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Responses to Globalization in East Asia and Latin America: The Activity Locations of Multinational Manufacturers in the Asia-Pacific

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ABOUT THE AUTHOR

Michael Enright became the Sun Hung Kai Professor of Business Administration at the University of Hong Kong in 1996 after six years as a professor at Harvard Business School. His research has focused on international competitiveness, regional clustering of industry, and economic development. He has directed and co-directed major reviews of economies on five continents and has co-authored five books on competitiveness (the latest being The Hong Kong Advantage --Oxford University Press-- with co-authors Edith Scott and David Dodwell) and numerous papers on regional clustering. Michael Enright has consulted extensively to companies, governments, and other organizations on business strategy, international competitiveness, and economic development. He has appeared in twenty-seven countries as an invited speaker, lecturer, educator, and/or trainer.

Michael Enright received his A.B., M.B.A., and Ph.D. (in Business Economics) from Harvard University. His dissertation, "Geographic Concentration and Industrial Organization", focused on the clustering phenomenon. Enright also served as research manager for the ten-nation study of international industrial competitiveness that resulted in Michael Porter's book The Competitive Advantage of Nations (Free Press, 1990).

LAEBA OVERVIEW

The Inter-American Development Bank (IADB), through the Integration and Regional Programs Department, and the Asian Development Bank (ADB), through the ADB Institute have undertaken a joint initiative to promote and launch a new program, the "Latin America/Caribbean and Asia/Pacific Economics and Business Association (LAEBA)." LAEBA will be dedicated to strengthening linkages between the Latin America/Caribbean and Asia/Pacific regions through a variety of research and exchange activities.

The LAEBA initiative results from an inter-agency Partnership Agreement signed on March 17th, 2001 between the IADB and ADB at the 42nd Annual Meetings of the Board of Governors of the IADB and the Inter-American Investment Corporation (IIC) in Santiago, Chile. The Partnership Agreement promotes the exchange of institutional and regional development experiences and expertise between the two regions.

The mission of LAEBA is to:

- Encourage comparative and applied research in the areas of economics, finance, business economics, and public policy of both regions.

- Provide an inter-regional framework for professional networks to collaborate on issues of mutual interest between the regions.

- Facilitate and inform the process of economic policy-making and private sector decisions through enhanced interaction among policymakers, academia, and the business community.

LAEBA's activities is guided by an IADB-ADB Coordinating Committee and supported by a Secretariat.

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ABSTRACT

Arguably, no region in the world has benefited more from the globalization of the world economy over the last thirty years than East Asia. At the same time, the prevailing wisdom has been that they have not benefited from globalization to the same extent. The present paper shows that the differences in economic performance between East Asia and Latin America can be attributed in part to differences in their linkages with the global economy. It goes on to show that different corporate activities can represent different types of foreign investment. Data from a survey of manufacturing multinationals active in the Asia-Pacific region shows that the determinants of foreign investment differ by activity. This indicates that nations interested in attracting different corporate activities might wish to adopt different policy mixes. The results indicate that investments in infrastructure and managerial capabilities can contribute to an economy's ability to attract a broad range of corporate activities. Results on tariffs and capital controls do not support the Washington consensus that greater openness will lead to greater investment. Instead, the results support the revisionist view that protection and a relatively active government have contributed to the attraction of foreign direct investment and the development of the Asian economies.

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Michael J. Enright

Arguably, no region in the world has benefited more from the globalization of the world economy over the last thirty years than East Asia. For many of the economies of the region, globalization has meant rapid increases in trade and inward foreign investment. The Asian Crisis, which started in 1997, and its aftermath, however, has called into question the benefits of globalization. At the same time, while some of the economies of Latin America have taken advantage of the globalization of economic activity, the prevailing wisdom has been that they have not benefited from globalization to the same extent as those of East Asia. The aim of the present paper is to explore this prevailing wisdom and then to identify the forces that have influenced firm level foreign investment into East Asian economies in order to determine if there are lessons that could be applied in the Latin American context.

This paper first compares the overall performance and the globalization of the economies of Asia with those of Latin America. In particular, it focuses on the international trade and foreign direct investment performance of the economies in the two regions. In the process, the paper also assesses the current level of integration of East Asian economies and Latin American economies into the world economy. The paper then reviews some of the major findings about the roles of foreign investment. The third part of the paper focuses on the results of a multiyear study of the organizations and strategies of Western and Japanese firms in the Asia-Pacific. The results indicate that different individual countries are emerging as particularly important locations for specific activities. Multinomial logit modeling shows that the location decisions are influenced by market size, quality of infrastructure, management capabilities, tariff rates, tax rates, capital controls, nationality of firm, size of firm, and international experience of the firm, among others, but that the significant determinants vary by activity and type of industry. The paper concludes with a discussion of the results of the analysis of the investments in the Asia-Pacific to develop a set of implications for Latin American and other developing nations. In particular, it uses results on the determinants of foreign direct investment on an activity-by-activity basis to draw lessons as to how such nations might increase inbound foreign direct investment in different activities and improve their own integration into the world economy.

Comparing the Economies of East Asia and Latin America

Numerous authors have compared the growth of the economies of East Asia and Latin America. The general pattern has been to try to explain the rapid growth of the economies of East Asia and then draw comparisons with the relatively slow growing Latin American economies.

Overall Performance

Indeed the performance differences between economies in the two different regions are clear. From 1965 to 1990, East Asia's economies grew more than three times faster than the economies of Latin America and the Caribbean (Page, 1997). According to the World Bank (2002), the GDP of the low and middle-income economies of Latin America and the Caribbean grew at an average rate of 1.7 percent from 1980 to 1990. The low and middle-income economies of East Asia and the Caribbean grew at an average rate of 7.9 percent. During a decade of reform, the Latin American and Caribbean economies grew at an average rate of 3.3 percent from 1990 to 2000. The economies of East Asia and the Pacific grew at a rate of 7.2 percent during the same period despite the financial and economic crisis that hit several Asian economies towards the end of the decade. Despite the economic growth, 36 percent of the populations in Latin America and the Caribbean were below the poverty line in 2000, roughly the same percentage as a decade before. In terms of per capita performance, between 1960 and 1995, while high performing East Asian economies had per capita incomes increase eight times, Latin American economies had per capita incomes increase only two times (Leipziger, 2001). Greater detail on the overall performance of the economies of Latin America and East Asia from 1990 to 2000 can be found in Tables 1a, 1b, 2a, and 2b. The tables show the comparative rise of the East Asian economies in the early part of the decade only to have some of the economies decline toward to latter part of the decade in the midst of the Asian Crisis. They also show that even after years of growth that several of the Asian "tigers" still lag behind many Latin American nations in per capita income.

Table 1a. GNP, Millions of US dollars, Latin American Nations

Latin American Countries	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Argentina	101,947	127,174	208,546	239,493	260,313	257,313	272,665	290,491	289,526	276,159	276,228
Belize	415	428	477	506	530	574	601	626	630	662	746
Bolivia	4,767	5,107	5,459	5,741	6,023	6,466	7,004	7,537	7,970	8,014	8,206
Brazil	394,441	433,681	437,214	426,754	480,347	588,634	697,952	776,481	764,341	651,045	610,058
Chile	28,691	32,025	39,116	44,036	47,176	55,127	65,644	72,754	72,439	69,018	69,850
Colombia	41,570	41,883	53,387	68,447	89,038	88,404	92,139	100,270	98,555	89,438	85,279
Costa Rica	5,464	5,659	6,461	7,097	8,053	8,645	11,767	12,486	13,136	13,327	14,510
Ecuador	10,096	10,969	12,148	13,201	14,324	15,993	17,589	18,745	18,181	16,478	15,256
El Salvador	4,760	5,118	5,901	6,726	7,585	8,896	9,821	10,753	11,174	11,744	12,569
Guatemala	8,481	8,990	9,848	11,176	12,330	13,947	15,199	16,493	17,807	18,673	19,164
Honduras	3,392	3,116	3,226	3,579	3,510	3,664	3,828	4,272	4,534	4,865	5,517
Mexico	235,591	279,204	329,496	372,053	412,603	382,083	338,598	348,637	381,669	428,330	497,025
Nicaragua	1,212	973	1,190	1,409	1,356	1,611	1,659	1,768	1,783	1,923	2,053
Panama	5,303	5,617	6,292	6,975	7,515	7,734	8,062	8,231	8,403	8,602	9,308
Paraguay	5,036	5,628	6,334	6,977	7,599	8,577	9,412	9,747	9,133	8,497	7,933
Peru	21,473	31,736	34,337	36,828	49,099	54,478	53,859	58,449	55,647	53,313	53,392
Uruguay	8,133	9,141	11,008	12,473	14,277	15,547	19,174	20,933	21,521	20,627	20,010
Venezuela	52,739	54,045	58,744	59,786	58,817	66,429	69,423	80,174	82,263	88,518	104,065

Sources and Notes: See Table 1b

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Table 1b. GNP, Millions of US dollars, East Asian Economies

East Asian Economies	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Brunei	-	-	5,895	5,909	6,715	7,175	7,847	8,401	7,754	-	-
Cambodia	1,242	1,365	1,708	2,044	2,288	2,668	3,080	3,128	2,989	3,018	3,150
China	368,010	400,764	451,459	480,898	537,883	622,633	755,266	871,533	922,089	978,125	1,062,919
Hong Kong	72,306	82,324	96,172	110,795	126,160	139,635	151,955	164,464	159,481	165,913	176,157
Indonesia	110,954	123,777	137,218	151,814	168,746	191,410	218,092	222,424	135,080	120,698	119,871
Japan	3,260,951	3,371,171	3,618,097	3,995,016	4,416,780	4,982,747	5,273,177	4,947,403	4,262,683	4,223,168	4,519,067
S. Korea	247,397	289,773	320,523	348,985	391,661	461,009	517,467	523,829	393,295	397,565	421,069
Laos	827	938	1,113	1,278	1,471	1,715	1,893	1,886	1,584	1,501	1,519
Malaysia	42,322	45,537	52,497	59,946	69,422	80,150	94,613	99,728	80,774	78,264	78,727
Philippines	45,416	46,506	50,663	54,619	62,746	71,233	83,066	88,169	79,582	78,643	78,778
Singapore	35,728	41,306	49,394	57,323	68,920	81,223	92,858	104,114	96,447	95,604	99,404
Taiwan	164,058	183,770	216,969	22,860	248,365	269,165	283,619	293,259	269,207	290,542	314,401
Thailand	84,292	95,122	108,708	122,986	139,713	161,086	177,622	165,062	125,926	120,216	121,602
Vietnam	-	-	-	12,027	14,047	17,969	21,509	25,799	27,157	28,742	30,439

Table 2a. GNP per capita, US dollars, Latin American Nations

Latin American Countries	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Argentina	3,130	3,860	6,240	7,080	7,590	7,400	7,740	8,140	8,010	7,550	7,460
Belize	2,190	2,210	2,390	2,470	2,510	2,650	2,860	2,880	2,810	2,850	3,110
Bolivia	730	760	790	810	830	870	920	970	1,000	980	990
Brazil	2,670	2,880	2,860	2,760	3,060	3,700	4,320	4,740	4,600	3,870	3,580
Chile	2,190	2,400	2,890	3,200	3,370	3,880	4,550	4,980	4,890	4,600	4,590
Colombia	1,190	1,170	1,470	1,850	2,360	2,290	2,350	2,500	2,420	2,150	2,020
Costa Rica	1,820	1,850	2,060	2,220	2,470	2,590	3,360	3,490	3,600	3,570	3,810
Ecuador	980	1,040	1,130	1,200	1,280	1,400	1,500	1,570	1,490	1,330	1,210
El Salvador	930	980	1,110	1,240	1,370	1,570	1,700	1,820	1,850	1,910	2,000
Guatemala	970	1,000	1,070	1,180	1,270	1,400	1,480	1,570	1,650	1,680	1,680
Honduras	700	620	620	670	640	650	660	720	740	780	860
Mexico	2,830	3,290	3,810	4,230	4,610	4,190	3,660	3,710	4,010	4,440	5,070
Nicaragua	320	250	290	340	320	360	360	380	370	390	400
Panama	2,210	2,300	2,520	2,750	2,910	2,940	3,020	3,030	3,040	3,060	3,260
Paraguay	1,190	1,300	1,420	1,520	1,610	1,780	1,900	1,920	1,750	1,590	1,440
Peru	1,000	1,440	1,540	1,620	2,120	2,320	2,250	2,400	2,240	2,110	2,080
Uruguay	2,620	2,920	3,500	3,930	4,470	4,830	5,910	6,410	6,540	6,230	6,000
Venezuela	2,700	2,710	2,870	2,860	2,750	3,040	3,110	3,520	3,540	3,730	4,310

Sources and Notes: See Table 2b

Table 2b. GNP per capita, US dollars, East Asian Economies

East Asian Economies	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Brunei	-	-	21,670	21,140	23,410	24,410	25,710	26,800	24,100	-	-
Cambodia	140	140	180	200	220	250	280	280	260	260	260
China	320	350	390	410	450	520	620	710	740	780	840
Hong Kong	12,680	14,310	16,580	18,780	21,030	22,680	24,080	25,290	24,000	24,690	25,920
Indonesia	620	680	740	810	880	990	1,110	1,110	660	580	570
Japan	26,400	27,200	29,120	32,080	35,350	39,720	41,930	39,190	33,720	33,350	35,620
S. Korea	5,770	6,690	7,330	7,910	8,800	10,240	11,360	11,390	8,470	8,480	8,910
Laos	210	230	260	290	330	370	390	380	310	290	290
Malaysia	2,330	2,440	2,740	3,060	3,450	3,890	4,480	4,600	3,640	3,450	3,380
Philippines	730	730	770	810	910	1,010	1,190	1,240	1,090	1,060	1,040
Singapore	13,210	14,950	17,530	19,950	23,520	27,200	25,300	27,440	24,580	24,190	24,740
Taiwan	8,111	8,982	10,506	10,964	11,806	12,686	13,260	13,592	12,360	13,235	14,188
Thailand	1,520	1,680	1,900	2,120	2,380	2,710	3,010	2,780	2,110	2,000	2,000
Vietnam	-	-	-	170	200	250	290	340	350	370	390

Sources: 1990-1995 data from World Development Indicators (World Bank, 2000)
     1996-2000 data from World Development Indicators 2002, www.worldbank.org (25 July 2002)
    Data for Taiwan from Statistical Abstract of National Income in Taiwan, www.stats.gov.tw (on 25 July 2002)
Note: For data downloaded from the World Bank, total GNP is divided by the midyear population to obtain per capita GNP

Several reasons have been given for the rapid growth of East Asian economies. These include strong macroeconomic management and stability, high savings rates, fiscal discipline, substantial investments in infrastructure and human capital, industrial policies that promoted exports, and strong institutions to administer the economy (Page, 1997). All of these ran counter to circumstances in Latin America. Both East Asian and Latin American economies followed import substitution policies in the 1950s and early 1960s. However, East Asian economies introduced export-oriented strategies in the 1970s while Latin American nations, several with larger economies to start with and greater resource endowments than their Asian counterparts, continued to pursue import substitution strategies into the 1990s (Jasperson, 1997). Export orientation allowed the East Asian economies to take advantage of growing world markets and to improve productivity (Pack, 1997). Tighter fiscal and monetary control allowed East Asia to avoid the inflationary experiences of Latin America (World Bank, 1993). Workforce participation rates remained stagnant in Latin America, while participation rates grew dramatically in East Asia. Educational investments were apparently far more effective in East Asia than in Latin America (Birdsall et al., 1997). Public and private savings in East Asia dramatically outstripped those of Latin America, reinforcing the strong growth rates that had been established in East Asia (Gavin et al., 1997).

Further reasons for the relatively poor performance of Latin American economies in the 1990s included low savings and investment rates, poor infrastructure, massive tax evasion, limited credit, and a lack of collaboration among different segments of society (Leipziger, 2001). In addition, even through there is a growing consensus on the reasons for the difference in performance between the two regions, researchers have noted the failure of Latin American countries to act on the findings in ways sufficient to bridge the gap (Stallings, 1997). Such shortcomings have led to paralysis in several Latin American nations that started down the path of reform, but seem unable to complete the task and meet their challenges (Enright et al., 1996).

The main area of difference among researchers in their interpretations of the development of the Asian and Latin American economies has been over the role of government in the areas of economic openness and industrial policy. While the World Bank (World Bank, 1993) claimed that market orientation and openness was a key to Asian success, subsequent researchers (Narula, 2002, for example) have emphasized the activist and protectionist nature of policy in several of the East Asian economies. These researchers claim that the Asian economies were not as open as had been suggested and its was more the nature and effectiveness of government policies than the extent of policy intervention that distinguished the East Asian and Latin American economies.

International Orientation

One of the reasons usually cited for the difference in economic performance between the East Asian and Latin American economies has been the difference in the extent to which the economies of the two regions have become integrated into the world economy. From 1960 to 1991, exports of the major developing economies in East Asia grew at a rate of 9.2 percent per year, while those of the major economies of Latin America grew at a rate of 4.4 percent per year (Jasperson, 1997; World Bank, 1993). In the 1990s, Latin America and the Caribbean experienced a rapid growth in trade. According to the World Bank (2002), trade in goods went from 23.2 percent of GDP for low and middle-income economies in Latin America and the Caribbean in 1990 to 37.7 percent in 2000. Mexico, with its proximity to the United States and membership in NAFTA, was the star export performer in the latter decade. The corresponding figures for the low and middle-income economies of East Asia and the Pacific were 48.8 percent in 1990 and 65.6 percent in 2000. Tables 3a and 3b show the export performance of the Latin American and East Asian economies from 1990 to 2001. Even though trade had become increasingly important for the Latin American economies, they still had far to go to match the importance of trade to East Asian economies. On this measure, the East Asian economies have clearly become more closely linked to the global economy than those of Latin America.

Table 3a. Exports, Millions of US dollars, Latin American Nations

Latin American Countries	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	131,437	131,884	140,270	149,945	175,482	214,747	241,534	267,690	265,162	282,595	341,680	331,420
Argentina	12,353	11,978	12,235	13,118	15,659	20,967	23,811	26,370	26,441	23,333	26,300	26,660
Belize	108	98	115	118	127	142	154	159	154	167	190	220
Bolivia	926	849	710	728	1,032	1,100	1,137	1,167	1,103	1,045	1,230	1,260
Brazil	31,414	31,620	35,793	38,597	43,558	46,506	47,747	52,990	51,120	48,011	55,090	58,220
Chile	8,372	8,941	10,007	9,198	11,604	16,024	15,405	16,663	14,830	15,616	18,160	17,670
Colombia	6,766	7,232	6,917	7,115	8,419	10,125	10,587	11,522	10,852	11,576	13,040	12,410
Costa Rica	1,448	1,598	1,841	2,625	2,869	3,453	3,730	4,268	5,511	6,577	5,870	5,010
Ecuador	2,714	2,852	3,007	2,904	3,819	4,307	4,900	5,264	4,203	4,451	4,930	4,470
El Salvador	582	588	598	732	843	998	1,024	1,359	1,263	1,164	2,940	2,870
Guatemala	1,163	1,202	1,295	1,340	1,521	2,155	2,031	2,344	2,582	2,398	2,700	2,430
Honduras	831	792	802	814	843	1,220	1,316	1,447	1,575	1,249	1,320	1,270
Mexico	40,711	42,688	46,196	51,886	60,882	79,542	96,000	110,431	117,460	136,703	166,420	158,540
Nicaragua	330	272	223	267	351	526	671	704	573	544	630	610
Panama	340	358	502	553	583	625	623	723	784	822	860	970
Paraguay	959	727	657	725	816	919	1,044	1,089	1,014	741	870	970
Peru	3,230	3,329	3,484	3,514	4,554	5,575	5,897	6,841	5,735	6,114	7,030	7,140
Uruguay	1,693	1,605	1,703	1,645	1,913	2,106	2,397	2,725	2,769	2,232	2,300	2,090
Venezuela	17,497	15,155	14,185	14,066	16,089	18,457	23,060	21,624	17,193	19,852	31,800	28,610

Sources and Notes: See Table 3b

Table 3b. Exports, Millions of US dollars, East Asian Economies

East Asian Economies	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total	708,967	798,889	889,129	968,713	1,120,636	1,323,742	1,329,114	1,402,522	1,318,977	1,414,649	1,680,290	1,522,550
Brunei	2,213	2,675	2,401	2,167	2,234	2,389	2,474	2,442	2,307	2,220	3,550	3,730
Cambodia	86	213	265	265	240	342	300	330	320	980	1,330	1,530
China	62,091	71,910	84,940	91,744	121,006	148,780	151,048	182,877	183,589	195,150	249,300	266,160
Hong Kong	82,390	98,659	119,587	135,385	151,465	173,871	180,916	188,195	174,863	174,408	202,680	190,680
Indonesia	25,675	29,142	33,966	36,823	40,054	45,417	49,814	53,443	48,847	48,665	62,120	56,720
Japan	287,581	314,786	339,885	362,244	397,005	443,116	410,901	420,957	387,927	419,363	479,250	404,690
S. Korea	65,016	71,870	76,632	82,236	96,013	125,058	129,715	136,164	132,313	144,745	172,270	150,650
Laos	78	96	132	240	300	311	322	359	370	311	320	320
Malaysia	29,416	34,349	40,713	47,122	58,844	73,914	78,327	78,741	73,305	84,455	98,140	88,520
Mongolia	660	348	388	380	356	473	424	452	345	336	300	250
Myanmar	325	419	537	583	798	851	746	866	1,065	1,125	1,620	1,760
Philippines	8,068	8,767	9,752	11,089	13,304	17,501	20,408	25,056	29,496	36,650	39,780	33,590
Singapore	52,752	59,025	63,484	74,012	96,826	118,268	125,014	124,986	109,895	114,689	137,800	121,730
Taiwan	67,142	76,115	81,395	84,678	92,876	111,563	115,730	121,081	110,518	121,637	148,320	122,900
Thailand	23,070	28,428	32,472	36,775	45,261	56,439	55,720	57,388	54,456	58,392	69,060	64,220
Vietnam	2,404	2,087	2,580	2,970	4,054	5,449	7,255	9,185	9,361	11,523	14,450	15,100

Sources: 1990-1999 data from International Trade Statistics (World Trade Organization, 2000), 2000-2001 data from International Trade Statistics (WTO, 2001)

Inflows of foreign direct investment into the main Latin American economies increased from US$7 billion in 1990 to a peak of nearly US$90 billion in 1999 before declining to US$70 billion in 2000 (see Table 4a). Foreign direct investment into the East Asian economies excluding Japan increased from US$19 billion in 1990 to US$134 billion in 2000 (see Table 4b). Gross foreign direct investment in Latin America and the Caribbean went from 0.9 percent of GDP in 1990 to 4.5 percent of GDP in 2000. The similar figures for East Asia and the Pacific were 1.5 percent and 3.9 percent (World Bank, 2002). Thus the Latin American economies were even more dependent on foreign investment than the East Asian economies. Despite the growth in foreign direct investment in Latin America, only a few of the region's economies had been able to upgrade their economies sufficiently to markedly change the nature of their production and export profiles. One reason was that the bulk of foreign investment into the region involved investment in the service sector and in acquisitions rather than new or more advanced production capacity (Leipzinger, 2001). On the other hand, foreign direct investment in East Asia is generally credited with fostering the productive capacity that allowed those economies to compete in world markets. Thus foreign direct investment appears to have linked the multinational companies to the domestic economies in Latin America, while in East Asia, foreign investment linked the local economies to the global economy.

If the East Asian experience contains lessons for Latin American economies, then one lesson must be that trade performance, particularly trade performance linked with foreign direct investment, seems to be an attractive avenue for growth (UNCTAD, 2002). Given the emphasis in the literature on the development of manufacturing in East Asia, this paper will focus on foreign investment by manufacturing firms into East Asian economies.

Table 4a. Inward Foreign Direct Investment, Millions of US dollars, Latin American Nations

Latin American Countries	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total	**7,339**	**11,984**	**13,836**	**15,070**	**21,244**	**29,901**	**41,596**	**61,181**	**68,768**	**89,864**	**69,970**
Argentina	1,836	2,439	4,179	6,305	1,200	5,609	6,949	9,162	7,281	24,147	11,152
Belize	17	15	18	11	14	21	17	12	19	56	28
Bolivia	11	25	35	25	20	374	426	879	955	1,014	731
Brazil	989	1,103	2,061	1,292	3,072	5,475	10,496	18,743	28,480	31,362	33,547
Chile	590	523	699	841	2,518	2,956	4,633	5,219	4,638	9,221	3,674
Colombia	500	457	790	960	1,667	1,321	1,880	2,933	4,186	4,002	273
Costa Rica	163	178	226	247	87	337	427	407	612	620	400
Ecuador	126	160	178	469	531	470	491	695	831	636	708
El Salvador	2	25	15	16	20	38	-5	59	1,104	231	185
Guatemala	48	91	94	143	38	75	77	85	673	155	228
Honduras	44	52	48	35	70	69	90	128	99	237	282
Mexico	2,549	4,742	4,393	4,389	7,978	9,526	9,902	13,841	11,612	11,915	13,162
Nicaragua	1	11	15	39	40	75	97	173	184	300	265
Panama	-147	138	173	-658	549	267	410	1,256	1,219	517	393
Paraguay	76	84	137	111	180	98	144	230	336	66	96
Peru	41	-7	145	371	2,326	2,048	3,242	1,697	1,880	1,969	556
Uruguay	42	32	1	102	170	157	137	126	164	229	180
Venezuela	451	1,916	629	372	764	985	2,183	5,536	4,495	3,187	4,110

Sources and Notes: See Table 4b

Table 4b. Inward Foreign Direct Investment, Millions of US dollars, East Asian Economies

East Asian Economies	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	21,091	**22,045**	**30,039**	**45,863**	**53,270**	**70,731**	**85,912**	**96,463**	**85,718**	**105,908**	**142,392**
Brunei	3	1	4	14	6	13	-69	2	-20	-38	-19
Cambodia	-	-	33	54	69	151	294	204	121	135	153
China	3,487	4,366	11,156	27,515	33,787	35,849	40,180	44,237	43,751	40,319	40,772
Hong Kong	1,728	538	2,051	1,667	2,000	6,213	10,460	11,368	14,776	24,591	64,448
Indonesia	1,093	1,482	1,777	2,004	2,109	4,346	6,194	4,677	-356	-2,745	-4,550
Japan	1,753	1,730	3,490	234	908	39	200	3,200	3,268	12,741	8,187
S. Korea	788	1,180	727	588	809	1,776	2,325	2,844	5,412	10,598	10,186
Laos	6	8	9	60	60	95	160	91	46	79	72
Malaysia	2,333	3,998	5,183	5,006	4,348	5,816	7,296	6,513	2,700	3,532	5,542
Mongolia	-	2	8	8	10	10	16	25	19	30	25
Myanmar	5	-	3	4	4	277	310	387	314	253	240
Philippines	530	544	228	1,025	1,457	1,459	1,520	1,249	1,752	737	1,489
Singapore	5,575	4,879	2,351	5,016	5,588	8,788	10,372	12,967	6,316	7,197	6,390
Taiwan	1,330	1,271	879	917	1,375	1,559	1,864	2,248	222	2,926	4,928
Thailand	2,444	2,014	2,116	1,726	640	2,004	2,271	3,627	5,143	3,562	2,448
Vietnam	16	32	24	25	100	2,336	2,519	2,824	2,254	1,991	2,081

Sources: 1990-1994 data from World Investment Report (UNCTAD, 1996), 1995-2000 data from WIR (UNCTAD, 2001)

Foreign Investment and Corporate Activities

Part of the globalization of economic activity has been a dramatic increase in foreign direct investment over the last few decades. Foreign investment continues to dominate international trade as a form of international economic interaction as sales from foreign affiliates continue to substantially outpace international trade (UNCTAD, 2002). The East Asian examples have made attracting foreign investment a focal point for development policies in developed as well as developing nations. The comparison of East Asia and Latin America above indicate that there are different types of foreign investment that might yield different benefits to host economies and to multinational companies. In particular, investments in different types of corporate activities may bring different benefits and may be made for different sets of reasons. Thus it is crucial for policy makers to understand the nature of corporate decision-making concerning for foreign investment in different activities if they are to tailor their policies to obtain the types of investment they desire.

The View from Developing Countries

Globalization is pressuring developing nations to upgrade their resources and capabilities if they are to improve prosperity. One way to do so is through foreign direct investment. In a globalizing economy, foreign direct investment has been seen as a mechanism to enhance the economic growth and development of developing economies. Foreign direct investment can aid the development process by providing capital, modern technology, access to international networks, skills and management techniques, linkages with local firms, stimulation of international trade, and creation of employment opportunities. One result of this realization has been a proliferation of policies designed to attract the investments of multinational companies around the world (UNCTAD, 1999).

However, the relationship between inward foreign direct investment and economic development is not a simple one. The main reason is that all foreign direct investment is not created equal. In particular, investment in different activities may have different rationales and different impacts (Narula and Dunning, 2000). Foreign direct investment in manufacturing and research activities, for example, has been postulated to be better for economic development than investment that simply sells into a given economy. In addition, the goals of national governments and multinational firms differ. Nations try to improve their economies while companies try to improve their corporate performance (UNCTAD, 1999). In any case, the apparent link between foreign investment and export and economic

performance in East Asia and Latin America makes foreign direct investment an important part of the development process.

Foreign Investment and Multinational Firms

Multinational corporations make foreign investments into particular locations for a variety of reasons. *Market-seeking investments* are made to sell into foreign markets, often overcoming transportation costs and trade barriers. *Resource-seeking investments* are made to source scarce or low cost natural resources. *Efficiency-seeking investments* look to obtain low labor costs, agglomeration economies, or investment incentives. *Strategic asset-seeking* investments are undertaken to add to the corporation's overall portfolio of assets in order to increase the firm's competitive advantages (Dunning, 1993 and 1998). Firms make investments to gain *access to information* when they set up listening posts from which they can monitor developments in their industry. Firms also may make investments that provide *access to (or the ability to transact in) particular marketplaces.* Although financial markets represent the most obvious examples, any industry in which important physically located markets exist can attract such investment (Enright, 1998 and 2000). A particular investment might combine several rationales.

Multinational companies make specific decisions about the location of individual corporate activities. To some, the choice of configuration (pattern of activity locations) and coordination (how these activities are managed) are the primary challenges of multinational management (Porter, 1986; Yip, 1995; and Yip, 1998). In general, the location choices for foreign investment may vary by activity, with the decisions influenced by the nature of the activity, the characteristics of each location, the nationality of the firm, the firm's competitive position and strategy, and the nature of the investment (Dunning, 1998). However, there has been little work that attempts to compare the determinants of multinational location decisions across different corporate activities. This paper will focus on the determinants of inward foreign direct investment in a range of corporate activities in Asia in order to see what lessons might be learned for policy in that region, in Latin America, and elsewhere.

Activities and Investment

In the present study, five activities were selected for investigation: *sales*, *customer service*, *production*, *internal corporate support*, and *research and development*. Sales,

production, and research and development are self-explanatory. Customer service activities include call-in service, warranty service, and other related services. Internal support activities, defined as those that the firm carries out in order to facilitate its primary production, service, and marketing activities, include regional headquarters activities, accounting and financial activities, liaison and communication activities, and other similar activities. These activities represent some of the most important of the activities that the multinational firms carry out in the region. In addition, one would expect investments in these activities to correspond to different rationales for investment. These differences in investment rationales should be reflected in differences in the determinants of location choices for different activities.

Influences on Investment Location Decisions

In general, there are two sets of factors that will tend to influence decisions to invest in a particular activity in a particular location, factors related to the host economy and factors related to the investing firm.

Host Economy Characteristics

A variety of characteristics of the host economy have been identified or postulated as influencing the locations of foreign direct investments. These include market characteristics, production and input characteristics, the technological environment, and the government and government policy environment. By extension, many of these characteristics should influence the location of individual corporate activities.

The size of the host economy market, typically measured by GNP or GDP, is an important determinant of inbound FDI (Kobrin, 1976; Root and Ahmed, 1978; Terpstra and Yu, 1988; Grubert and Mutti, 1991; Agarwal and Ramaswami, 1992; and Woodward and Rolfe, 1993). In the present investigation, one would expect that market size would have a strong attraction for the *sales activities* of multinational corporations. Market size also should have a positive relationship with *customer service* activities, though not perhaps as strong as with sales activities, given the fact that provision of service to customers may involve call centers, repair, remote diagnosis, close interaction with corporate decision makers, and other activities that may be physically removed from the actual customer premises (Enright, 2002). Market size should have a positive correlation with *production* activities as long as a

significant number of production investments involve market-seeking as opposed to resource or efficiency-seeking, which presumably would be less linked to market size.

We would expect multinational corporations to be drawn to affluent markets if they are concerned more with the purchasing power of individuals rather than aggregate market size. Thus we might expect *sales*, *customer service*, *production*, and *internal support activities* to be positively related to per capita income or purchasing power. The locations of *research and development* activities have been found to be positively related to per capita income, though it has been difficult to separate this effect from research and development spending or related variables (Kuemmerle, 1999).

A variety of production and input characteristics also should influence location decisions. Although there is little specific literature that discusses the impact of local managerial skills on foreign direct investment, the availability of capable managers should, all other things being equal, be a plus for a given location's ability to attract investments in all of the activities investigated in the present study. Researchers have found that manufacturing wage rates are negatively related to foreign direct investment in *production* in developing nations (Woodward and Rolfe, 1993 and USITC, 1988). The search for low wage in fact is the primary reason that multinationals make manufacturing investments in developing nations (Austin, 1990). The effect in more advanced economies, in which multinationals might seek out particularly skilled, and therefore high wage labor, could be the opposite. The overall impact of wage rates on production investments will depend on which effect dominates. The likely impact of manufacturing wage rates on other activities is ambiguous. The state of infrastructure, particularly transportation and communications, also can be an important factor in influencing FDI (Wells, 1993). All the activities investigated, *sales*, *customer service*, *production*, *internal support*, and *research and development* should be facilitated by (and positively related to) the presence of advanced infrastructure for manufacturing firms.

Technological capabilities should have positive impact on investment in *research and development activities* (Kuemmerle, 1999). Research and development activities are generally located in economies with high levels of the appropriate skills and capabilities or in markets in which customers are particularly advanced. The level of technical skills found in an economy also should have a positive impact on *production* activities and perhaps on *customer service* and *internal support* activities of manufacturing firms given the fact that the latter two often are users of sophisticated information, communication, and transportation technologies (Enright, 2002).

The extent to which government policy fosters an open relationship with the international economy will influence multinational investment decisions. High tax rates are likely to have a negative impact on all the activities investigated. High tariff rates should have a negative impact on *sales* activities that are based on sales of imported products. High tariffs could have a negative impact on *production* activities if the high tariffs represent an overall lack of openness or if needed inputs cannot be imported. However, high tariffs might force firms to manufacture in a market in order to sell there and therefore have a positive impact on the location of production activities. The overall impact will be determined by the interaction of these two competing forces. Some types of capital controls, such as the prohibition of particular types of investment or investment as a whole, have direct impacts on location choices (Root, 1987; Rugman, 1979; and Stopford and Wells, 1972). Others, such as restrictions on repatriating earnings, might have substantial indirect impacts. In either case, the capital controls should have a negative influence on all the activities investigated.

Firm Characteristics

In addition to host economy characteristics, firm characteristics also should affect the location choices for multinational investments in specific activities. Nationality, firm size, and international experience all will tend to influence the likelihood that a given firm will invest in a given activity in a given location.

One would expect that the locational behavior of multinationals in the Asia-Pacific to vary by nationality of investing firm. Several studies have found differences in strategies and organizations among European, North American, and Japanese multinationals (Franko, 1971; Egelhoff, 1984; and Yip, Johansson, and Roos, 1997). Multinationals from different places have different histories (Vernon, 1992). Thus we would expect them to show some differences in locational behavior. Another difference that should be noted with respect to the present study is that Japanese firms are distinctive in that they have a home base in the Asia-Pacific region. They do not make "foreign" investments into Japan, Asia's largest economy, while North American and European firms do.

The tendency for a firm to invest in a given economy should be related to its size and international experience. Larger firms are seen as having greater resources with which to penetrate international markets and absorb the risks and uncertainties involved (Hood and Young, 1979). In addition, the extent of the firm's international experience is seen as important to overcoming the obstacles present in entering a new market. The literature

suggests that the larger and the more internationally experienced the firm, the more likely it will invest abroad in general and presumably the more likely it will invest in a given activity and economy (Buckley and Casson, 1976; Caves and Mehra, 1986; Terpstra and Yu, 1988; and Gatignon and Anderson, 1988).

Methodology and Data

Conditional logit models incorporating economy-based variables and firm-based variables were fitted to the locations of the activities of the multinational firms in the sample. The dependent variables used in the present study are the binary variables SALES, SERV, PROD, SUPP, and R&D. SALES = 1 if the company has significant sales activities in a given economy and 0 otherwise. SERV = 1 if the company has significant customer service activities in a given economy and 0 otherwise. PROD = 1 if the company has significant production activities in the economy and 0 otherwise. SUPP = 1 if the company has significant internal support activities in the economy and 0 otherwise. R&D = 1 if the company has significant research and development activities in the economy and 0 otherwise.

Data for these variables were extracted from the results of a survey of 8,000 North American, European, and Japanese firms active in the Asia-Pacific region in 1998-1999. The list of firms was compiled from business directories and the directories of foreign chambers of commerce in the region. The survey was administered in three mailings, with the second and third mailing directed to managers that had not yet responded. Some 1,100 usable responses were received, resulting in an overall response rate of 13.8 percent. For the present study, data was extracted for the 450 firms that characterized themselves as manufacturing firms. Among the questions in the survey, managers were asked if their companies had significant sales, customer service, production, internal corporate support, and/or research and development activities in Japan, South Korea, the Chinese Mainland, Taiwan, Hong Kong, the Philippines, Thailand, Malaysia, Singapore, Indonesia, Australia, and New Zealand. These economies represent the overwhelming majority of the output and inward foreign investment in the Asia-Pacific (Enright, 2002).

The independent variables in the regression equations reflect the influence of the host economy and firm characteristics. An economy's market potential was captured by LGDP, the natural logarithm of the GDP of the economy in question corrected for purchasing power parity, and LGDPPC, the natural logarithm of per capita GDP corrected for purchasing

power parity. The purchasing power parity figures should give a more accurate picture of actual market potential than straight GDP and GDP per capita figures. Substituting GDP and GDP per capita based variables did not result in any material differences in the results.

Labor, infrastructure, and technology are represented by MANAGE, a measurement of the overall quality of management found in the economy; LMWAGE, the natural logarithm of the average manufacturing wage per employee over the 1995 to 1999 period; INFRA, a rating of the quality of infrastructure in the economy; and TECH, a measure of overall technological sophistication. Openness and market orientation are captured by CTAX, the tax rate on corporate profits; TARIF, the average tariff on manufactured imports; and CAPCON, the number of types of capital controls in the economy.

The underlying variable for LMWAGE was taken from World Bank (2000). All of the other economy variables were taken from, or calculated from variables found in, World Economic Forum (1999). The underlying variables for LGDP, LGDPPC, and LMWAGE are all denominated in US dollars. The underlying variables for MANAGE, TECH, and INFRA are the means of survey responses of managers within each economy on a seven point Likert scale. CAPCON is the number of types of capital controls present out of a maximum of 14. TARIF and CTAX are measured in percentages of value and corporate profits, respectively. The values used for MANAGE, TECH, INFRA, and CAPCON in the present study were derived by dividing the value of each underlying variable by its maximum in order to place each on a 0 to 1 scale.

The nationality of firms is captured by three dummy variables. JAPAN = 1 if the company's global headquarters is in Japan and 0 otherwise. EUR = 1 if the company's global corporate headquarters is in continental Europe and 0 otherwise. UK = 1 if the global headquarters is in the UK and 0 otherwise. If the global headquarters is in North America, all three nationality dummies = 0. The UK firms were split off from the other European firms given historical links between the UK, and presumably UK firms, with economies in former colonies, such as Australia, New Zealand, Hong Kong, Malaysia, and Singapore.

Other firm-specific features are captured by FSIZE, a measure of firm size, and FMNC, a measure of the international experience of the firm. Managers were asked to report the total annual worldwide sales figures for their companies in six ascending categories (coded 1 to 6), ranging from "less than US$100 million" (= 1) to "greater than US$10 billion" (= 6). Pilot studies of the survey instrument had shown that managers were more likely to respond to this question if they were asked for a range rather than a precise figure. Managers also were asked to report the number of countries in which their firm operates in four ascending categories (coded 1 to 4) ranging from "two to five countries" (= 1) to

"greater than 30 countries" (= 4) being the largest. Again, the pilot studies had shown higher response rates when the question was asked in this form. FSIZE and FMNC were created by dividing the coded responses by the respective maximum to put the values on a 0 to 1 scale.

The regressions for manufacturing firms were of the following form:

$$\text{ACTIVITY} = \text{const} + b_1\,\text{LGDP} + b_2\,\text{LGDPPC} + b_3\,\text{MANAGE} + b_4\,\text{LMWAGE}$$
$$+ b_5\,\text{INFRA} + b_6\,\text{TECH} + b_7\,\text{CTAX} + b_8\,\text{TARIF} + b_9\,\text{CAPCON}$$
$$+ b_{10}\,\text{JAPAN} + b_{11}\,\text{EUR} + b_{12}\,\text{UK} + b_{13}\,\text{FSIZE} + b_{14}\,\text{FMNC} + \text{err}$$

The regressions used identical sets of independent variables to facilitate the comparison across activities.

Analysis for Manufacturing Multinationals

450 manufacturing firms times 12 Asia-Pacific locations yields 5,400 potential observations per activity. Eliminating observations associated with the activities of Japanese firms in Japan, which do not constitute foreign investment, and missing data reduced the number of usable observations to 5,190 per activity for the manufacturing firms.

Summary statistics are found in Table 5, which shows that the manufacturing firms in the sample have many more significant sales activities (3,348 significant activity-economy combinations) than customer service (1,871), production (1,325), internal corporate support (1,336), or research and development (552) activities in the Asia-Pacific region. This coincides with other interview and survey data that indicate that the vast majority of multinationals are present in the Asia-Pacific region to sell things rather than to make things (Enright, 2002). This result, while not surprising to managers in the region, tends to go against the stereotype that exists in the West of multinational companies investing in the Asia-Pacific solely or even mostly in order to manufacture. Another striking feature is the limited number of significant research and development activities in the region. Relatively few of the multinationals make foreign investments in research and development in the region that they consider significant.

The table also shows the number of observations for Japanese (990), continental European (1,056), United Kingdom (384), and North American (2,760) firms in the sample. The North American total is included for sake of completeness. Since North American firms are used as the base case, there is no separate dummy variable for the North American.

Table 5. Manufacturing Firms, Summary Statistics

Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
SALES	5190	0.6451	0.4785	3348	0	1
SERV	5190	0.3605	0.4802	1871	0	1
PROD	5190	0.2553	0.4361	1325	0	1
SUPP	5190	0.2574	0.4373	1336	0	1
R&D	5190	0.1064	0.3083	552	0	1
LGDP	5190	26.7245	1.1902		24.8930	29.2470
LGDPPC	5190	9.3392	0.7844		8.0003	10.2312
MANAGE	5190	0.6544	0.1079		0.4100	0.7600
LMWAGE	5190	8.7657	1.2430		6.5917	10.3637
INFRA	5190	0.6772	0.1770		0.3429	0.9614
TECH	5190	0.6374	0.1484		0.4243	0.8943
CTAX	5190	0.2962	0.0537		0.1650	0.3750
TARIF	5190	0.0628	0.0565		0	0.2090
CAPCON	5190	0.5231	0.3089		0	0.9286
FSIZE	5190	0.6751	0.2291		0.1667	1
FMNC	5190	0.7955	0.2415		0.2500	1
JAPAN		0.1908	0.3929	990	0	1
EUR		0.2035	0.4026	1056	0	1
UK		0.0740	0.2618	384	0	1
NAMER				2760		

Regression results for the five activities, sales, customer service, production, internal corporate support activities, and research and development, for the manufacturing firm sample are reported in Table 6. With respect to the economy variables, the coefficients on LGDP are positive and significant at the 0.01 percent level for all five of the activities. Market size unambiguously attracts all of the corporate activities investigated as expected. The coefficient on per capita purchasing power (LGDPPC), however, is not significant for sales, service, or production, and is negative and significant for internal support and research and

development activities. There is no ready explanation for these results, other than that it appears that the affluence of an economy is not a strong attractor for the investments of multinational manufacturing companies, or that the features of an affluent economy that are attractive for multinational firms are captured by other variables.

Table 6. Manufacturing Firms, Analysis of Maximum Likelihood Estimates

Variable	SALES	SERV	PROD	SUPP	R&D
NTERCEPT	-12.6085****	-11.3309****	-18.2675 ***	-17.8100 ****	-6.3205 *
LGDP	0.4095****	0.3636****	0.3852 ****	0.6309 ****	0.4437 ****
LGDPPC	-0.2655	-0.6140	0.4508	-1.2716 ***	-3.1247 ****
MANAGE	1.9914**	2.5530***	0.4130	4.9270 ****	6.7886 ****
LMWAGE	0.1251	0.1928	-0.4220 **	0.5790 ****	0.4238
INFRA	2.8063****	4.4289****	3.1723 ****	8.1005 ****	12.5917 ****
TECH	-0.2803	-0.6212	-0.8814	-3.0033 *	6.1070 ***
CTAX	-5.5100****	-4.6391***	3.6519 *	-9.7199 ****	-8.5494 ***
TARIF	5.9244****	8.1527****	5.3124 **	14.7473 ****	22.8636 ****
CAPCON	0.2023	-0.1309	0.1710	-0.8668 ****	-0.9408 *
JAPAN	-0.5900****	-0.6920****	0.3966 ****	-0.5606 ****	0.4475 ***
EUR	0.2163**	-0.4131****	0.0549	-0.4776 ****	-0.1910
UK	-0.00607	0.1348	0.2433	-0.0694	-0.1280
FSIZE	0.6828****	0.4953**	2.8424****	1.8002 ****	2.0800****
FMNC	1.8242****	1.9269****	0.9848 ****	1.3669 ****	0.7893 **
-2 LOG 2	6129.324	6236.721	5086.970	5154.659	2983.329
Prob > Chisq	p=0.0001	p=0.0001	p=0.0001	p=0.0001	p=0.0001
N	5190	5190	5190	5190	5190

*   significant at the 5% level
**   significant at the 1% level
***   significant at the 0.1% level
****   significant at the 0.01% level

The coefficients on MANAGE are positive for all activities and significant (at levels of 1 percent to 0.01 percent) for all except production. As expected, high quality management attracts the activities, especially knowledge-intensive corporate support and research and

development activities (which have the largest and most significant coefficients), of multinational manufacturing firms. The coefficient on LMWAGE is negative and significant at the 1 percent level for production activities, positive and significant at the 0.01 percent level for internal support activities, and positive but not significant for sales, service, and research development. Manufacturing multinationals apparently seek out low wages for their production activities, locate knowledge-intensive corporate support activities in economies with high wages, and do not base decisions on other activities on manufacturing wage rates. This is an interesting result since more and more countries are looking to attract not just production activities, but more knowledge-intensive activities as well.

The coefficients on INFRA are positive and significant at the 0.01 percent level for all five activities. High quality infrastructure unambiguously attracts all the activities investigated, as expected. The coefficient on TECH is negative and not significant for sales, service, and production activities; negative and significant at the 5 percent level for corporate support activities; and positive and significant at the 0.01 percent level for research and development. The strong, positive influence on the location of research and development activities was expected, as was the lack of influence on sales and service. The negative influence on corporate support activities, though not expected, can be justified if internal corporate support activities are placed in centers of management (thus the strong positive influence of quality of management) that have wages and rents too high for research and development activities.

The coefficients on TARIF are positive and significant at the 0.01 percent level for all activities except production, where it is positive and significant at the 1 percent level. It appears that manufacturing firms place the entire range of the activities investigated behind tariff barriers. While this is not surprising, the fact that the least significant coefficient is found for production perhaps is surprising. The coefficient on CTAX is negative and significant at the 0.1 percent or 0.01 percent level for all activities except production, where it is positive and significant at the 5 percent level. High corporate tax rates repel all the activities except production. This makes sense if a substantial portion of the production is carried out for export or benefits from tax rebates or holidays (phenomena that are common in the region), or if production is viewed as a cost center while other activities are more associated with profit centers. The coefficient on CAPCON is positive but not significant for sales and production, negative but not significant for customer service, and negative and significant for internal support (at the 0.01 percent level) and research and development (at the 5 percent level). Capital controls appear to have the greatest impact on the activities that multinationals have the most discretion in locating, with other considerations dominating for

activities (like sales) geared toward particular markets or others (like manufacturing) where costs and other factors seem to dominate.

With respect to the firm-based variables, the coefficients on JAPAN are significant at the 0.1 or 0.01 percent level. Japanese firms, on average, have fewer significant sales, service, and internal support activities in the Asia-Pacific region (outside of Japan for the Japanese firms) than their North American counterparts, but more significant production and research and development activities. This could be the result of the decentralization of manufacturing activities into the region by Japanese firms that started in the 1980s and the relative ease of undertaking research and communicating research results over relatively shorter distances. In any case, Japanese manufacturing firms show different behavior than North American manufacturing firms. Firms from the United Kingdom do not show behavior that is significantly different from their North American counterparts for any of the activities. The fact that firms from continental Europe do show behavior significantly different from North American firms, at least for three of the activities, provides empirical validation for separating the United Kingdom firms from the continental European firms.

As expected, the coefficients on FSIZE and FMC are positive and significant (most at the 0.01 percent level). Firm size and international experience are positively related to the likelihood the firm will invest in a foreign economy. The present study verifies that this behavior spans all five of the activities investigated.

Discussion and Conclusions

The results reported above indicate that the determinants of location choices vary by activity for manufacturing firms, indicating that we must be careful in making overall conclusions about the influence of a particular determinant in investigations that limit themselves to a single activity, such as production or research and development. Support also is given for the Porter/Yip approach of viewing the international operations of multinational firms on an activity-by-activity basis.

The results also confirm that market size, quality of infrastructure, international experience of the firm, and firm size have strong positive influences on the investments of manufacturing multinationals. Furthermore, this influence extends across all of the corporate activities investigated. The results confirm that the negative influence of corporate tax rates on investment extends across all of the manufacturing activities except production. The results also confirm the expected negative influence of capital controls across the

knowledge-intensive internal support and research and development activities of manufacturing firms.

A new piece of information is the strong positive influence that the quality of local management has on investment location. A perhaps surprising piece of information is the significant positive relationship between tariff levels and the locations of all manufacturing sector activities. Despite the reduction of trade barriers around the world and in the region, manufacturing multinationals are still choosing to place investments to gain access to relatively protected economies.

A number of variables influence show different results for different activities. High manufacturing wages exert a significant negative impact on the production activities of manufacturing multinationals, but a positive influence on internal support activities for both manufacturing firms, and an insignificant influence on other activities. High quality technical capabilities are a strong attraction for the research and development activities of manufacturing multinationals, but a negative or insignificant influence on other manufacturing firm activities.

The results confirm that companies of different nationalities exhibit different investment patterns. Japanese firms exhibit behavior that is significantly different from North American firms for all activities. Continental European firms exhibit behavior that is significantly different from North American firms for most manufacturing industry activities investigated. Even though UK manufacturing firms do not exhibit locational behavior significantly different from North American firms in many activities in manufacturing firms, they appear to exhibit different behavior from Japanese and continental European firms.

There are a number of conclusions that emerge from the present study that might provide input into policy choices in East Asia as well as Latin America. First, is the recognition that foreign direct investment should not be viewed in monolithic terms. Policy must start from the understanding that there are different types of foreign direct investment and that these different types of investment are influenced by different location and firm characteristics. Another is that policy toward foreign investment must start from an understanding that multinationals perform different activities and that foreign investment in different activities can be driven by different factors.

Some results reinforce some common conclusions. Low wage rates in manufacturing attract investments in production. The much-discussed decline in importance of labor costs as a determinant of foreign direct investment (UNCTAD, 1999, for example) appears not to be prevalent in East Asia. Better infrastructure had a positive influence on multinational investment in all of the activities investigated. Given the fact that infrastructure has been a

shortcoming in Latin America, this suggests that foreign investment in telecommunications, power, and other infrastructure, which have accounted for large portions of the inward investment in Latin America over the last decade, should be encouraged rather than denigrated. While sometimes these investments are derided as not improving the efficiency of manufacturing and export performance, the results suggest they may hold the promise of improving infrastructure that is necessary for the subsequent development of modern export economies. Higher ratings for management capabilities were positively associated with multinational investment in all activities except production. These two results indicate that governments interested in attracting foreign investment should invest in their economy's infrastructure and in management development.

Greater technological capabilities were positively related to the ability of an economy to attract research and development activities, but a negative relationship with internal corporate support activities and no significant relationship to the presence of other activities. This indicates that governments may choose to invest in improving technological capabilities, but that they should expect such investments only to influence the likelihood that multinationals will invest in research and development in their economies. They should not expect technological capabilities to attract sales, customer service, production, or internal support activities. Views that greater technological capabilities serve to attract manufacturing and other activities are not supported in the present analysis. In fact, the results for management capabilities and technological capabilities suggest that management capabilities are more important that technological capabilities in attracting a multinational presence in all the activities investigated, even research and development (though the coefficients and significance levels for managerial capabilities and technological capabilities are nearly identical when in come to the influence on research and development). This suggests that if governments are going to invest in advanced human capabilities, that they should consider investing in management capabilities at least as much as technological capabilities.

There are some results that run counter to the "Washington consensus" that calls for greater openness in trade and capital flows. High tariffs in an economy had a positive influence on the number of firms investing in all of the activities investigated. Capital controls had a significant negative relationship only in the knowledge-intensive research and development and internal support activities. Capital controls did not appear to have a significant negative impact on multinational investment in sales, customer service, or production. These results imply that greater openness to trade and to capital flows does not necessarily translate to a greater presence of multinational companies in the economy.

While standing in opposition to the Washington consensus, these results actually support the "revisionist" view of the growth of East Asia's economies in which governments are seen as having protected and supported industry.

Corporate tax rates were negatively associated with all activities except production. Governments that wish to attract other activities should seriously consider whether tax rates make their economies unattractive in these activities. On the other hand, a government that is only interested in attracting production investments might not have to worry as much about corporate tax rates as a government interested in attracting a wider range of activities.

The overall picture that emerges is more nuanced than either a blind following of the Washington consensus or the suggestions of many of its critics. Governments should recognize that different features of an economy influence investments in different corporate activities. Governments interested in attracting production activities should have a different policy mix from governments interested in attracting research and development or corporate support activities. The results suggest that infrastructure is vital to attracting investment in all the activities investigated, perhaps undermining the view that foreign investment in infrastructure related industries in Latin America is somehow less beneficial than that in manufacturing activities. The results suggest that openness, at least in trade, does not necessarily attract foreign investment. In fact, it appears to do the opposite. Capital controls, on the other hand, have a negative impact on knowledge-intensive foreign investment and no significant impact on investment in other activities. High tax rates will tend to reduce investment in all activities except production. Managerial capabilities would appear to be more important than technological capabilities in attracting investment, with the possible exception of investments directly in research and development.

The results also show the value of investigating foreign investment on a firm-by-firm, activity-by-activity basis. Although the results for East Asia are suggestive, future work along similar lines on companies that have invested in Latin America would be necessary to make sharper conclusions as to whether multinationals will respond the same way in an important, and, from an economic development standpoint, problematic, part of the world.

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