59.81	63.01	181.89	3	4	5	7
X+M from EFTA	24.25	141.80	124.44	274.19	10	10	10	10
X+M from Australia/New Zealand	3.70	10.54	11.47	18.35	2	1	1	1
X+M from Latin America	8.54	38.24	29.63	44.69	4	3	2	2
X+M from rest of Asia	2.16	11.36	11.62	22.95	1	1	1	1
X+M from rest of the world	42.18	307.10	223.83	341.85	18	21	17	12
North America [c]								
Total trade of which:	115.74	619.01	765.60	1184.65	100	100	100	100
Intraregional trade	45.47	205.25	293.09	439.49	39	33	38	37
X+M from EC12	26.82	113.81	136.55	218.52	23	18	18	18
X+M from East Asia	17.94	114.05	182.77	298.63	15	18	24	25
X+M from EFTA	3.59	16.99	18.57	31.01	3	3	2	3

Table 1. *(continued)*

Item	Billions of dollars				Share of total (Percentage)			
	1970	1980	1985	1990	1970	1980	1985	1990
X+M from Australia/New Zealand	2.38	9.50	11.00	17.51	2	2	1	1
X+M from Latin America	10.02	52.28	49.18	65.28	9	8	6	6
X+M from rest of Asia	1.71	5.81	7.71	11.61	1	1	1	1
X+M from rest of the world	7.81	101.73	66.72	102.60	7	16	9	9
Memo item:								
China [d]								
Total trade	..	..	69.42	115.44	..	..	100	100
of which:								
X+M from East Asia	..	..	38.84	68.54	..	..	56	59
X+M from North America	..	..	8.31	13.84	..	..	12	12
X+M from EC12	..	..	4.91	13.69	..	..	7	12
X+M from EFTA	..	..	1.15	1.76	..	..	2	2
X+M from Australia/New Zealand	..	..	1.40	1.98	..	..	2	2
X+M from Latin America	..	..	2.22	1.49	..	..	3	1
X+M from rest of Asia	..	..	1.10	2.22	..	..	2	2
X+M from rest of the world	..	..	11.49	11.90	..	..	17	10

Source: United Nations, Series D, Comtrade tapes.

[a] East Asia: Japan, Republic of Korea, Hong Kong, Singapore, Taiwan Province of China, Indonesia, Malaysia, Thailand and the Philippines.

[b] EC12: Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom. Data for Germany reflect trade relations of the former Federal Republic of Germany.

[c] North America comprises the United States, Canada and Mexico. Latin America excludes Mexico.

[d] These figures, based on Chinese updated trade statistics, understate Chinese imports and exports to the extent that they do not include Chinese trade through Hong Kong.

(1) $I_{ij} = x_{ij}/m_j = x_{ij}/[w_j/(1- w_i)]$,

where x_{ij} is the share of country j in country i's exports, m_j is the share of country j in the total market for country i's exports, and w_i and w_j are country i and country j shares in world imports. (The share of country i in world imports is subtracted from the denominator of m_j because country i cannot export to itself.) When the value of the index exceeds one, it indicates the existence of a positive trade bias between the countries (regions) considered, that is, country (region) i trades with country (region) j more intensively than j trades with the rest of the world.

Our calculations of the trade intensity index for the East Asian economies are presented in table 2 for several years during the 1970-1990 period. The indices for trade within the East Asian region are higher than those for trade with other regions, indicating a positive intraregional bias. Still, for most of the economies in the table (with the exception of Hong Kong and Singapore), the intensity of intraregional trade has declined between 1970 and 1990.[5]

The results presented in table 2 seem to indicate that, for most individual countries within the East Asian region, trade has become more diversified during the 1970s and 1980s. Globalization, rather than regionalization, seems to better describe trends in international trade for several East Asian countries. This conclusion is consistent with the findings of Anderson and Norheim (1993), who, working with an all-encompassing definition for Asia, found that, from 1973 to 1990, the intraregional trade intensity fell from 2.88 to 2.31. According to the same authors, the intraregional trade intensity index for North America also fell from 3.93 to 3.5, while the index for Western Europe increased from 1.54 to 1.6.

Summing up, the perceived build-up of an East Asian trade bloc with Japan at its core has not translated into a growing intraregional trade bias over the 1980s. Actually, if one relies only on trade patterns to judge the evolution of economic interdependence in the region, the concept of an East Asian bloc seems inadequate.[6] True enough, the second half of the 1980s witnessed an increase in the trade intensity index of Japan with East Asia. Moreover, the growing outward orientation of the Chinese economy has significantly biased the trade orientation of Hong Kong, given its role as an entrepôt centre for China. Still, for most East-Asian countries, intraregional trade intensity has declined over the 1980s.

[5] The trend for the 1980s is essentially the same, with a decline in the trade intensity indices with East Asia for all economies, except Hong Kong and Taiwan Province of China.

[6] For a similar conclusion, see Frankel (1991).

Table 2. Trade intensity indices for East Asian countries, all commodities, 1970, 1980, 1985, 1990

Partner [a]	China				Hong Kong				Indonesia				Japan			
	1970	1980	1985	1990	1970	1980	1985	1990	1970	1980	1985	1990	1970	1980	1985	1990
North America	..	..	..	0.462	2.355	2.188	2.003	1.582	0.732	1.207	0.924	0.698	1.717	1.491	1.560	1.667
European Community	..	..	..	0.192	0.536	0.625	0.445	0.383	0.356	0.160	0.179	0.280	0.283	0.301	0.281	0.375
European Free Trade Area	..	..	..	0.110	0.540	0.719	0.592	0.512	0.018	0.011	0.028	0.059	0.348	0.380	0.342	0.411
Australia and New Zealand	..	..	..	0.580	2.074	2.523	1.808	1.240	1.908	1.590	0.747	1.351	1.924	2.443	2.077	1.932
Latin America (except Mexico)	..	..	..	0.408	0.390	0.643	0.346	0.484	0.059	0.857	0.525	0.089	0.953	1.101	1.054	0.939
East Asia	..	..	..	4.202	0.943	0.850	0.761	0.961	5.566	5.374	5.802	4.048	1.969	1.762	1.402	1.670
East Asia plus China	..	..	..	3.937	0.912	0.969	1.558	2.137	5.248	4.999	5.022	3.989	2.130	1.933	1.709	1.687
Rest of Asia	..	..	..	1.880	1.153	0.289	0.339	0.439	0.047	0.293	0.531	0.763	1.674	1.659	1.439	1.214
Rest of the world	..	..	..	0.396	0.610	0.660	0.245	0.068	0.516	0.141	0.184	0.257	0.448	0.525	0.306	0.442
World	..	..	..	0.990	0.991	0.987	0.993	0.974	0.997	0.993	0.998	0.995	0.951	0.979	0.912	0.945

Partner [a]	Republic of Korea				Malaysia				Philippines				Singapore			
	1970	1980	1985	1990	1970	1980	1985	1990	1970	1980	1985	1990	1970	1980	1985	1990
North America	2.565	1.727	1.650	1.667	0.792	1.027	0.573	0.900	2.183	1.769	1.574	2.009	0.655	0.819	0.914	1.115
European Community	0.150	0.352	0.272	0.288	0.553	0.470	0.437	0.345	0.216	0.441	0.377	0.410	0.465	0.326	0.304	0.322
European Free Trade Area	0.158	0.294	0.520	0.368	0.091	0.090	0.075	0.100	0.068	0.115	0.203	0.113	0.126	0.163	0.149	0.213
Australia and New Zealand	0.553	1.168	0.822	1.190	1.507	1.449	1.159	1.359	0.235	1.396	1.286	0.923	2.096	4.594	2.732	2.028
Latin America (except Mexico)	0.082	0.481	1.006	0.838	0.216	0.074	0.116	0.182	0.043	0.209	0.107	0.321	0.268	0.458	0.512	0.416
East Asia	3.539	2.428	2.307	2.202	4.979	4.172	5.330	3.487	4.801	3.406	3.415	2.305	1.729	3.245	3.518	2.745
East Asia plus China	3.336	2.259	1.983	2.063	4.820	4.008	4.663	3.393	4.527	3.228	3.063	2.205	1.772	3.139	3.136	2.662
Rest of Asia	1.246	1.408	1.734	1.096	1.158	3.004	3.426	2.953	0.306	0.585	0.399	0.193	7.448	5.315	4.845	4.316
Rest of the world	0.215	0.609	0.488	0.467	0.512	0.404	0.368	0.338	0.181	0.423	0.347	0.385	0.929	0.500	0.462	0.418
World	0.993	0.992	0.986	0.982	0.997	0.993	0.995	0.992	0.995	0.995	0.997	0.996	0.993	0.989	0.989	0.984

Partner [a]	Taiwan Province of China				Thailand			
	1970	1980	1985	1990	1970	1980	1985	1990
North America	2.250	2.237	2.150	1.761	0.710	0.802	0.885	1.228
European Community	0.158	0.307	0.227	0.349	0.515	0.747	0.566	0.513
European Free Trade Area	0.066	0.172	0.134	0.275	0.136	0.410	0.306	0.366
Australia and New Zealand	0.817	2.289	1.641	1.565	0.303	0.886	1.157	1.285
Latin America (except Mexico)	0.158	0.720	0.535	0.522	0.021	0.133	0.240	0.418
East Asia	3.599	2.298	2.367	2.354	5.547	3.142	3.154	2.310
East Asia plus China	3.393	2.138	2.035	2.206	5.230	3.071	3.009	2.234
Rest of Asia	2.292	0.407	0.434	0.648	2.829	1.575	1.869	1.420
Rest of the world	0.278	0.476	0.324	0.417	0.493	0.686	0.594	0.589
World	0.990	0.991	0.990	0.985	0.996	0.996	0.996	0.991

Source: Calculated by the authors, based on United Nations, Series D, Comtrade tapes. [a] Regional definitions as in table 1.

It remains true, however, that the region trades more intensively with itself than with the rest of the world, as attested by trade intensity ratios that are significantly greater than unity. This result highlights the strength of market forces that work in favour of regional integration in East Asia. Moreover, the high level of intraregional FDI flows that characterized the second half of the 1980s has led some analysts to suggest that regional integration trends may become stronger in the 1990s (Young, 1993). In order to discuss this possibility, we look in greater detail at the available information on FDI flows in East Asia during the 1980s.

Foreign-direct-investment flows

Table 3 presents data on the cumulative flows of FDI into East Asia for the periods 1980-1984 and 1985-1989.[7] The column showing flows to the East Asian region as a whole illustrates how the sources of these flows have changed during the past decade. For the first half of the 1980s, the main source of flows was North America with 42 per cent of the total, followed by East Asia with 36 per cent. During the second half of the 1980s, these positions were reversed, with a large increase in the share of inflows from East Asia to 57 per cent, and a decline in the North American share to 21 per cent. Most of that increase is attributed to the surge in FDI from Japan and Taiwan Province of China.

To keep things in perspective, however, it is worth examining this evidence in conjunction with Japanese flows of FDI to other regions in the world. Table 4 presents the distribution of Japanese outward FDI flows for selected years from 1980 to 1991, and cumulative flows from 1951 to 1991. While flows to East Asia made up between 12 per cent and 14 per cent of all Japanese FDI from 1989 to 1991, flows to North America made up between 45 per cent and 50 per cent. And even though the share of Japanese FDI to East Asian countries has been increasing steadily since 1988, this growth can be viewed simply as a return to the historical norm (as suggested by the higher share of East Asia in cumulative Japanese FDI flows from 1951 to 1991 *vis-à-vis* recent shares in FDI flows).

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[7] The data on FDI are from the data base of the UNCTAD Division on Transnational Corporations and Investment. There are some caveats that should be mentioned with respect to the quality of the data. First, FDI figures were collected from a number of national sources that do not necessarily follow a common methodology. For example, different countries consider different levels of purchases of a domestic company's shares by a TNC as indicating a controlling interest for the purposes of foreign investment. In addition, for the most part, the data are in terms of approvals and not actual investments. Nevertheless, the trends identified are broadly consistent with data on FDI in East Asia from other sources, such as those cited in Lim and Fong (1991), from the Organisation for Economic Co-operation and Development (OECD) and the World Bank.

Table 3.   Cumulative foreign-direct-investment flows into East Asia[a] by source region, 1980-1984 and 1985-1989
(Millions of dollars and percentages)

Source/ host country	Taiwan Province of China		Malaysia		Japan		Singapore		Philippines	
	1980-1984	1985-1989	1980-1984	1985-1989	1980-1984	1985-1989	1980-1984	1985-1989	1980-1984	1985-1989
(Million dollars)										
Western Europe	186	1185	434	1426	598	2459	835	1087	593	73
North America	820	1553	248	482	1195	5331	1206	1440	1883	363
Australia/New Zealand	0	8	145	96	0	0	0	0	60	12
East Asia	996	3046	928	4456	189	239	848	1845	672	195
Japan	615	2027	472	1895	0	0	848	1845	441	103
Hong Kong	203	799	88	312	180	239	0	0	203	68
Indonesia	0	4	42	54	0	0	0	0	0	0
Malaysia	0	27	0	0	0	0	0	0	0	1
Philippines	28	62	45	1	0	0	0	0	0	0
Republic of Korea	0	1	16	99	0	0	0	0	7	2
Singapore	150	110	176	713	0	0	0	0	20	7
Taiwan Province of China	0	0	39	1345	9	0	0	0	0	15
Thailand	0	15	50	27	0	0	0	0	0	0
China	0	0	0	11	0	0	0	0	0	0
Latin America	0	252	5	83	15	0	0	0	35	11
World	2002	6044	1760	6554	1997	8029	2889	4371	3242	654
(Percentage)										
Western Europe	9	20	25	22	30	31	29	25	18	11
North America	41	26	14	7	60	66	42	33	58	55
Australia/New Zealand	0	0	8	1	0	0	0	0	2	2
East Asia	50	50	53	68	9	3	29	42	21	30
Japan	31	34	27	29	0	0	29	42	14	16
Hong Kong	10	13	5	5	9	3	0	0	6	10
Indonesia	0	0	2	1	0	0	0	0	0	0
Malaysia	0	0	0	0	0	0	0	0	0	0
Philippines	1	1	3	0	0	0	0	0	0	0
Republic of Korea	0	0	1	2	0	0	0	0	0	0
Singapore	7	2	10	11	0	0	0	0	1	1

Table 3. *(continued)*

Source/ host country	Taiwan Province of China 1980-1984	1985-1989	Malaysia 1980-1984	1985-1989	Japan 1980-1984	1985-1989	Singapore 1980-1984	1985-1989	Philippines 1980-1984	1985-1989
(Percentage)										
Taiwan Province of China	0	0	2	21	0	0	0	0		2
Thailand	0	0	3	0	0	0	0	0	0	0
China	0	0	0	0	0	0	0	0	0	0
Latin America	0	4	0	1	1	0	0	0	1	2
World	100	100	100	100	100	100	100	100	100	100

Source/ host country	Indonesia 1980-1984	1985-1989	Hong Kong 1980-1984	1985-1989	Republic of Korea 1980-1984	1985-1989	Thailand 1980-1984	1985-1989	Philippines 1980-1984	1985-1989
(Million dollars)										
Western Europe	1978	2945	190	283	83	367	261	439	2586	4880
North America	884	1398	778	176	216	722	402	545	5558	5319
Australia/New Zealand	26	149	16	74		5	18	10	239	204
East Asia	3062	4985	420	645	184	1371	655	2571	4709	14133
Japan	1593	1678	341	596	150	1284	369	1571	3238	9321
Hong Kong	1286	836	0	0	34	75	148	436	678	1692
Indonesia	0	0	0	5	0	0	1	2	44	64
Malaysia	1	49	0	1	0	0	16	5	16	35
Philippines	0	8	40	6	0	0	1	2	113	67
Republic of Korea	39	769		-1	0	0	2	23	25	123
Singapore	141	514	26	15	0	0	115	157	487	1013
Taiwan Province of China	0	1094	13	7	0	1	4	360	57	1728
Thailand	2	37	0	12	0	0	0	0	50	54
China	0	0	0	5	0	0	0	20	0	36
Latin America	66	158	0	-21	-17	21	82	-36	104	310
World	6016	9635	1404	1162	466	2485	1418	3550	13197	24882

Table 3. *(continued)*

Source/ host country	Indonesia 1980-1984	Indonesia 1985-1989	Hong Kong 1980-1984	Hong Kong 1985-1989	Republic of Korea 1980-1984	Republic of Korea 1985-1989	Thailand 1980-1984	Thailand 1985-1989	Philippines 1980-1984	Philippines 1985-1989
(Percentage)										
Western Europe	33	31	14	24	18	15	18	12	20	20
North America	15	15	55	15	46	29	28	15	42	21
Australia/New Zealand	0	2	1	6	0	0	1	0	2	1
East Asia	51	52	30	55	39	55	46	72	36	57
Japan	26	17	24	51	32	52	26	44	25	37
Hong Kong	21	9	0	0	7	3	10	12	5	7
Indonesia	0	0	0	0	0	0	0	0	0	0
Malaysia	0	1	0	0	0	0	1	0	0	0
Philippines	0	0	3	1	0	0	0	0	1	0
Republic of Korea	1	8	0	0	0	0	0	1	0	0
Singapore	2	5	2	1	0	0	8	4	4	4
Taiwan Province of China	0	11	1	1	0	0	0	10	0	7
Thailand	0	0	0	1	0	0	0	0	0	0
China	0	0	0	0	0	0	0	1	0	0
Latin America	1	2	0	-2	-4	1	6	-1	1	1
World	100	100	100	100	100	100	100	100	100	100

Source: UNCTAD, Division on Transnational Corporations and Investment data base.

a See table 1 for regional definitions. Western Europe includes EC12, Austria, Finland, Norway, Sweden and Switzerland.

Table 4. Japanese outflow of foreign direct investment by region[a]
(Percentage)

Host region	1980	1985	1989	1990	1991	Cumulative 1951-1991
North America	34.0	45.0	50.2	47.8	45.3	44.0
Latin America	12.5	21.4	7.8	6.4	8.0	12.4
Asia	25.2	11.8	12.2	12.4	14.3	15.2
East Asia	24.8	10.7	11.9	12.2	14.2	15.1
Other	0.4	1.1	0.3	0.2	0.1	0.1
Middle East	3.4	0.4	0.1	0.0	0.2	1.0
Europe	12.3	15.8	21.9	25.1	22.5	19.5
Africa	3.0	1.4	1.0	1.0	1.8	1.9
Pacific Islands	9.6	4.3	6.8	7.3	7.9	6.1
Total	100	100	100	100	100	100

Source: Japan, Ministry of Finance.

[a] Regional definitions as in table 1, except that Europe includes EC12, Austria, Finland, Norway, Sweden and Switzerland.

There is, however, evidence of a significant intraregional bias with respect to FDI originating from the Asian newly industrializing economies. A large proportion of the increase in the share of flows of FDI into East Asia came from Hong Kong, Singapore and Taiwan Province of China (table 3). Although FDI from the Republic of Korea also increased in the late 1980s, it remained substantially smaller than that from the other newly industrializing economies. The primary host countries for FDI from these economies were the ASEAN-4 countries and China.

Unfortunately, consistent FDI information for China is limited to the second half of the 1980s. The data for that period seem to amplify the trend in question. From 1985 to 1988, 80 per cent of all FDI into China came from East Asian countries. Of this, by far the majority was from Hong Kong (65 per cent) with Japan coming in second (14 per cent). It is worth noting that Hong Kong's FDI into China is magnified by flows of FDI from other sources (e.g., Taiwan Province of China and developed countries), which use Hong Kong companies as conduits for their investments (UNTCMD, 1993a).

The analysis so far has been carried out in terms of shares of FDI flows by region. In order to explore further the issue of intraregional bias, the following index of FDI intensity was calculated:

(2) $B_{ij} = f_{ij}/i_{wj}$
   where $f_{ij} = (FDI_{ij}/FDI_{iw})$
   and
   $i_{wj} = (FDI_{wj} - FDI_{ij})/(FDI_w - FDI_{iw})$.

In the above equations, subscript i refers to the home country, subscript j refers to the host country and subscript w refers to the world: f_{ij} represents FDI from country i to country j as a share of total FDI from country i; and i_{wj} represents the share of FDI from the rest of the world to country j, as a share of total FDI from the rest of the world. Thus, Bij is an indicator of the importance of country j as a host for country i's FDI relative to its importance as a host for FDI from the rest of the world.

The indices of FDI intensity for the two sub-periods of the 1980s mentioned earlier are presented in table 5. They confirm that the Republic of Korea, Singapore and Taiwan Province of China increased their FDI orientation towards East Asia significantly more than the rest of the world over the past decade. Hong Kong's outward investment pattern was dominated by the growing importance of China as an FDI destination. Finally, the regional bias of Japanese FDI actually declined over the 1980s, a result that complements the growing diversification of the Japanese economy already identified with respect to trade.

The relationship between trade and foreign direct investment

Review of the theory

There have been a few attempts to derive broad normative propositions for FDI policies focusing on the trade-FDI link. According to K. Kojima (1973, 1985), trade-oriented FDI occurs when the home country invests in those industries in which it has a comparative disadvantage.[8] Trade-oriented FDI is characterized as being welfare improving. It has been pointed out that Kojima's neo-classical framework is unable to capture the role of firm-specific advantages in determining FDI flows (Dunning, 1988). Accordingly, his normative recommendations are criticized as relying on a model that does not take into account relevant aspects of contemporary FDI flows. Moreover, the trade-FDI link is also affected by the type of TNC activity, as well as by the stage of development of the host and the home country, as illustrated by the product-cycle approach (Vernon, 1966).

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[8] In a related proposition, it has been suggested that Japanese firms follow FDI strategies that are more trade-enhancing than those of United States firms (Kojima, 1973). Encarnation (1992), however, showed that, when confronted with similar political and economic environments, United States and Japanese TNCs follow comparable strategies (the export orientation of United States and Japanese TNCs in East Asia, for example, has not been significantly different in the 1980s).

Table 5. Investment intensity index, East Asia[a]

Host/home country/region	Taiwan Province of China 1980-1984	Taiwan Province of China 1985-1989	Malaysia 1980-1984	Malaysia 1985-1989	Japan 1980-1984	Japan 1985-1989	Singapore 1980-1984	Singapore 1985-1989	Philippines 1980-1984	Philippines 1985-1989
Western Europe	0.192	0.445	0.615	0.507	0.803	0.805	0.764	0.603	0.420	0.229
North America	1.937	2.020	0.458	0.463	4.159	11.539	1.999	2.867	3.866	7.280
Australia/New Zealand	0.000	0.068	5.387	0.772	0.000	0.000	0.000	0.000	1.135	0.953
East Asia	6.495	4.488	7.319	9.382	0.685	0.136	2.734	3.226	1.714	1.877
Japan	3.482	2.653	2.874	2.138	0.000	0.000	3.260	3.840	1.236	0.978
Hong Kong	9.834	13.917	4.571	4.566	8.633	2.802	0.000	0.000	5.836	10.527
Republic of Korea	0.000	0.160	9.162	17.408	0.000	0.000	0.000	0.000	2.108	2.729
Singapore	50.929	17.376	70.191	113.879	0.000	0.000	0.000	0.000	3.944	9.904
Taiwan Province of China	0.000	0.000	32.118	20.333	6.353	0.000	0.000	0.000	0.000	1.900

Host/home country/region	Indonesia 1980-1984	Indonesia 1985-1989	Hong Kong 1980-1984	Hong Kong 1985-1989	Republic of Korea 1980-1984	Republic of Korea 1985-1989	Thailand 1980-1984	Thailand 1985-1989	East Asia 1980-1984	East Asia 1985-1989
Western Europe	0.920	0.802	0.293	0.588	0.410	0.316	0.423	0.257	0.458	0.445
North America	0.481	0.991	3.473	1.046	2.400	2.389	1.104	1.059	2.031	1.588
Australia/New Zealand	0.261	0.817	0.692	3.521	0.000	0.101	0.786	0.147	1.109	0.430
East Asia	6.795	4.736	2.798	5.508	4.277	5.433	5.633	11.604	3.637	5.808
Japan	2.826	1.109	2.518	5.540	3.711	5.617	2.759	4.172	2.551	3.149
Hong Kong	23.693	8.678	0.000	0.000	6.863	2.843	10.138	12.792	4.722	6.664
Republic of Korea	6.393	98.433	0.000	-1.126	0.000	0.000	1.16	7.271	1.855	3.654
Singapore	15.125	52.615	11.761	12.193	0.470	4.123	55.605	43.159	24.172	39.620
Taiwan Province of China	0.000	10.089	13.498	0.446	0.000	0.030	3.827	8.894	6.049	5.880

Memo item:

Host/home country/region	China 1985-1989
Western Europe	0.062
North America	0.452
Australia/New Zealand	0.284
East Asia	3.535
Japan	0.436
Hong Kong	51.441
Republic of Korea	0.000
Singapore	4.271
Taiwan Province of China	0.000

Source: Authors' calculations, based on UNCTAD, Division on Transnational Corporations and Investment data base.

[a] Regional definitions as in table 1. Western Europe includes EC12 + Austria, Finland, Norway, Sweden and Switzerland.

Still, the concept of trade-oriented FDI is a useful reference for the analysis of trade-FDI links in East Asia. It is well known that a good part of FDI in the developing countries of East Asia has a clear export-orientation (Riedel, 1991; King and Roc, 1992). Comparing Asia and Latin America, for example, Kenji Takeuchi (1990, p. 32) showed that Japanese affiliates in Asia presented a much stronger export orientation (as measured by the ratio of exports to total sales) than Japanese affiliates in Latin America (45 per cent versus 20 per cent in 1986).[9] And recent FDI flows from the newly industrializing economies into other countries in the region have also been characterized by a high proportion of firms that are export oriented — the so-called "mobile exporters" (Wells, 1992).

The trade-FDI link in East Asia has often been modeled in the context of the "flying-geese" hypothesis that focuses on the relationship between changes in industrialization and comparative advantage (Akamatsu, 1962; Ozawa, 1990). According to this hypothesis, the dispersion of technologies that influence trade patterns in particular commodities is transmitted through FDI from the lead country to the follower countries. Lead-country firms, in an attempt to continue exploiting the ownership advantages of their technology combined with the factor-cost advantages of the host countries, move production of their "second tier" products offshore to the follower countries. The combination of FDI and relatively cheaper domestic factors of production helps to raise the competitiveness of the products on the world market and leads to an increase in exports from the follower country. The expected impact of this process over time is that the revealed comparative advantage (or relative export concentration) of the lead country in a particular product declines as its production moves overseas, while the corresponding revealed comparative advantage in the follower countries increases. In the usual description for East Asia, Japan is the lead country, followed by the newly industrializing economies, which are, in turn, followed by the ASEAN-4 and, more recently, by China. In short, the flying-geese pattern is seen as contributing to a "virtuous cycle" of FDI-trade expansion in which industrial restructuring evolves in synchrony with comparative advantage trends.

The implications of the flying-geese pattern for regional integration, however, are less straightforward. Although intraregional FDI flows are bound to increase economic proximity (e.g., by promoting convergence in business practices), it does not necessarily follow that they will increase the intraregional bias of trade flows. As the data reviewed earlier suggest, the flying-geese pattern is quite compatible with globalization, as East Asian exporters target markets out-

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[9] It is worth noting that the export orientation of TNCs is also affected by the character of prevailing trade policies in the host country. Accordingly, this result is, in part, a by-product of the more inward-oriented style of development followed by Latin American countries. One should expect these differences to diminish in the 1990s if Latin America continues to pursue trade liberalization.

side the region. It has been argued, however, that as mobile exporters move from lead to follower economies in the flying-geese pattern (reflecting, for example, growing labour costs in the home country), networking activities tend to grow, promoting regional integration (UNTCMD, 1993c, pp. 49-50). In such a scenario, one would expect a significant increase in intra-industry and intra-firm trade within the region (as a sign of growing networking), alongside the evolving globalization process. Moreover, the recent burst in intraregional FDI should be expected to deepen further existing intraregional networks in the 1990s.

The hypothesis that, under the wings of a flying-geese formation, regionalization is being nurtured is discussed below. First, we analyse the extent to which the flying-geese hypothesis has been relevant in explaining trade-FDI patterns in East Asia in the 1980s. Following that, recent trends in intra-industry and intra-firm trade are analysed.

Evidence of links between trade and foreign direct investment at the regional level

The flying-geese hypothesis was initially tested following the method suggested by Rana (1990). We calculated revealed comparative advantage (RCA) indices for an average of three years at the beginning of the decade (1979-1981) and at the end of the decade (1989-1991) for Japan, the newly

Table 6A. Results of revealed comparative advantage Spearman rank correlations with Japan

	(Observations)	Japan
Hong Kong	57	-0.04479
Republic of Korea	44	-0.37223[a]
Singapore	31	-0.24718
Taiwan Province of China	51	-0.17285
Indonesia	57	-0.27262[a]
Philippines	47	-0.31071[a]
Thailand	52	-0.30266[b]
Malaysia	50	-0.11587[a]

Source: Own calculations.
[a] Significant at the 5 per cent level.

Table 6B. Results of related comparative advantage Spearman rank correlations, ASEAN-4 with the newly industrializing economies

	Hong Kong	Republic of Korea	Singapore	Taiwan Province of China
Indonesia	−0.12244	−0.37205[a]	−0.35351[a]	−0.1999
Philippines	−0.33182	−0.25081[b]	−0.16212	0.02128
Thailand	−0.11312[a]	0.02222	−0.03714	0.01588
Malaysia	0.00548	−0.09782	0.04989	−0.29268[a]

Source: Own calculations.

[a] Significant at the 5 per cent level.

[b] Significant at the 10 per cent level.

industrializing economies and the ASEAN-4, for 3-digit SITC categories.[10] For each follower country, those manufactured products in which RCA indices increased between the two periods were selected. The change in the RCA index for these products was then tested to see if it was significantly correlated with the change in the related RCA indices for Japan. A negative and significant correlation was considered evidence in favour of the flying-geese hypothesis. The results of this exercise (table 6A), provide moderate support for that hypothesis. Spearman rank correlation coefficients were significant and negative, as expected, for Indonesia, the Philippines, the Republic of Korea and Thailand. For the other countries, the coefficients were not significant.

Table 6B presents results for the second tier of the flying-geese relationship. Here, positive changes in RCAs for the ASEAN-4 countries were compared with changes in RCA indices for the newly industrializing economies. The results also provide some support for the second-tier hypothesis, with significant negative correlations for Indonesia *vis-à-vis* the Republic of Korea and Singapore, the Philippines with respect to Hong Kong and the Republic of Korea, and Malaysia with respect to Taiwan Province of China.

An alternative test of the flying-geese hypothesis was performed using the available information on FDI flows at the industry level. A possible interpretation of the flying-geese hypothesis is that comparative advantage in the follower countries (newly industrializing economies or ASEAN) in a particular industry is

[10] The revealed comparative advantage index is calculated following Balassa (1965) as: $(X_{ij}/X_j)/(X_i/X)$, where X_{ij} is the value of exports in industry i from country j, X_j is the value of total exports of manufactured products from country j, X_i is the value of world exports in industry i, and X is the value of total world manufactured exports.

negatively related to comparative advantage in that industry in the lead country (Japan), and positively related to outward FDI from the lead country to the follower country. In order to test this proposition, we ran the regression below, using pooled data over nine manufacturing industries and eight East-Asian countries (newly industrializing economies and ASEAN-4):

(3) $RCA_{ij} = a + b1JRCA_i + b2JFDI_{ij} + e_{ij}$

where:

$i = 1 \ldots 9$ (industries)

$j = 1 \ldots 8$ (countries),

where, $JFDI_{ij}$ is the aggregated flow of Japanese FDI to each country and each industry from 1980 to 1988.[11] $JRCA_i$ is the revealed comparative advantage index for Japanese exports from industry i and RCA_{ij} is the revealed comparative advantage index of industry i in host country j (both calculated for the average level of trade over the 1987-1989 period). Following the flying-geese hypothesis, our expectation was that b^1 would be negative and b^2 would be positive.

The results of the regression analysis are presented in table 6C. A joint F-test of the significance of the parameters rejects the hypothesis that all parameters except the intercept are zero at the 95 per cent level. However, the adjusted R-square is very low at 0.04. The coefficient on the Japanese RCA index is significantly different from zero and of the expected sign, but the coefficient on Japanese FDI is not. Several factors might account for this

[11] The data were obtained from the Japanese Ministry of Finance (two-digit International Standard Industrial Classification).

Table 6C. Regression results of flying-geese model of foreign direct investment

Variable	Parameter estimate	Standard error	t-statistic
Intercept	1.667	0.2500	6.673
JRCA	-0.621	0.2930	-2.118[a]
JFDI	-0.001	0.0016	-0.625
Observations: 72			
Adjusted R-square: 0.0428			
F-test value 2.788[a]			

Source: Own calculations.

[a]Significant at the 5 per cent level.

disappointing result. First, the relatively high level of aggregation of the data may obscure the relationship between trade and FDI observable at a finer industry level. Second, RCA indices reflect not only changes in the export structure of a country, but also changes in world trade in a particular industry. This "world industry trade" effect may dominate the changes in RCA indices, in which case we would not expect them to be highly correlated with changes in FDI (alternative specifications of regression (3) using export levels as the dependent variable did not generate better results, however). Third, pooling the data for all countries may not be appropriate given the possibility of different supply responses in countries at different levels of development. Moreover, the lag- structure between FDI flows and changes in comparative advantage may differ from the one assumed in equation (3).

Summing up, there is some evidence that countries in the region have continued to follow the flying-geese pattern in the 1980s as far as trade-specialization patterns are concerned. The role played by FDI flows in shaping those patterns, however, could not be established based on FDI information at the two-digit ISIC level.

Intra-industry trade

Kiichiro Fukasaku (1992, p. 24) pointed out that the flying-geese model is built upon the assumption that trade patterns fostered by FDI flows tend to evolve according to inter-industry specialization. It can be argued, however, that trade-oriented FDI will also promote intra-industry trade.

Intra-industry trade is defined as exports and imports of goods and services from the same product category between two countries (regions). Interest for intra-industry trade developed in response to empirical findings that economic integration among developed economies was mainly characterized by more intra-industry trade rather than by inter-industry specialization (Balassa, 1963). Following these findings in the early 1960s, there was a flurry of empirical and theoretical work focusing on the phenomenon of intra-industry trade.

On the empirical front, there was a lively debate on the extent to which intra-industry trade was simply a statistical "mirage" created by inadequate industry definitions,[12] leading to the development of alternative ways to measure

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[12] The main outcome of this debate was the recognition that although "categorical aggregation" (i.e., inappropriate classification of products and activities in the same "industry") affects intra-industry trade estimates, it cannot explain the totality of intra-industry trade flows. Categorical aggregation tends to diminish when trade data is disaggregated more narrowly, but even at the seven-digit SITC level trade overlap is observed. It is worth noting that most analysts rely on three-digit SITC as an appropriate approximation for an industry in the context of intra-industry trade analyses. For further details, see Finger (1975) and Greenway and Milner (1983).

intra-industry trade (Greenaway and Milner, 1986). On the theoretical front, two main lines of research evolved. First, there were attempts to show that intra-industry trade might be explained by differences in factor proportions among products classified in the same industry. In this context, it was established that intra-industry trade was not necessarily at odds with conventional Heckscher-Ohlin predictions (Falvey, 1981). Second, new models were developed that are able to explain intra-industry trade in a non-Heckscher-Ohlin world. The role of differentiated products (Krugman, 1979; Lancaster, 1980), product cycles (Grubel and Lloyd, 1975), oligopolistic markets (Brander and Krugman, 1983) and the emergence of TNCs (Agmon, 1979) have been explored in this context.

Intra-industry trade can be viewed as an indicator of "economic proximity". The smaller the difference in per capita income between two countries (regions), for example, the higher would be the level of intra-industry trade between them. The above hypothesis relies on the following assumptions: (i) similarities in demand conditions (or overlap in consumer tastes) tend to be higher the greater the proximity in terms of levels of economic development between the trade partners, and (ii) an overlap of tastes enhances the potential for intra-industry trade in differentiated products. The importance of demand influences as a source of intra-industry trade has often been translated into the presumption that intra-industry trade is mainly an attribute of trade patterns among developed countries.

As several analysts have shown, however, levels of intra-industry trade involving developing countries are not always negligible and have been rising over time (Balassa, 1979; Havrylyshyn and Civan, 1983). Table 7 presents the Grubel-Lloyd indices of intra-industry trade for selected countries in East Asia with their major trading partners in 1980 and 1990.[13] There is a significant increase in the level of intra-industry trade between Japan and the other East Asian countries between 1980 and 1990. This is also true for trade between our selected countries (with the exception of Hong Kong) and the newly industrializing economies, as well as the ASEAN-4 (shown in the second column of table 7).[14] It is worth noting that intra-industry trade has been increasing not only at the regional level, but also with respect to all major trading partners of East Asia. The rate of growth of intra-industry trade at the regional level has been, in

[13] The Grubel- Lloyd index is calculated as:

$$IIT = 1 - [\Sigma_I \Sigma_J \Sigma_K \mid /X_{IJK} - M_{IJK} \mid \Sigma_I \Sigma_J \Sigma_K (X_{IJK} + M_{IJK}],$$

where X_{ijk} and M_{ijk} are exports and imports, respectively, from country i to country j of products in industry k, and $\|$ indicate absolute value. For the analysis pursued in this article (particularly the question of trends in intra-industry trade), the use of the unadjusted Grubel-Lloyd index was considered appropriate. For a discussion of the possible bias that affects this index if the country's total commodity trade is imbalanced see Aquino (1978) and Tharakan (1983).

[14] Similar results were found by Lee (1989, 1992) and Fukasaku (1992).

Table 7. Intra-industry trade indices for East Asia

		Japan	Newly industrializing economies	ASEAN-4	East Asia	China	United States	European Community (EC-12)	World
Japan	1980	..	0.258	0.075	0.206	0.100	0.308	0.369	0.261
	1990	..	0.324	0.184	0.291	0.250	0.367	0.428	0.358
Hong Kong	1980	0.097	0.297	0.456	0.241	0.177	0.255	0.252	0.453
	1990	0.111	0.225	0.371	0.216	0.315	0.288	0.314	0.502
Indonesia	1980	0.011	0.152	0.212	0.089	0.001	0.014	0.036	0.083
	1990	0.076	0.277	0.301	0.198	0.027	0.071	0.073	0.178
Malaysia	1980	0.090	0.516	0.539	0.332	0.020	0.619	0.261	0.425
	1990	0.272	0.631	0.545	0.591	0.203	0.534	0.352	0.581
Philippines	1980	0.111	0.271	0.122	0.218	0.080	0.089	0.080	0.166
	1990	0.167	0.276	0.491	0.290	0.061	0.243	0.203	0.304
Republic of Korea	1980	0.354	0.262	0.093	0.467	..	0.273	0.267	0.396
	1990	0.425	0.488	0.267	0.577	..	0.370	0.298	0.485
Singapore	1980	0.085	0.444	0.498	0.566	0.089	0.450	0.362	0.658
	1990	0.266	0.685	0.628	0.661	0.379	0.479	0.358	0.716
Taiwan Province of China	1980	0.207	0.269	0.165	0.477	..	0.209	0.209	0.352
	1990	0.366	0.399	0.281	0.604	n/a	0.326	0.296	0.483
Thailand	1980	0.046	0.315	0.260	0.196	0.072	0.175	0.087	0.262
	1990	0.169	0.579	0.461	0.360	0.076	0.373	0.242	0.397
China	1980	..	..	..	..	..	..	..	..
	1990	0.231	0.578	0.224	0.572	..	0.189	0.212	0.498

Source: Calculated by the authors, based on United Nations series D Comtrade tapes.

most cases, substantially higher (particularly in Malaysia, Singapore and Thailand) than that with non-regional trade partners. This trend is even stronger when intra-industry trade levels with China are also considered.

For most East Asian countries, the overall growth in intra-industry trade can be partially explained by their success in sustaining above-average rates of economic growth, a phenomenon that has placed them on a convergence path with the developed countries. Based on the previous discussion of the patterns and trade orientation of FDI flows in East Asia, however, it is worth exploring the extent to which the growing activity of TNCs in the region has also influenced the observed growth in intra-industry trade flows.[15]

In the case of vertically integrated TNC networks (i.e., networks that coordinate different stages of production across countries), the link between their expansion and the growth of intra-industry trade will occur if intermediate products and finished products are lumped together in the same industrial classification. On the other hand, it is clear that the expansion of these networks will be closely associated with the growth of intra-firm trade (i.e., international trade in goods and services between a parent company and its affiliates). Still, an increase in intra-industry trade, even if characterized by a regional bias, is not incompatible with a globalization strategy (i.e., rationalization and integration of manufacturing activities being pursued as a means to achieve greater competitiveness at the global level).

Foreign direct investment that leads to the formation of horizontally integrated TNC networks (i.e., networks in which each firm specializes in a particular product range) also tends to promote intra-industry trade. A product-cycle rationale may be used to explain the appearance of these networks, as parent firms in the lead country maintain production of high-quality products (i.e., closer to the technological frontier) and shift the production of lower-quality (more standardized) items to their affiliates in follower countries.

In order to test the extent to which Japanese FDI in the 1980s has promoted intra-industry trade in East Asia, the following regression was estimated:

$$(4) \quad IIT_{it} = a + b^1 RPCI_{it} + b^2 JFDI_{it} + b^3 DIST_i + b^4 DUM_i + u_{it} \,,$$

where:

$i = 1,...9$ countries,

$t = 1980, 1990,$

[15] Formal models linking the presence of TNCs to intra-industry (and intra-firm) trade are presented in Helpman and Krugman (1985). It is shown, for example, that in the case of single-product firms, FDI and intra-industry trade tend to be complements rather than substitutes, as long as the capital-rich country (in a two-country world) remains a net exporter of manufactures.

Table 8. Results of regressions on intra-industry trade

	Parameter estimate	Standard error	t-statistic
Intercept	0.6799	0.1898	3.581[a]
RPCI	-0.2135	0.1116	-1.913[a]
JFDI	0.0004	0.0001	3.261[a]
Hong Kong dummy	-0.3704	0.1290	-2.871[a]
Indonesia dummy	-0.0678	0.0751	-0.903
Singapore dummy	-0.1782	0.1287	-1.384
Distance	-0.0005	0.0001	-3.206[a]

Observation: 18
Adjusted R-square: 0.6162
F-test value: 5.549[a]

Source: Own calculations.
[a] Significant at the 5 per cent level.

where, IIT_{it} is the Grubel-Lloyd index for intra-industry trade between country i and Japan in year t; RPCI is a measure of the per capita income difference between country i and Japan; defined as: $RPCI_i = |PCI_{Japan} - PCI_i| / [(PCI_{Japan} + PCI_i) / 2]$. $JFDI_{it}$ is total Japanese FDI in manufacturing in country i in year t, $DIST_i$ is the distance between the capital of country i and Tokyo, and DUMi is a dummy variable for country i. Dummy variables were used for Hong Kong and Singapore, to capture the effects of their geographic location on their propensity for entrepôt trade, and for Indonesia, to capture any differences in trade patterns due to the high concentration of resource-driven FDI.

The results of the regression analysis are presented in table 8. The coefficients of all the variables are significant and of the expected sign, except for the dummy variables for Indonesia and Singapore.[16] The coefficients of RPCI and DIST are negative, confirming the conventional result that geographic and economic proximity induce a greater degree of intra-industry trade. The coefficient of JFDI is positive, suggesting a pro-intra-industry trade effect from Japanese FDI. The coefficient of the dummy variable for Hong Kong is negative, but its magnitude must be calculated relative to the intercept term, since the two are not independent. When this is taken into account, the "Hong Kong effect" is also positive.

[16] The basic results of the regression (that is, signs, significance of variables, adjusted R-square) are not significantly altered if the dummies for Indonesia and Singapore are dropped.

The complementarity between Japanese FDI and intra-industry trade suggests that Japanese TNC networks have contributed to the promotion of regional economic proximity. It is worth noting that, in the case of United States TNCs, using data for 1970, Richard Caves (1981) found a negative sign for United States FDI as an explanatory variable for intra-industry trade, but a positive sign for the level of intra-firm trade. These results were interpreted as meaning "that FDI captures the substitute relation between international trade and direct investment while AFFL [intra-firm trade] picks up its complementary aspect" (Caves, 1981, p. 219). The results obtained here in the case of Japanese FDI seem to indicate that intra-firm trade (associated with vertical integration) in East Asia not only shows up as intra-industry trade, but also dominates the conventional substitution effect between trade and FDI. Unfortunately, Japanese data on intra-firm trade are not available in a format that would allow a more formal test of this proposition. In the section below the available information on intra-firm trade by Japanese TNCs is analysed in more detail.

Intra-firm trade

Intra-firm trade accounts for a significant proportion of world trade flows.[17] Intra-firm trade data have to be handled with care given the role of transfer-price mechanisms and accounting practices in influencing the recorded value of these transactions. There is evidence, however, that intra-firm trade tends to increase with the degree of coordination required for efficient interaction between trade partners, a phenomenon that is particularly relevant in the case of research-and-development-intensive industries (Siddharthan and Kumar, 1990).

Intra-firm trade is the most narrow definition of TNC-related trade.[18] For the parent company, it secures greater control over input by suppliers and downstream markets than arm's-length transactions and it enhances the possibilities for economic co-ordination across national frontiers. Accordingly, growing levels of intra-firm trade within a region can be interpreted as another indicator of increased economic proximity. An increase in the levels of intraregional intra-firm trade led by Japanese parent companies would be a possible explanation for the complementarity between FDI and intra-industry trade identified above.

In order to investigate intraregional trends in intra-firm trade, we used data from surveys of the Ministry of International Trade and Industry covering

[17] John H. Dunning (1993, p. 409) offered the following figures for the importance of intra-firm trade for different countries/years. For each country the first figure represents the share (in percentage points) of intra-firm transactions in total exports and the second figure the related share for imports: Japan, 1983 — (31, 18); United States, 1986 — (36, 36); United Kingdom, 1984 — (29, 51); Sweden, 1975 — (29, 25); Belgium, 1976 — (53, 48); Portugal, 1981 — (31, 34).

[18] For comprehensive analyses of all modalities of TNC-related trade, see Hipple (1990) and Cantwell (1992).

Table 9. Exports shipped by Japanese parent companies, by industry and region, various years
(Billions of yen and percentage)

	Total exports shipped by Japanese parents (Billions of yen)	Destination (Percentage)			Exports shipped by Japanese parents to their affiliates (Billions of yen)	Intra-firm export ratio [b] (Percentage)			
		North America [a]	Asia	Europe		Total	North America	Asia	Europe
Fiscal year 1990									
All industries, of which:	52,440	..	..	..	16,086	30.7	..	..	..
Manufacturing, of which: [c]	32,868	..	..	..	14,162	43.1	..	..	..
General machinery	2,089	..	..	..	723	34.6	..	..	..
Electrical machinery	10,398	..	..	..	5,097	49.0	..	..	..
Transport equipment	12,236	..	..	..	5,866	47.9	..	..	..
Precision instruments	1,761	..	..	..	1,206	68.5	..	..	..
Wholesale and retail trade	18,595	..	..	..	1,893	10.2	..	..	..
Fiscal year 1989									
All industries, of which:	47,560	35.8	27.3	25.4	15,533	32.7	52.2	15.9	30.5
Manufacturing, of which: [c]	24,121	38.1	27.2	22.4	9,912	41.1	63.4	17.8	43.1
General machinery	1,364	32.5	27	26.2	597	43.8	67.2	21.4	47.8
Electrical machinery	7,876	39.7	24.6	26.9	4,008	50.9	65.5	25.4	59.8
Transport equipment	8,857	45.4	17.1	19.1	3,639	41.1	64.6	22.1	23.2
Precision instruments	1,031	39.6	21.3	33.4	544	52.8	72.6	32.5	50.4
Wholesale and retail trade	22,894	32.8	27.1	30.6	5,569	24.4	34.7	21.4	20.2

Table 9. *(continued)*

	Total exports shipped by Japanese parents (Billions of yen)	Destination (Percentage)			Exports shipped by Japanese parents to their affiliates (Billions of yen)	Intra-firm export ratio [b] (Percentage)			
		North America [a]	Asia	Europe		Total	North America	Asia	Europe
Fiscal year 1986									
All industries, of which:	44,965	39.2	26.2	19.2	14,372	32.0	54.1	8.3	36.0
Manufacturing, of which: [c]	24,641	42.1	22.2	20.6	9,658	39.2	60.7	11.8	42.6
General machinery	1,582	28.6	30.1	18.8	509	32.2	64.9	11.8	44.3
Electrical machinery	6,434	43.7	17.5	25.1	2,789	43.3	58.7	15.9	50.6
Transport equipment	11,418	52.3	14	18.3	4,991	43.7	62.6	17.8	33.7
Precision instruments	1,245	52.7	8.4	30.6	743	59.7	64.9	34.8	61.4
Wholesale and retail trade	19,937	37.1	29.6	18	4,666	23.4	43.7	5.3	24.4
Fiscal year 1983									
All industries, of which:	46,093	..	..	..	10,910	23.7	..	..	..
Manufacturing, of which: [c]	23,477	..	..	..	7,000	29.8	..	..	..
General machinery	1,880	..	..	..	236	12.6	..	..	..
Electrical machinery	5,744	..	..	..	1,425	24.8	..	..	..
Transport equipment	9,582	..	..	..	4,343	45.3	..	..	..
Precision instruments	431	..	..	..	167	38.7	..	..	..
Wholesale and retail trade	21,244	..	..	..	3,873	18.2	..	..	..

Source: Japan, MITI, various years.

[a] Only Canada and the United States are included in North America.

[b] Intra-firm exports to total exports.

[c] Leading technology- or human capital-intensive industries.

business activities of Japanese parent companies. It is important to note that the coverage of these data is limited and that comparisons between years are not necessarily valid, given changes in the number of companies participating in the survey from year to year.[19] Despite this shortcoming, this data set provides at least some information on the evolving trends in Japanese intra-firm trade at the regional level during the 1980s.

Tables 9 and 10 present information on trade flows associated with Japanese parent companies for recent fiscal years. Information at the regional level is available only for the fiscal years 1986 and 1989. The regional aggregation used in the Ministry of International Trade and Industry surveys differs somewhat from the one adopted in this article (see notes to the tables). In the case of Asia, however, the vast majority of Japanese affiliates is concentrated in the "East Asia plus China" region; as a consequence, no significant distortion is introduced by the use of this broader regional definition in assessing intra-firm trade trends. Keeping in mind that the available time series is quite sketchy and that changes in the coverage of the survey qualify the validity of comparisons between different fiscal years, the following considerations are pertinent.

On the export side, the intra-firm ratio of Japanese parent companies followed a consistent upward trend over the 1983-1990 period (at least for the manufacturing sector).[20] Intra-firm exports within Asia grew significantly, even though the region continued to display a much lower intra-firm export ratio than that which characterizes the pattern of Japanese exports to other markets in developed countries. Moreover, as a destination of intra-firm exports, the region's share reached only 13 per cent by 1989. On the import side, the data suggest that intra-firm imports within Asia expanded vigorously, while decreasing in other key markets. By 1989, Asian countries had become the main source of intra-firm imports shipped to Japanese parent firms.

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[19] Working with the data of the Ministry of International Trade and Industry of Japan for fiscal year 1989, OECD (1993a, p. 20) pointed out that it "is impossible to determine the share of intra-firm trade in total Japanese trade, given the official published data. What can be determined is the share of intra-firm trade in total foreign trade involving the companies covered by the survey." Of the 3,331 Japanese parent companies contacted in the *Fourth Survey*, 1,562 (46.9 per cent) answered the questionnaire. The number of overseas affiliates contacted was 8,804 of which 6,362 (72.3 per cent) responded. It is worth noting, however, that usually more than 90 per cent of the major corporations respond to these surveys.

[20] Data for 1990 are puzzling with respect to the role of trading companies in Japanese trade. According to the published information, there was a dramatic decrease in the amount of intra-firm trade conducted by these companies in fiscal year 1990, particularly with respect to imports. This result, however, could simply reflect a more limited coverage of large trading companies in the 1990 edition of the survey.

Table 10. Imports shipped to Japanese parent companies, by industry and region, various years
(Billions of yen and percentage)

	Total imports shipped to Japanese parent firms (Billions of yen)	Destination (Percentage)			Imports shipped to Japanese parent firms by their affiliates (Billions of yen)	Intra-firm export ratio [b] (Percentage)			
		North America [b]	Asia	Europe		Total	North America	Asia	Europe
Fiscal year 1990									
All industries,	32,370	...	...	...	3,411	10.5	...	...	...
of which:									
Manufacturing, [c]	10,092	...	...	...	2,064	20.5	...	...	...
of which:									
General machinery	102	...	...	...	31	30.4	...	...	...
Electrical machinery	1,691	...	...	...	527	31.2	...	...	...
Transport equipment	973	...	...	...	156	16.0	...	...	...
Precision instruments	168	...	...	...	39	23.2	...	...	...
Wholesale and retail trade	21,692	...	...	...	1,269	5.9	...	...	...
Fiscal year 1989									
All industries,	38,752	29.5	22	29.6	11,128	28.7	24.4	53.8	8.9
of which:									
Manufacturing, [c]	9,823	27.8	28.2	7.8	3,037	30.9	14.0	36.3	49.2
of which:									
General machinery	92	22.9	47.1	19.9	31	33.7	9.9	65.0	2.2
Electrical machinery	2,173	44.7	47.1	4.7	779	35.8	8.4	65.5	16.0
Transport equipment	1,696	59.1	13.4	19	610	36.0	35.1	63.3	13.1
Precision instruments	97	34.1	51.3	14.2	37	38.1	24.0	56.0	8.6
Wholesale and retail trade	28,496	30.3	19.2	37.8	8,061	28.3	33.5	71.0	4.9

Table 10. *(continued)*

	Total imports shipped to Japanese parent firms (Billions of yen)	Destination (Percentage)			Imports shipped to Japanese parent firms by their affiliates (Billions of yen)	Intra-firm export ratio [b] (Percentage)			
		North America [b]	Asia	Europe		Total	North America	Asia	Europe
Fiscal year 1986									
All industries, of which:	16,585	29.4	27.2	15.2	4,313	26.0	50.1	16.7	22.2
Manufacturing, of which: [c]	3,055	30.9	23	12.1	716	23.4	24.2	40.0	15.7
General machinery	122	43.3	20.4	25	15	12.3	3.2	53.0	0.3
Electrical machinery	395	56.5	36.6	6.3	194	49.1	5.6	122.4 [d]	18.7
Transport equipment	158	52.4	10.3	16.9	35	22.2	20.8	69.3	24.9
Precision instruments	74	53.3	23.8	21.4	27	36.5	14.4	78.3	40.7
Wholesale and retail trade	13,330	29.2	28.1	16.2	3,553	26.7	57.9	11.5	23.7
Fiscal year 1983									
All industries, of which:	18,246	..	..		5,053	27.7			
Manufacturing, of which: [c]	4,867	..	..	..	1,018	20.9	..	..	..
General machinery	90	..	..	..	18	20	..	..	..
Electrical machinery	322	..	..	..	135	41.9	..	..	..
Transport equipment	69	..	..	..	24	34.8	..	..	..
Precision instruments	24	..	..	..	8	33.3	..	..	..
Wholesale and retail trade	12,849	..	..		3,932	30.6	..	..	..

Source: Japan, MITI, various years.

[a] Only Canada and the United States are included in North America.

[b] Intra-firm exports to total exports.

[c] Leading technology- or human capital-intensive industries.

[d] Result suggests non-matching coverage in the survey between firms reporting total imports and those reporting intra-firm imports.

A closer examination of the data shows that the main factor behind these trends was the significant increase in intra-firm trade by Japanese trading companies in Asia. These companies play a large role in determining Japanese intra-firm trade flows. This is particularly true with respect to imports, a result that may be construed as more evidence of the competitive advantage of these companies in penetrating the Japanese market.[21] Still, the extent to which intra-firm imports are a response to vertical specialization remains an empirical question.[22]

One possible interpretation of these trends is that Japanese TNCs are increasing their control of Japanese trade within Asia, while keeping a more stable ratio of intra-firm trade *vis-à-vis* their transactions with the rest of the world. In this context, the perception of an Asian trade "bloc" being formed could be explained by the ongoing qualitative change in regional trade patterns led by the strategic behaviour of Japanese TNCs. On the other hand, it can be argued that the increase in intra-firm trade in Asia may reflect the impact of

[21] For more on this, see Lawrence (1991).

[22] K. Kojima and T. Ozawa (1984) argued that trading companies have been instrumental in persuading manufacturing firms losing comparative advantage to locate abroad and to serve the Japanese market through exports. In this fashion, their growing activity in Asia could be interpreted as compatible with the vertical-integration hypothesis.

Table 11. Ratio of intra-firm exports to intra-firm imports of Japanese parent companies, various years

Year/region	World	North America[a]	Asia	Europe
FY 1990	4.71	..	..	..
FY 1989	1.40	3.18	0.45	3.60
FY 1986	3.33	3.89	1.29	5.53
FY 1983	2.16	..	..	..
Memo Item	World		East Asia[c] plus China	EC-12
United States TNCs[b] 1990	1.18		0.64	2.38
			Japan 3.94	

Sources: Japan, MITI, various years; United States Department of Commerce (1992)

[a]United States and Canada

[b]Only majority owned affiliates are included in intra-firm trade in the case of United States TNCs.

[c]East Asia not including Japan.

changing trading practices (e.g., once a trading company establishes an affiliate in a given country, an arm's-length trade transaction may become intra-firm simply because the affiliate purchases the goods in the host economy and then ships them to the parent firm).

In any event, it is quite clear that Japanese intra-firm trade within Asia presents a much larger share of sales from affiliates to parent firms than is the case for Japanese intra-firm transactions in North America (excluding Mexico) and Europe (table 11). In developed countries, Japanese intra-firm exports are at least three times larger than intra-firm imports. In contrast, intra-firm imports from Asia by Japanese parent companies were more than twice as large as their exports to affiliates in that region in fiscal year 1989. In other words, while intra-firm trade between Japan and other developed countries is organized mainly as a downstream process (from parent firms to affiliates), in Asia it has a much larger upstream component (from affiliates to parent firms).

This result is not particularly surprising. After all, a similar pattern (see memorandum item in table 11) can also be identified in intra-firm transactions between United States parent firms and their affiliates in East Asia (excluding Japan). If, however, as suggested by Dennis Encarnation (1992, 1993), Japanese affiliates in East Asia have better access to the Japanese market than their competitors, it can be argued that this trend will foster an intraregional trade bias to the extent that Japanese parent companies control a substantial share of Japan's imports.

Foreign direct investment in services in East Asia[23]

Over the 1983-1990 period, FDI outflows increased at a much faster pace than either global trade or world output. Investment outflows — which had increased in nominal terms at an annual average growth rate of 8.7 per cent per year over the 1970-1983 period — grew at a yearly rate of 27.8 per cent from 1983 to 1990. Lately, this trend has slowed down, reflecting the decrease in FDI outflows from France, Germany and, particularly, Japan over the 1991-1992 period.[24] Still, with annual outflows from the five major home countries (United States, Japan, United Kingdom, France and Germany) still being over $100 billion, FDI continues to play a central role in the ongoing process of internationalization of economic activities.

A major force behind the fast expansion of FDI flows in the 1980s was the dynamism of FDI in services.[25] By 1980, 38 per cent of the outward stock of

[23] Parts of this section rely on Primo Braga (1994).

[24] For details about the recent performance of Japanese FDI, see Rutter (1993).

[25] A broad definition of the services sector encompasses professional, community, social and personal services, trade and finance, transport and communication, public administration and defence, as well as construction and public utilities.

FDI from the major home economies[26] was in the tertiary sector; ten years later, the share of the tertiary sector was 50 per cent (UNCTAD, Division on Transnational Corporations and Investment, 1993, p. 62). The main recipients of these flows were developed economies:[27] 48 per cent of their inward stock of FDI was in the tertiary sector by 1990, against 38 per cent in 1980 (UNCTAD, Division on Transnational Corporations and Investment, 1993, p. 62). It is worth noting that the share of inward FDI stock in the tertiary sector for the main host developing economies[28] also increased, from 23 per cent in 1980 to 30 per cent in 1990 (UNCTAD, Division on Transnational Corporations and Investment, 1993, p. 62). Still, most of the expansion of services FDI occurred in developed economies. Actually, the European Community was the single most important destination of services FDI in the 1980s, a phenomenon usually attributed to the effects of the single market initiative and its programme of services deregulation.

Japanese FDI also became increasingly services-oriented during the 1980s. By 1976, 40 per cent of Japan's stock of outward FDI was in the tertiary sector. By 1990, this share had evolved to 67 per cent (UNTCMD, 1992, p. 18). As in the case of other major home economies, most of these investments went to developed countries. Yet, the composition of Japanese FDI in developing countries also assumed a clear services orientation in the 1980s: FDI in tertiary activities accounted for 31 per cent of the FDI stock in these countries by 1980; ten years later, this share had grown to 62 per cent.

The relevance of the growing services orientation for future trade patterns is not easy to assess. After all, a significant proportion of these investments occurred in real estate, offshore financial centres and in countries offering flags of convenience. In the case of East Asia, however, the continuous expansion of FDI in trading affiliates and in miscellaneous services, which include professional services, suggests that these investments have a strong trade nexus.

Investment decisions in services are affected by some of the same variables that influence investment decisions in manufacturing (UNTCMD, 1993b). The size of the market, the openness of the host economy, cultural proximity, oligopolistic reaction and political risk are often mentioned as relevant variables in this context.[29] In the case of services, however, to the extent that proximity

[26]Australia, Canada, France, Germany, Italy, Japan, the Netherlands, United Kingdom and the United States.

[27]These figures refer to the same countries mentioned above, plus Spain.

[28] The main developing host economies considered in this context were: Argentina, Brazil, Chile, China, Colombia, Hong Kong, Indonesia, Malaysia, Mexico, Nigeria, Philippines, Republic of Korea, Singapore, Taiwan Province of China, Thailand and Venezuela.

[29] Indicators of cultural proximity have been built using Hofstede's indicators of differences among national value systems, based on information collected from IBM affiliates around the world. See Hofstede (1980) and Kogut and Singh (1988).

between providers and consumers is often required, FDI decisions are also influenced by the need to follow affiliates of home-country clients. In this context, the dynamism of Japanese services TNCs in the region could be interpreted as a natural by-product of the historical engagement of Japanese manufacturing TNCs in East Asia.

This explanation, however, is at best incomplete. As the contrast between the Japanese FDI profile in Indonesia (the country with the largest stock of Japanese FDI in Asia) and Hong Kong illustrates, the characteristics of the host economy (particularly its regulatory environment) also shape FDI trends. The magnitude of Japanese FDI in services in the Asian newly industrializing economies in the 1980s, for example, underscores the role of "thick-market" externalities (concentration of economic activities) associated with manufacturing in fostering the demand for producer services. By 1990, the sectoral distribution of Japanese FDI in newly industrializing economies was similar to the one prevailing in developed economies, with a clear orientation towards services. In Indonesia, in contrast, Japanese FDI in tertiary activities accounted for a meagre 9 per cent of the total stock by 1990.

It is also worth noting that, in the 1986-1990 period, the newly industrializing economies attracted approximately 12 per cent of all Japanese FDI going into trading activities around the world, doubling their historical share for the 1951-1985 period as a destination for this type of investment. The surge in the activities of Japanese trading companies in the region was focused primarily on Hong Kong and, to a lesser extent, on Singapore. In the past, Japanese trading companies played an important role in establishing trade networks in association with some manufacturing TNCs (e.g., those in the textile industry).[30] The current expansion suggests that these companies are positioning themselves to further explore the growing role of Hong Kong and Singapore as service hubs for East Asia and China.

This scenario could be interpreted as a new stage in the flying-geese pattern of development in East Asia. While outward investments from the newly industrializing economies and Japan expand manufacturing export platforms in the region (particularly in ASEAN-4 countries and China), Japanese FDI in the newly industrializing economies presents a services bias with investments that support regional networking (e.g., trading, professional services, transportation) playing an important role in this context. Japanese FDI should also be expected to increase its involvement in infrastructure projects (e.g., electric power and telecommunications) and the provision of related services in the region. This

[30] For a description of these alliances, see Yoshihara (1978).

development, however, will be contingent on further liberalization of the regulatory environment in the region.

Concluding remarks

This article presented evidence that "economic proximity" among East Asian countries (and China) is increasing. Intraregional trade dependence is on the rise and will probably continue to increase, if (as expected) the region sustains a growth rate above the world average. However, this trend will not necessarily imply an increase in the intraregional trade bias (as measured by the trade-intensity index), as the experience of the 1980s illustrates. In sum, globalization (i.e., production for markets outside the region) will remain an important facet of the trade orientation of East Asia and China.

The surge in intraregional FDI flows in the 1980s put in motion additional forces fostering economic integration. Flows of FDI from the newly industrializing economies, for example, are characterized by a strong intraregional bias, and this trend should carry on into the 1990s. Japanese FDI, in turn, is promoting intra-industry trade and vertical integration among manufacturing bases in East Asia. In this context, Japanese affiliates in East Asia seem to be in a privileged position to gain market access to the Japanese market via intra-firm transactions. Moreover, the continuous expansion of Japanese trading companies in Hong Kong and Singapore suggests that regional networks, organized in the flying-geese style, will continue to thrive in East Asia.

Against this background, a relevant question is whether East Asian countries should pursue formal economic integration through a preferential trading arrangement as a way to accelerate market-led integration. This question reflects the following considerations: (i) there are limits to market-driven integration and, in order for this process to continue, some sort of harmonization of domestic policies is required (this would be particularly true with respect to FDI policies and services liberalization); and (ii) a regional arrangement may be the most effective response for East Asia to the proliferation of discriminatory trading arrangements in the rest of the world.

It seems clear that, given East Asia's dependence on non-regional markets, regionalism should be pursued not as a substitute for the multilateral trade system, but as a mechanism to support multilateral liberalization. The argument that an East Asian bloc could provide an effective deterrence to the development of a "fortress" mentality in Europe and North America requires that Japan be a member of this minilateral arrangement. As discussed above, however, Japanese firms have already secured strategic positions in the region independent of preferential arrangements. Moreover, Hong Kong and Singapore (the

most important locations for regional Japanese networks) are characterized by liberal trade and FDI policies. And to the extent that tariffs and formal non-tariff barriers in Japan for manufactured products are already low, it is difficult to envision market-access negotiations that would be particularly appealing to other Asian countries.[31] In short, the feasibility of a regional bloc with Japan at its core seems weak at best.

Still, it can be argued that alternative minilateral initiatives should be pursued as a necessary condition for "deep integration" at a more limited regional level.[32] Obvious sub-regional candidates for "deep integration" are the southern provinces of China with the economies of Hong Kong and Taiwan Province of China, and the so-called "growth triangle" linking Singapore, the Malaysian state of Johor and Indonesia's Riau province. The potential benefits for trans-national harmonization and cooperation in trade, FDI and labour policies in these regions seem self-evident. What is not clear is the extent to which new minilateral initiatives are needed to address these issues.

With respect to Hong Kong and China, *de facto* integration is expected to be confirmed by *de jure* integration with the return of that economy to Chinese rule in July 1997. Growing economic ties between Taiwan Province of China and China have already led to bilateral negotiations focusing on investment guarantees (Jones, King and Klein, 1992, p. 16). Discussions around a more ambitious minilateral arrangement, however, will remain subject to the evolution of bilateral relations on the political front.

In the case of the "growth triangle", it is important to note that the countries involved are already members of ASEAN, which offers several preferential programmes designed to promote investment and cooperation among its member countries (e.g., the ASEAN Industrial Projects Programme). The "growth triangle", however, has not been contingent on their existence.[33] Actually, developments at the bilateral level, with Singapore as the hub, are being closely observed as potential lessons for ASEAN as a whole (Yuan, 1991). In other words, there does not seem to be a need for a new minilateral initiative to advance integration in the area.

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[31] It is also a foregone conclusion that Japan would not be interested in negotiating structural impediments to trade at the regional level. Labour movements would be the "wild card" in this, as long as Japan and Asian labour-exporting countries could find grounds for substantive negotiations on this issue.

[32] "Deep integration" arrangements address not only trade in goods, but also trade in services, movements of labour and capital and the harmonization of regulatory regimes. Moreover, these arrangements usually adopt supranational dispute-settlement mechanisms

[33] For a brief discussion of these programmes, see OECD (1993b).

Summing up, we find that regionalism as a market-driven process is bound to continue to evolve in East Asia. Preferential liberalization should continue to play a secondary role in the development strategy of the countries in the region. Minilateral initiatives focusing on cooperation and harmonization of FDI policies may also play a positive role in the region. It seems clear, however, that the need and feasibility of an all-encompassing preferential trading arrangement to advance this agenda is debatable. Regionalism in East Asia is unlikely to develop into a discriminatory East Asian trading bloc. ∎

References

Agmon, T. (1979). "Direct investment and intra-industry trade: substitutes or complements?", in H. Giersch, ed., *On the Economics of Intra-Industry Trade* (Tubingen: J. C. B. Mohr), pp. 49-62.

Akamatsu, K. (1962). "An historical pattern of economic growth in developing countries", *Developing Economies*, 1 (March-August), pp. 17-31.

Anderson, Kym and Hege Norheim (1993). "History, geography and regional economic integration", in K. Anderson and R. Blackhurst, eds., *Regional Integration and the Global Trading System* (London: Harvester-Wheatsheaf), pp. 19-51.

Aquino, A. (1978). "Intra-industry trade and inter-industry specialization as concurrent sources of international trade in manufactures", *Weltwirtschaftliches Archiv*, 114, pp. 756-762.

Balassa, Bela (1963). "European integration: problems and issues", *American Economic Review*, Papers and Proceedings, 53, pp. 175-184.

_____ (1965). "Trade liberalization and 'revealed' comparative advantage", *The Manchester School of Economic and Social Studies*, 33, pp. 99-123.

_____ (1979). "Intra-industry trade and the integration of the developing countries in the world economy", in H. Giersch, ed., *On the Economics of Intra-industry Trade* (Tubingen: J. C. B. Mohr), pp. 245-270.

Brander, J. A. and P. Krugman (1983). "A reciprocal dumping model of international trade", *Journal of International Economics*, 13, pp. 313-321.

Brown, A. J. (1949). *Applied Economics: Aspects of the World Economy in War and Peace* (London: George Allen and Unwin).

Cantwell, John (1992). "The relationship between international trade and international production", mimeo.

Caves, Richard E. (1981). "Intra-industry trade and market structure in the industrial countries", *Oxford Economic Papers*, 33 (July), pp. 201-223.

Drysdale, P. (1988). *International Economic Pluralism: Economic Policy in East Asia and the Pacific* (New York: Columbia University Press).

Dunning, John H. (1988). "The eclectic paradigm of international production: a restatement and some possible extensions", *Journal of International Business Studies*, 19 (Spring), pp. 1-32.

_____ (1993). *Multinational Enterprises and the Global Economy* (Workingham, United Kingdom and Reading, Mass.: Addison Wesley).

Encarnation, Dennis J. (1992). *Rivals Beyond Trade: America Versus Japan in Global Competition* (Ithaca, New York: Cornell University Press).

_____ (1993). "A common evolution? A comparison of United States and Japanese transnational corporations", *Transnational Corporations*, 2 (February), pp. 7-31.

Falvey, R. E. (1981). "Commercial policy and intra-industry trade", *Journal of International Economics*, 11, pp. 495-511.

Finger, J. M. (1975). "Trade overlap and intra-industry trade", *Economic Inquiry*, 13, pp. 581-589.

Frankel, Jeffrey A. (1991). "Is a yen bloc forming in Pacific Asia?", in Richard O'Brien, ed., *Finance and the International Economy* (Oxford: Oxford University Press for the AMEX Bank Review), pp. 4-21.

Fukasaku, Kiichiro (1992). *Economic regionalization and intra-industry trade: Pacific-Asian perspectives* (Paris: OECD).

General Agreement on Tariffs and Trade (1990). *International Trade, 1989-90* (Geneva: GATT).

Greenaway, David and Chris Milner (1983). "On the measurement of intra-industry trade", *Economic Journal*, 93 pp. 900-908.

_____ (1986). *The Economics of Intra-Industry Trade* (Oxford: Basil Blackwell).

Grubel, Herbert G. and P. J. Lloyd (1975). *Intra-Industry Trade* (New York: John Wiley & Sons).

Havrylyshyn, O. and E. Civan (1983). "Intra-industry trade and the stage of development: a regression analysis of industrial and developing countries", in P. K. M. Tharakan, ed., *Intra-Industry Trade: Empirical and Methodological Aspects* (Amsterdam: North-Holland), pp. 111-140.

Helpman, Elhanan and Paul R. Krugman (1985). *Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition, and the International Economy* (Cambridge: The Massachusetts Institute of Technology Press).

Hipple, F. Steb (1990). "The measurement of international trade related to multinational companies", *The American Economic Review*, 80 (December), pp. 1263-1270.

Hofstede, Geert (1980). *Culture's Consequences* (Beverly Hills: Sage Publications).

Japan, Ministry of International Trade and Industry (MITI) (1992). *Dai nijuichi-kai wagakuni kigyo no kaigai jigyo katsudo* [The 21st Survey of the Overseas Business Activities of Japanese Enterprises] (Tokyo: Ministry of Finance Printing Bureau).

_____ (1986). *Dai ni-kai kaigai jigyo katsudo kihon chosa: Kaigai tooshi sooran* [The Second Basic Survey on Overseas Investment Activities: Comprehensive Statistics] (Tokyo: Keibun Shuppan).

_____ (1989). *Dai san-kai kaigai jigyo katsudo kihon chosa: Kaigai tooshi sooran* [The Third Basic Survey on Overseas Investment Activities: Comprehensive Statistics] (Tokyo: Keibun Shuppan).

_____ (1991). *Dai yon-kai kaigai jigyo katsudo kihon chosa: Kaigai tooshi sooran* [The Fourth Basic Survey on Overseas Investment Activities: Comprehensive Statistics] (Tokyo: Keibun Shuppan).

Jones, Randall, Robert King and Michael Klein (1992). *The Chinese economic area: economic integration without a free trade agreement* (Paris: OECD).

King, Timothy J. and Catherine Roc (1992). "Intra-Asian foreign direct investment: South East and East Asia climbing the comparative advantage ladder", *Asian Economies*, 80 (March), pp. 5-34.

Kojima, Kiyoshi (1973). "A macroeconomic approach to foreign direct investment", *Hitotsubashi Journal of Economics*, 14 (June), pp. 1-21.

_____ (1985). "Japanese and American direct investment in Asia: a comparative analysis", *Hitotsubashi Journal of Economics*, 26 (June), pp. 1-35.

_____ and T. Ozawa (1984). *Japan's General Trading Companies: Merchants of Economic Development* (Paris: Development Centre, OECD).

Kogut, Bruce and Harbir Singh (1988). "The effect of national culture on the choice of entry mode", *Journal of International Business Studies*, 19 (Fall), pp. 411-432.

Krugman, Paul (1979). "Increasing returns, monopolistic competition and international trade", *Journal of International Economics*, 9, pp. 469-479.

Lancaster, K. (1980). "Intra-industry trade under perfect monopolistic competition", *Journal of International Economics*, 10, pp. 151-176.

Lawrence, Robert Z. (1991). "How open is Japan?", in P. Krugman, ed., *Trade with Japan: Has the Door Opened Wider?* (Chicago: The University of Chicago Press), pp. 9-37.

Lee, Young Sun (1989). "A study of the determinants of intra-industry trade among the Pacific Basin countries", *Weltwirtschaftliches Archiv*, 125, pp. 346-358.

Lee, Young Sun (1992). "Intra-industry trade among the Pacific-Basin countries and its implication for regional cooperation", *Asian Economic Journal*, 6, pp. 213-229.

Lim, Linda Y.C. and Pang Eng Fong (1991). *Foreign direct Investment and Industrialization in Malaysia, Singapore, Taiwan and Thailand* (Paris: OECD).

Lorenz, Detlef (1992). "Economic geography and the political economy of regionalization: the example of Western Europe", *American Economic Review*, Papers and Proceedings, 82, pp. 84-87.

Organisation for Economic Co-operation and Development (1993a). *Intra-Firm Trade* (Paris: OECD).

_____ (1993b). *Regional Integration and Developing Countries* (Paris: OECD).

Ozawa, T. (1990). "Multinational corporations and the 'flying geese' paradigm of economic development in the Asian Pacific". Paper presented at the 20th Anniversary World Conference on Multinational Enterprises and 21st Century Scenarios, in Tokyo, 4-6 July 1990.

Primo Braga, C. A. (1994). "International transactions in services: a primer". Background paper for the United Nations and The World Bank, *Liberalizing International Transactions in Services: A Handbook* (Washington, D.C.: The World Bank).

_____ and Alexander J. Yeats (1992). "The simple arithmetic of existing minilateral trading arrangements and its implications for a Post-Uruguay Round world", Policy Research Working Paper No. 974 (Washington, D.C.: The World Bank).

Rana, Pradumna B. (1990). "Shifting comparative advantage among Asian and Pacific countries", *The International Trade Journal*, 4 (Spring), pp. 243-258.

Riedel, James (1991). "Intra-Asian trade and foreign direct investment", *Asian Development Review*, 9, pp. 111-146.

Rutter, John (1993). *Recent trends in Japanese direct investment abroad: the end of an era?* (Washington, D.C.: United States, Department of Commerce).

Siddharthan, N. S. and N. Kumar (1990). "The determinants of inter-industry variations in proportion of intra-firm trade: the behaviour of US multinationals", *Weltwirtschaftliches Archiv*, 26, pp. 581-591.

Takeuchi, Kenji (1990). *Does Japanese direct foreign investment promote Japanese imports from developing countries?* (Washington, D.C.: The World Bank).

Tharakan, P. K. M. (1983). "The economics of intra-industry trade: a survey," in P. K. M. Tharakan, ed., *Intra-Industry Trade: Empirical and Methodological Aspects* (Amsterdam: North Holland), pp. 1-34.

United Nations Centre on Transnational Corporations (1991). *World Investment Report 1991: The Triad in Foreign Direct Investment* (New York, United Nations), United Nations publication, Sales No. E.91.II.A.13.

_____ (1992). *World Investment Directory 1992, Volume I, Asia and the Pacific* (New York, United Nations), United Nations publication, Sales No. E.92.II.A.11.

United Nations, Transnational Corporations and Management Division (1993a). *Transnational Corporations from Developing Countries: Impact on Their Home Countries* (New York, United Nations), United Nations publication, Sales No. E.93.II.A.8.

_____ (1993b). *The Transnationalization of Service Industries: An Empirical Analysis of the Determinants of Foreign Direct Investment by Transnational Service Corporations* (New York, United Nations), United Nations publication, Sales No. E.93.II.A.3.

_____ (1993c). *Foreign Direct Investment and Trade Linkages in Developing Countries* (New York, United Nations), United Nations publication, Sales No. E.93.II.A.12.

_____ (1992). *World Investment Report 1992: Transnational Corporations as Engines of Growth* (New York, United Nations), United Nations publication, Sales No. E.92.II.A.19.

UNCTAD, Division on Transnational Corporations and Investment (1993b), *World Investment Report 1993: Transnational Corporations and Integrated International Production* (New York, United Nations), United Nations publication, Sales No. E.93.II.A.14.

United States, Department of Commerce, Bureau of Economic Analysis (1991). *Direct Investment Abroad: 1989 Benchmark Survey, Preliminary Results* (Washington, D.C.: United States Government Printing Office).

_____ (1992). *U.S. Direct Investment Abroad: Operations of Parent Companies and their Foreign Affiliates, Preliminary 1990 Estimates* (Washington, D.C.: United States Government Printing Office).

Vernon, Raymond (1966). "International investment and international trade in the product cycle", *Quarterly Journal of Economics,* 80 (May), pp. 190-207.

Wells, Louis T. Jr. (1992). "Mobile exporters: new foreign investors in East Asia". Paper presented at the National Bureau of Economic Research Conference on Foreign Direct Investment Today, 15-16 May 1992.

The World Bank (1993). *Sustaining Rapid Development. East Asia and the Pacific: Regional Development Review* (Washington, D.C.: The World Bank).

Yoshihara, Kunio (1978). *Japanese Investment in Southeast Asia* (Honolulu: University Press of Hawaii).

Young, Soogil (1993). "East Asia as a regional force for globalism," in K. Anderson and R. Blackhurst, eds., *Regional Integration and the Global Trading System* (London: Harvester-Wheatsheaf), pp. 126-143.

Yuan, Lee Tsao, ed. (1991). *Growth Triangle: The Johor-Singapore-Riau Experience* (Singapore: Institute of Southeast Asian Studies).