

Japanese Direct Investment in Latin America in the Nineties*

Eduardo Kiyoshi Tonooka**

Resumo

Este artigo investiga os determinantes do investimento direto externo japonês na América Latina na década de 1990. A análise considera onze países (Argentina, Brasil, Chile, Colômbia, Costa Rica, Equador, México, Paraguai, Peru, Uruguai e Venezuela) e cobre o período 1980-1997. Resultados empíricos indicam que o tamanho do mercado, relações comerciais bilaterais e custos relativos da mão-de-obra são fatores econômicos importantes para a explicação do investimento direto japonês na região. Adicionalmente, a relevância de fatores institucionais nas decisões de investimento é corroborada por alguns resultados relativos à estrutura legal dos países receptores do investimento.

Palavras-chave: Investimento direto estrangeiro, Investimento direto japonês, Japão, América Latina

Abstract

This paper investigates the determinants of Japanese foreign direct investment (FDI) in Latin America in the nineties. The analysis considers eleven countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela) and covers the 1980-1997 period. Empirical findings indicate that market size, bilateral commercial ties, and relative labour costs are important economic factors explaining the Japanese FDI in the region. Additionally, the relevance of institutional factors on FDI decisions is corroborated by some results concerning the legal structure of the investment host countries.

Keywords: Foreign direct investment, Japanese direct investment, Japan, Latin America

1. Introduction

This paper investigates the determinants of Japanese foreign direct investment (FDI) in Latin America in the nineties. The analysis considers eleven countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela) and covers the 1980-1997 period. Based on Hausman's specification test procedures, a

* This paper is a short version of a discussion paper presented at Research Institute of Economics and Business Administration (RIEB) of Kobe University, Japan.

** Professor at Faculdades Oswaldo Cruz (São Paulo, Brazil) and Senior Economist at LCA Consultores. Visiting Researcher at RIEB in the 1999-2001 period.

pooled cross-section and time-series data set is submitted to an error components model estimation. Besides some economic variables usually employed in econometric models of foreign direct investment, such as GDP, relative wages, and real exchange rates, institutional variables – ie the rule of law, risk of expropriation, risk of repudiation of contracts, corruption, political freedom, among others - are also included into the analysis.

The paper is organized as follows: Section 2 depicts a general view of Japanese FDI in the nineties. Section 3 presents the econometric model and the empirical results. Section 4 ends the paper with a short summary and conclusions.

2. Trends in Japanese FDI in the nineties

The Japanese share in global FDI stock decreased along the nineties. In 1990, the Japanese direct investment stock abroad was equivalent to 11.7% of the world stock, three times more than ten years before. This share fell gradually along the decade to reach 6.2% in 1999. Japanese direct investment outflows also shrunk from an average of US\$ 32 billion in the second half of the eighties to US\$ 22 billion in the 1991-1999 period. In 1999, the impressive increase in world outflows of direct investment brought the Japanese share to a record low of 3%, compared to 16% in 1991.

The Japanese direct investment in the nineties presented some important changes in its regional composition when compared to the previous decade one. European Union became the main destination of Japanese FDI, overtaking the United States. Asia's share in Japanese FDI also raised as Japanese firms were strengthening their production networks in Southeast Asia and China.

The sectoral composition of Japanese FDI also presented a significant change in the nineties due to the increase in manufacturing sector relevance. In the eighties, manufacturing investment represented one quarter of total Japanese FDI outflows. In the 1991-1999 period, this participation reached 38.3%, even greater than the share in the seventies, 35.4%. The differences in the sectoral composition of Japanese FDI among regions were striking:

A) In North America, it prevailed investment in the non-manufacturing sector (two thirds of the total), particularly in services and real estate. In the manufacturing sector, investment in the electrical equipment sector stood out.

B) In Latin America and the Caribbean, nearly all investment was addressed to the finance and insurance industries in offshore financial centres of the Caribbean (39% of the total) and to the sea transportation industry in Panama (27.5%). In the manufacturing sector,

it should be noted that several greenfield investments in the automotive industry were carried out in Mexico, Brazil and Venezuela.

C) Asia concentrated the larger part of manufacturing investment (56% of total Japanese FDI in the manufacturing sector), particularly in industries where vertical and horizontal integration and the scale of production are important factors to cost reduction.

D) In Europe, investment was located in the European Union countries, mainly England and Netherlands, with a strong concentration in the financial sector (32% of the total).

E) Africa remained as a marginal recipient of Japanese investment, which was concentrated in the sea transportation industry in Liberia (almost three quarters of the total).

F) In Oceania, investment in the real estate and the food industries represented nearly half of the total.

Japanese FDI outflows peaked during the so-called “bubble economy” period in Japan. Liberalization of the financial system, strong currency and lax monetary policy induced a sharp economic growth and a significant increase in asset prices over the second half of the eighties, allowing to a quick expansion of Japanese investment abroad. According to the Bank of Japan, gross direct investment outflows exceeded US\$ 40 billion in 1989 and 1990. In the middle of 1989, the domestic interest rate began to be successively raised from 2.5% to 6% in less than a year, triggering a reversion of expectations and the collapse of asset markets in Japan that precipitated the end of the “bubble economy”. After historical record values in 1989 and 1990, Japanese direct investment outflows retreated significantly in the subsequent years, reaching a record low of US\$ 13.8 billion in 1993.

Regardless of the effects of asset deflation on the investment capacity of the Japanese manufacturing firms, the reduction of industrial investment in the first years of the nineties was also due to structural factors, such as the conclusion of investment plans initiated in the second half of the eighties in the automotive, machinery and electrical equipment industries in the United States and Europe. In fact, North America’s and Europe’s shares in the total of manufacturing investment fell from 72% in the decade of 1980 to 64% in the 1991-1999 period, while the Asia’s share jumped from 21% to 28%.

According to JBIC annual surveys, the importance of trade barriers to the investment decisions in the US and EU fell during the decade of 1990, while concerns in relation to the expansion of production capacity and production integration augmented. These findings suggest that the nineties represented a period of consolidation of the internationalization of Japanese firms. Investments that had aimed to the establishment of

export bases (Southeast Asia) and the circumvention of protectionism (United States and European Union) in the decade of 1980 were followed by “maintenance investments” that were focused on a better use of the existing productive network abroad. In this sense, investment for plant expansion and modernization, post-production improvement (marketing, technical assistance, product development), and regional and global productive integration (NAFTA, European Union, Southeast Asia, Mercosur) prevailed in the nineties.

According to data of the Ministry of Finance of Japan, the cumulative flows of direct investment in Latin America added up to nearly US\$ 49.4 billion in 1999, from US\$ 26.8 billion in 1990. Flows to Panama aside, amounts decrease to US\$ 21.2 billion and US\$ 10.3 billion, respectively. Actually, Panama is the largest recipient of Japanese FDI in the region; however, these investments are quite unbalanced as three quarters of the total are concentrated in the sea transportation industry. The second largest destination of Japanese direct investment in the region is Brazil with US\$ 12.4 billion up to 1999 - 65% of the cumulative flows to the region, excluding Panama. Following these two countries, Mexico, Peru, Argentina, Chile, and Venezuela are other important Japanese direct investment destinations.

The region received almost one fifth of total Japanese FDI in farming, forestry & fishery industries and nearly one tenth in the mining sector. The importance of Latin America to Japan in the mining industry strengthened in the nineties if one considers that 20% of all investment in the metal industry was also concentrated in the region. In fact, Japanese companies have been active in mining and metal industries projects in Chile (copper), Brazil (iron ore, steel, aluminium), and Peru (zinc, copper).

The automotive industry (vehicles & auto-parts) was another important destination of Japanese direct investment in the region summing up one quarter of total investment in the manufacturing sector. Different from mining and metal industries, Japanese FDI recipients since the fifties, the automotive sector acquired importance only in the decade of 1990 when the biggest Japanese firms started up new ventures in Mexico, Brazil, Argentina, and Venezuela.

Table 1 – Japanese Foreign Direct Investment in Latin America (% of World Total) - 1951-1999

	1951-1970	1971-1980	1981-1990	1991-1999
Latin America & Caribbean	15.9	17.0	12.5	10.5
Latin America (excl. Panama)	15.3	14.0	2.2	2.4
Brazil	8.1	8.0	1.3	1.4
Panama	0.5	2.0	5.7	2.8

Source: Own elaboration from Ministry of Finance’s data.

Brazil and Mexico have maintained their condition of main destinations of Japanese FDI in Latin America. These two countries, besides their important roles in Mercosur and NAFTA respectively, represent the two largest domestic markets in the region, reinforcing their locational advantages. In the Mexican case, the relevance of these factors was corroborated by the entrance of Nissan, Honda and several electronic-related firms into the “*maquilladora*” industrial area near the United States. In the case of Brazil, the economic growth perspectives after the launch of the monetary stabilization program (Real Plan) in 1994 motivated manufacturing firms (mainly in automotive and electronic industries) to begin or increase their activities in the country. Nevertheless, price stability proved to be just one of the pre-conditions for a solid economic growth. The Asian and Russian financial crises combined with the domestic crawling-peg exchange regime compelled the Brazilian government to keep interest rates high, inhibiting growth and frustrating the optimistic sales forecast of Japanese manufacturing investors. Except for those investment projects “seduced” by the Real Plan, the Japanese firms’ behaviour in Brazil in the nineties was not much different from what it had been in the previous decade: the wait-and-see attitude of running the existing activities while waiting for consistent signals of regional market growth in the medium term.¹

Table 2 - Japanese Foreign Direct Investment in Latin America (US\$ Million) - 1981-1999

	1981-1990		1991-1999	
	Number of Cases	Value	Number of Cases	Value
Latin America & Caribbean	4 492	34 315	2 571	43 707
Latin America (exc Panama)	726	5 902	559	10 311
Argentina	46	388	40	437
Brazil	330	3 653	275	5 896
Chile	56	188	36	312
Venezuela	48	226	36	368
Peru	15	206	15	66
Mexico	94	1 048	115	3 151
Panama	3 277	15 567	1 418	12 012
WORLD	39 287	274 309	25 434	419 386

Source: Own elaboration from Ministry of Finance’s data.

Notes: Sum of annual flows. Exchange rates from Bank of Japan.

¹ Tonooka (1998) develops an empirical analysis on the determinants of Japanese direct investment in Brazil in the decade of 1980.

3. Econometric model and estimation results

The empirical analysis covers eleven countries of Latin America (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela) over the years 1980-1997. Due to idiosyncratic characteristics of Japanese direct investment in the country, Panama is excluded from the sample. Two models were initially defined in order to encompass the possible existence of country-specific effects on the level of Japanese direct investment in the region. As much simple as possible, if these effects are fixed the constant β_0 in the equation below would be substituted for β_i , representing a different intercept for each country (fixed effects model). On the other hand, if the effects are random the term ε_{it} would be split into $\varepsilon_{it} = \mu_i + \nu_{it}$, where μ_i is a random variable representing the country-specific effects and ν_{it} is the usual disturbance error term (random effects model).²

$$\text{di.value}_{it} = \beta_0 + \beta_1 \text{gdp}_{it} + \beta_2 \text{imp.jap}_{it} + \beta_3 \text{lab.cost}_{it} + \beta_4 \text{exchange}_{it} + \\ \beta_5 \text{edu.lit}_{it} + \beta_6 \text{legal}_{it} + \beta_7 \text{pol.free}_{it} + \varepsilon_{it}$$

To choose the most appropriate version, specification tests as suggested by Hausman (1978) were carried out. As pointed out by Hsiao (1986, p.48), the problem is not whether the individual effect is fixed or random, but whether the conditional distribution of this effect given the other explanatory variables is identical to its unconditional distribution. In the context of the linear regression model, the individual effect is called “fixed” when it is correlated with the explanatory variables, and it is called “random” when there is no correlation. In the first case, the ordinary least squares estimators are BLUE while the general least squares estimators are biased. In the second case, both estimation methods generate unbiased and consistent estimators, but the GLS ones are efficient. The Hausman’s procedure tests if there is a significant difference between the two estimators. If the difference is near to zero the random effects specification should be chosen. In all equations presented in Box 1 the Hausman test supports the use of the random effects model.

Data on Japanese FDI corresponds to the yen annual flows directed to those eleven countries under the “direct investment” rubric as defined by the Ministry of Finance of Japan (MOF). According to the Ministry, direct investment is characterized by the existence of a lasting interest and some degree of managerial control of an enterprise resident in Japan in an enterprise resident in another country, occurring in the following modalities: i) establishment of a subsidiary (*kogaisha*), ii) establishment of a branch (*shiten*), iii) total or partial acquisition of a foreign firm, and iv) money loans for a period longer than one year. MOF’s statistics are classified by destination country and activity

² Refers to Box 2 for variable definitions.

sector and compiled from firms' notifications (*todokede besu*). Since 1994, only transactions over 100 million yen have to be informed (the limit was 30 million yen before 1994). This fact probably explains the occurrence of null values for some years and countries in the sample. On the other hand, under the notification system, when an enterprise notifies the amount it plans to invest abroad it has no obligation to communicate how the resources will be spend over the years, changes in investment plan, and even its suspension which could overestimate the statistics.

The explanatory variables, supposed exogenous, encompass four important aspects in the process of investment decision: markets, costs, labour quality, and institutions.

The relevance of the domestic market is captured by the country's GDP [gdp]. Besides the sales potential, scale economies can also justify the implementation of investment projects in larger countries.

The importance of bilateral commercial ties is measured by the percentage of Japanese imports from the investment recipient country in total Japanese imports [imp_jap]. Transaction costs, among other factors, can justify initiatives of vertical integration and market "internalization" by firms. In the international context, these actions would be equivalent to the substitution of interfirm trade (Japanese firm x foreign firm) for intrafirm trade (Japanese parent company x Japanese subsidiary) by means of direct investment.³

Production costs in the investment recipient countries are measured by their relative labour costs [lab_cost] and real exchange rates [exchange]. The variable lab_cost represents the ratio between the wage rate in a given country and the average wage rate in all eleven countries in dollar. Regarding capital costs, besides the unavailability of compatible and comparable data for all countries and the whole period, there is evidence that Japanese firms seldom raise funds in the capital markets of Latin America. According to JBIC annual research, the largest portion of the funds invested in Latin America by manufacturing firms is composed of resources from their parent enterprises in Japan. Non-distributed profits are the second main source of funds for investment while local financing appears in the last place. Concerning the exchange rate, besides its effect on the production costs, it should also be considered a potential wealth-effect as pointed out by Froot & Stein (1991). An evaluation of the yen would implicate an increase in the value of the Japanese firms elevating their capacity to finance new investments in the international capital markets vis-à-vis firms of other nationalities.

The relation between human capital and direct investment is examined by Zhang & Markusen (1999) who argue that the shortage of skilled labour in less developed countries

³ The connection between transaction costs and direct investment is analysed by Dunning (1977, 1988), Rugman (1980, 1985), and Hennart (1986, 1991) among others.

is one of the main causes for their low levels of inward foreign direct investment. In this paper, the labour quality in investment recipient countries is measured by the literacy rate among the population above 15 years [edu_lit]. Although the use of the literacy rate as proxy for labour quality is not the most appropriate procedure it is justified through lack of a common and comparable data set for all countries and the whole period. Alternatively, gross enrolment ratios at secondary and higher school have also been employed.⁴

Finally, two institutional aspects are incorporated into the model. First, an evaluation of the investment recipient countries' legal structure, including the risk of expropriation, the risk of repudiation of contracts by government, the rule of law, the level of government corruption, and the quality of the bureaucracy [legal]. Naturally, countries with a stable juridical system and credible government should gain the foreign investor's preference. Second, an evaluation of the degree of political freedom in the countries, including the situation of political rights (right to organize political parties, right to participate in the election process) and civil liberties [pol_free]. In this case, the relation between freedom and foreign investment is no longer so evident because the investor is more interested in political stability than political freedom. Thus, the foreign investor could perceive the absence of freedom as a positive factor as if it means greater political stability.⁵

Box 1 presents the estimation results of the model considering two possibilities for the dependent variable: the investment value [di_value] (equations 1 to 6) and the number of projects [di_cases] (equations 7 and 8).

When the investment value [di_value] is considered as dependent variable, the GDP [gdp], the relative labour costs [lab_cost], the importance of bilateral commercial ties [imp_jap], and the legal structure [legal] present statistically significant coefficients and expected signs for all equations.⁶

The statistical significance and negative sign for the coefficient associated to the educational variable [edu_lit] reveals that Japanese FDI in Latin America has been addressed to countries with low levels of general education. This result is not surprising as Japanese FDI in the region has concentrated in industries that do not demand high skilled labour. The use of gross enrolment ratios instead of the literacy rate as proxies for the

⁴ Gross enrolment ratios are defined as the total enrolment in a specific level of education regardless of age as a percentage of the official school-age population corresponding to the same level of education.

⁵See Knack & Keefer (1995) and Freedom House's home-page (<http://www.freedomhouse.org>) for a detailed description of the legal structure related variables and the political freedom related variables respectively.

⁶ Similar results were also obtained by Moore (1993) in relation to the importance of GDP to German FDI, Barrell & Pain (1999) in respect of the relevance of relative labour costs to Japanese FDI in the United States and the European Union, and Cushman (1987) with regard to the significance of relative labour costs to the United States FDI.

educational level generate a statistically insignificant coefficient and affect the significance of other coefficients of the model. Actually, the three indicators are quite limited as proxies for labour quality, making fragile the conclusions relative to its role in Japanese firms' investment decisions in the region.

As the relative labour costs calculation were based on dollar-denominated wages, some degree of multicollinearity was expected to arise as a result of the inclusion of the real exchange rate [exchange] in equation 1. The elimination of the real exchange rate in equation 2 improved the quality of the estimators of the remaining parameters. However, when the real exchange rate substitutes for the relative labour costs [lab_cost] the results were less consistent (equation 3).

For all equations, the legal structure [legal] coefficient was statistically significant while the political freedom [pol_free] coefficient was insignificant. These results are similar to those obtained by Knack & Keefer (1995) for the explanation of the determinants of the private investment. In equation 5, government corruption [corruption] was added as explanatory variable, but its coefficient was statistically insignificant, the same conclusion reached by Hines (1995) for the US direct investment. This last result confirms the common impression that the Japanese investors' perception of the corruption level in Latin America is the same for all countries in the region.

The estimation outcomes did not present great changes when the dependent variable was represented by the number of investment projects [di_cases]. The bilateral commercial ties coefficient became statistically insignificant but the explanatory power of regressions rose near 20%.

Box 1 – Estimation Results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Exp Var	di_value	di_value	di_value	di_value	di_value	di_value	di_cases	di_cases
gdp	0,6016 ^a (0,1135)	0,6135 ^a (0,1122)	0,4919 ^a (0,1123)	0,6144 ^a (0,1091)	0,4252 ^a (0,1092)	0,4391 ^a (0,1142)	0,0182 ^a (0,0041)	0,0186 ^a (0,0040)
imp_jap	93,3736 ^c (49,4120)	96,9532 ^b (48,4548)	99,9894 ^c (52,0403)	96,0959 ^b (47,2327)	93,1260 ^b (44,4252)	125,4576 ^a (45,7820)	1,3685 (1,8251)	1,6646 (1,7948)
lab_cost	-51,9726 ^b (26,0468)	-60,8906 ^a (23,0899)		-61,2726 ^a (22,1204)	-78,0537 ^a (21,6195)	-67,3486 ^a (22,3014)	-2,9571 ^a (0,9285)	-2,7388 ^a (0,7947)
exchange	0,1219 (0,1803)		0,2801 ^c (0,1651)				-0,0037 (0,0062)	
edu_lit	-10,2329 ^b (4,0746)	-10,7573 ^a (3,9682)	-6,9639 (4,2565)	-10,7709 ^a (3,9385)	-18,7481 ^a (4,0396)	-15,1685 ^a (3,9227)	-0,9571 ^a (0,1602)	-0,9248 ^a (0,1522)
legal-1	20,0379 ^c (11,1439)	16,0152 ^c (9,1397)	21,9574 ^c (11,1935)	15,9574 ^c (9,1117)	28,2736 ^a (10,2416)		0,7836 ^b (0,3644)	0,9179 ^a (0,3015)
legal-2						30,0845 ^c (17,5400)		
corruption					13,8976 (13,3748)			
pol_free	3,7528 (10,1800)	0,6644 (9,3660)	13,1453 (9,6340)				0,1333 (0,3488)	0,2155 (0,3148)
N. Obs.	198	198	198	198	154	154	198	198
Period	80-97	80-97	80-97	80-97	82-95	82-95	80-97	80-97
Adjusted R ²	0,7070	0,7065	0,7097	0,7082	0,7059	0,7044	0,8376	0,8359
Hausman	4,63	4,78	16,53	4,87	8,81	6,31	6,03	8,50

a, b, c: statistical significance at 1%, 5% and 10% respectively.

Box 2 – Variables Description

di_value	Japanese FDI outflows in yen. Source: Ministry of Finance of Japan.
di_cases	Number of Japanese FDI projects. Source: Ministry of Finance of Japan.
gdp	Gross Domestic Product in dollar of 1990. Source: IMF.
imp_jap	Bilateral commercial ties defined as Japanese imports from a given investment recipient country as a percentage of total Japanese imports. Source: IMF.
lab_cost	Relative labour costs defined as the ratio between the wage rate in a given country and the average wage rate in all countries of the sample in dollar. Source: own elaboration from CEPAL, IBGE, UNIDO, ILO, and IMF data.
exchange	Real exchange rate defined as the nominal exchange rate against the dollar deflated by the consumer price index. Source: own elaboration from IMF data.
edu_lit	Literacy rate of the adult population. Data interpolated for years information was not available. Source: UNESCO.
legal-1	Index of evaluation of the legal structure defined as the weighted average of three specific evaluation indexes: risk of expropriation, risk of repudiation of contracts by government, and the rule of law. Data interpolated for years information was not available. Source: Fraser Institute. Note: the larger the index, the better the evaluation.
legal-2	Index of evaluation of the legal structure defined as the weighted average of five specific evaluation indexes: risk of expropriation, risk of repudiation of contracts by government, rule of law, level of government corruption, and the quality of the bureaucracy. Source: IRIS/University of Maryland and ICRG. Note: the larger the index, the better the evaluation.
corruption	Index of evaluation of the level of government corruption. Source: IRIS / University of Maryland and ICRG. Note: the larger the index, the better the evaluation.
pol_free	Index of evaluation of the degree of political freedom defined as the weighted average of two specific evaluation indexes: political rights and civil liberties. Source: Freedom House. Note: the smaller the index, the better the evaluation.

4. Summary and Conclusions

Japanese FDI outflows diminished in the decade of 1990 despite the impressive growth in world FDI flows as a consequence of macro and microeconomic factors (bubble economy burst; conclusion of firms' strategic investment plans in the United States, European Union, and Southeast Asia). However, the nineties represented a period of consolidation of the internationalization of Japanese firms. Investments that had aimed to the establishment of export bases and the circumvention of trade barriers in the previous decade were followed by "maintenance investments" which sought a better use of the existing productive network abroad.

In Latin America, the presence of Japanese firms in the privatization programs was minimum reflecting their weakness to compete with North American and European multinationals and/or their disinterest in Latin American markets. Brazil, Mexico and Panama maintained their condition of main destinations of Japanese FDI in the region.

The empirical investigation of the determinants of Japanese FDI in Latin America showed that market size, bilateral commercial ties, and relative labour costs are important economic factors explaining Japanese FDI in the region. The inclusion of institutional elements enriched the analysis as the domestic legal structure proved to be also a relevant explanatory variable.

References

- Barrell, R. & Pain, N., "Trade restraints and Japanese direct investment flows", European Economic Review, 43(1):29-45, 1999
- Cushman, D., "The effects of real wages and labour productivity on foreign direct investment", Southern Economic Journal, 54(1):174-185, 1987
- Dunning, J.H., Trade, location of economic activity and multinational enterprise: a search for an eclectic approach, in Ohlin, B. et alii (eds), *The international allocation of economic activity*, London, Macmillan, 1977
- Dunning, J.H., "The eclectic paradigm of international production: a restatement and some possible extensions", Journal of International Business Studies, 19(1):1-31, 1988
- Froot, K.A. & Stein, J.C., "Exchange rates and foreign direct investment: an imperfect capital market approach", Quarterly Journal of Economics, 106(4):1191-1271, 1991
- Hausman, J., "Specification tests in econometrics", Econometrica, 46(6):1251-1271, 1978

- Hennart, J.F., “What is internalization?”, Weltwirtschaftliches Archiv, 122(4):791-804, 1986
- Hennart, J.F., The transaction cost theory of the multinational enterprise, in Pitelis, C.N. & Sugden, R., The nature of transnational firm, London, Routledge, 1991
- Hines, J.R., “Forbidden payment: foreign bribery and American business after 1977”, NBER Working Paper, 5266, 1995
- Hsiao, Cheng, Analysis of panel data, Cambridge, Cambridge UP, 1986
- JBIC, Kaigai chokusetsu toushi kenkyuujohou (海外直接投資研究所報), Research Institute for International Investment and Development, Tokyo, several years (in Japanese)
- JBIC (Japan Bank for International Cooperation), “2000 Nendo Kaigai Chokusetsu Toushi Ankeeto Chousa Kekka”, press release, Research Institute for International Investment and Development, Tokyo, 2000, <http://www.jbic.go.jp> (in Japanese)
- Knack, S. & Keefer, P., “Institutions and economic performance: cross-country tests using alternative institutional measures”, Economics and Politics, 7(3):207-227, 1995
- Ministry of Finance of Japan, Zaisei Kinyuu Toukei Geppou (財政金融統計月報), Tokyo, several years (in Japanese)
- Moore, M.O., “Determinants of German manufacturing direct investment: 1980-1988”, Weltwirtschaftliches Archiv, 129(1):120-138, 1993
- Rugman A.M., “Internalization as a general theory of foreign direct investment: a re-appraisal of the literature”, Weltwirtschaftliches Archiv, 116(2):365-379, 1980
- Rugman, A.M., “Internalization is still a general theory of foreign direct investment”, Weltwirtschaftliches Archiv, 121(3):570-575, 1985
- Tonooka, E.K., “Investimento direto japonês na década de 80: uma análise de seus determinantes no Brasil e no mundo”, Ph.D. Thesis, São Paulo University, São Paulo, 1998 (in Portuguese)
- Zhang, K.H. & Markusen, J.R., “Vertical multinationals and host-country characteristics”, Journal of Development Economics, 59(2):233-252, 1999