JAPANESE AID AS A PREREQUISITE FOR FDI: THE CASE OF SOUTHEAST ASIAN COUNTRIES

Séverine Blaise

ASIA PACIFIC ECONOMIC PAPERS
No. 385, 2009
Japanese aid as a prerequisite for FDI: the case of Southeast Asian countries

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CRAWFORD SCHOOL OF ECONOMICS & GOVERNMENT
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ISSN 0 728 8409
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Japanese Aid as a Prerequisite for FDI:
The Case of Southeast Asian Countries

This study investigates the nexus between Japan’s official development assistance and foreign direct investment inflows in Southeast Asian countries. An analysis of the geographical and sectoral decomposition of aid flows reveals that assistance programs were mainly allocated in the form of loans for economic infrastructure projects. This orientation attests that the needs of the recipient country are taken into account but also reveals that it is in keeping with a return on investment. Conditional logit analysis shows that Japanese aid flows did have a significant positive impact on private investors’ location choice even though other profit-maximising factors such as agglomeration effects or the quality of infrastructure had a leading spill-over effect. In a context of growing scarcity of aid funding, the study concludes by asserting the importance of a complementary process in which foreign aid is directed towards the development of infrastructure, acting as a pre-requisite for future direct investments. Finally, Japan providing an interesting case study, we will stress the need for a better cooperation between the public and private sectors in development assistance programs.

Introduction

Despite the global economic crisis, total official development assistance (ODA) from members of the Development Assistance Committee (DAC) rose by 10.2 per cent in real terms to US$119.8 billion in 2008, after a sharp fall of 8.4 per cent in 2007. This good news should not blind us to the harsh prospects for development aid funding. Indeed, the state of public finance in most industrialised economies casts doubts again on the willingness of the richest countries to fulfil their commitment to increasing ODA to the 0.7 per cent target. Meanwhile, developing countries have been urged to implement reforms in order to attract foreign direct investments (FDI). This non debt-creating type of capital flows aroused interest in the international community, who believed it could definitively eradicate the nagging problem of the developing countries’ debt. Private flows expanded tremendously during the past decades and accounted for nearly 75 per cent of total net resources to developing countries in 2007, of which 43 per cent are FDI (Table 1).
However, experience has shown that direct investments remain concentrated on very few countries, as they require a stable political and macroeconomic environment, an incentive legal and regulatory framework as well as appropriate infrastructure. For this reason, those two types of capital flows should not be seen as substitutes but rather as complements (Blaise 2004a, 2005).

Table 1: Total net resources to developing countries from DAC countries

<table>
<thead>
<tr>
<th></th>
<th>Current millions US$</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. ODA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral ODA</td>
<td>49,978</td>
<td>68,292</td>
</tr>
<tr>
<td>Multilateral ODA</td>
<td>34,576</td>
<td>47,876</td>
</tr>
<tr>
<td>ODA</td>
<td>15,403</td>
<td>19,999</td>
</tr>
<tr>
<td>II. Other Official Flows (OOF)</td>
<td>4,415</td>
<td>9,289</td>
</tr>
<tr>
<td>Bilateral OOF</td>
<td>4,590</td>
<td>8,088</td>
</tr>
<tr>
<td>Multilateral OOF</td>
<td>-175</td>
<td>1,200</td>
</tr>
<tr>
<td>III. Private Flows</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilateral</td>
<td>25,660</td>
<td>34,774</td>
</tr>
<tr>
<td>of which FDI</td>
<td>23,541</td>
<td>38,042</td>
</tr>
<tr>
<td>Multilateral FDI</td>
<td>2,119</td>
<td>6,732</td>
</tr>
<tr>
<td>IV. Net grants by NGOs</td>
<td>4,234</td>
<td>6,005</td>
</tr>
<tr>
<td>TOTAL</td>
<td>84,287</td>
<td>117,005</td>
</tr>
</tbody>
</table>

Source: DAC Development Cooperation Report, various volumes.

The need for a complementary process between public and private flows in development cooperation has been stressed by the OECD’s new policy guidance in 2006. This new approach of aid policy focuses on the role of ODA in mobilising domestic and particularly foreign investment (OECD 2006:19). It also reasserts the pro-growth view embedded in the 2005 Paris Declaration on Aid Effectiveness, by stressing the need for long-term investment in infrastructure. In fact, this new aid approach is very similar to the way Japan has long been providing its assistance.

Even since Japan became the top donor in 1989, its motives and practice for giving aid got more and more attention. Heavily criticised from both inside and outside Japan,
Japanese aid policy has long been depicted as ‘mercantilist’ and routinely accused of involving ‘unfair aid practices’. The concentration of aid flows on Asian countries, the emphasis on capital projects for economic infrastructure, the strong involvement of Japan’s private sector in development co-operation are the key features of the Japanese aid program that have been under harsh scrutiny (Arase 1994, 2005). A number of studies have tackled different aspects of the Japanese aid policy without providing a complete and consistent picture. Some writers view foreign aid as a means to achieve commercial and mercantilist motives; others consider it as a tool of Japanese diplomacy, as a way of gaining international influence, as a means to secure natural resources or also as a strategic tool within the concept of comprehensive security (all the more so since Japan lacks any military option). Indeed, the process of giving aid in Japan is extremely complex, its aid policy has been clearly different from what was practised in the West and is often misunderstood (Blaise 2006).

The case of East Asian developing countries — where Japan has been the main financial backer and provider of advanced technologies — is of particular interest in regard to the nexus between public and private sectors in assistance programs. The successive waves of Japanese aid flows in this region followed a logic of regionalisation (in line with the so-called ‘flying geese pattern’) in which public and private flows are closely bound and constitute a singular practice of economic rationalisation of assistance programs. Japanese aid acted as a prerequisite to future private investments: it came to supplement a national effort, by directly stimulating the development of economic infrastructure and indirectly promoting the inflow of private capital and improving their absorption. We suggested that this public-private sectors partnership is deeply rooted in Japan’s own experience of economic development and its philosophy of aid (Ibid.). Our study of the link between Japanese ODA and foreign direct investment (FDI) in the case of the People’s Republic of China (China hereafter), using a province-by-province econometric analysis of the decision of localisation of Japanese investors, showed that aid programmes had a spill-over effect on direct investment inflows (Blaise 2005).

The aim of this paper is to verify if we can observe the same logic and the same spill-over effect of Japanese aid on FDI flows in the case of four Southeast Asian countries (ASEAN-4 hereafter): Indonesia, Malaysia, the Philippines and Thailand. We therefore focus on one of the possible indirect impacts of aid — the impact through FDI — which calls for caution in the interpretation of our results. Indeed, if ODA does not predict FDI, it can still be effective, but for other, such as humanitarian goals. Alternatively, if ODA is found to promote Japanese FDI, it remains to be demonstrated whether those private flows have a positive impact on the development of the host countries. Yet, a short review of the literature on Japanese FDI in Asian developing countries will offer supportive views on
the contribution of pro-trade oriented FDI to the development of recipient countries.

In the first part of this work, an analysis of Japanese ODA to ASEAN-4 reveals that Japan has been the leading donor in those countries, accounting for more than half of total aid commitments since the late 70’s. Substantial aid flows have been allocated in the form of loans for infrastructure projects in the transport and the energy production sectors. The second part presents the trend and distribution of Japan’s FDI in those countries. It shows that the bulk of direct investments was made in the manufacturing sector and stresses the peculiarity of those investments, acting as a vector of industrialisation and trade promotion. Lastly, after a brief review of the literature on the aid–FDI nexus, an econometric evaluation of the decision of location of Japanese investors in ASEAN-4 is carried out using a conditional logit model in which foreign aid is introduced along with other profit-maximising factors. The results confirm the spill-over effect of Japanese ODA on FDI and lead us to conclude that the public-private sectors cooperation in Japanese assistance programs has been quite effective.

**I- Japanese ODA in ‘flying geese’ pattern**

Japan undertook what would, only in retrospect, be called foreign aid, partly because of its obligation to make war reparations to neighbouring developing countries victimized in World War II (Table 1). In this early period, the Japanese government used the term of ‘economic cooperation’ (keizai kyoryoku) rather than ‘aid’, to describe a range of efforts to promote mutually beneficial economic relations with developing countries, including official aid but also export credits and private capital flows. Japanese aid flows have been substantial ever since, granting Japan the position of leading donor in this region.

**Table 2: War reparations and reparations-like agreements between Japan and East Asian countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Amount</th>
<th>Repayment Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philippines</td>
<td>1956</td>
<td>550 millions $</td>
<td>1956–1966</td>
</tr>
<tr>
<td>South Korea</td>
<td>1965</td>
<td>300 millions $</td>
<td>1965–1975</td>
</tr>
<tr>
<td>Singapore</td>
<td>1967</td>
<td>8.2 millions $</td>
<td>1968–1972</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1967</td>
<td>8.2 millions $</td>
<td>1968–1972</td>
</tr>
</tbody>
</table>

**Source:** Arase (1995).

An analysis of ODA distribution in selected countries gives an interesting picture (Figure 1): while for most advanced countries such as Korea, Taiwan and to a lesser extent Singapore\(^2\), aid significantly decreased since 1982, for poorer countries aid flows sharply
expanded (especially for China). It seems that even in countries which suffered political troubles (for example in the Philippines) the progression of Japanese ODA was not hindered. In Thailand, the evolution of aid was similar to the increasing business interests in the country. Finally, ODA to China more than doubled since 1982, granting the country with the position of top recipient and outstripping aid to Indonesia.

This radioconcentric distribution of aid flows, from the ‘Four Dragons’ to the NIEs of the second generation (ASEAN-4 and China) is highly reminiscent of the ‘flying geese pattern’ first developed by Akamatsu in 1962. This theory describes the sequential development of manufacture industries in a developing economy. Extended at the regional level by Kojima (1973, 1978), it views Japanese pro-trade FDI as a transmission vector of industrialisation from Japan (leader goose) to Asian developing countries (follower geese). Obviously, the pattern of ODA flows reveals the same logic: aid seems to act as a prerequisite for future private investments.

Figures 1a and 1b

Source: Geographical Distribution of Aid Flows to Developing Countries, DAC, various issues.

In those East Asian countries, aid flows were almost multiplied by four between 1980 and 1999, in accordance with the official commitment of Japanese government (and mostly under international pressure for recycling Japan’s surplus). This geographical distribution has important implications: aid flows are mainly allocated to middle and high income countries, in the form of loan aid to economic infrastructure projects.

a) The leading donor in Southeast Asia

As mentioned before, from the beginning of the 80’s Japan has become strongly involved in the NIEs of the second generation. Table 3 shows that the share of Japanese aid in total aid commitments has been consistently superior to 50 per cent from the end of the 70’s.
Table 3: Share of Japan's ODA in total ODA commitments (per cent)

<table>
<thead>
<tr>
<th>Year</th>
<th>Indonesia</th>
<th>Malaysia</th>
<th>Philippines</th>
<th>Thailand</th>
<th>Average ASEAN-4</th>
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<tbody>
<tr>
<td>1967</td>
<td>69.6</td>
<td>..</td>
<td>73.0</td>
<td>..</td>
<td>71.3</td>
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<tr>
<td>1968</td>
<td>23.1</td>
<td>7.2</td>
<td>53.5</td>
<td>4.5</td>
<td>22.1</td>
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<tr>
<td>1969</td>
<td>18.0</td>
<td>37.2</td>
<td>67.8</td>
<td>39.7</td>
<td>40.7</td>
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<tr>
<td>1970</td>
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<td>22.2</td>
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<td>18.2</td>
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<td>21.7</td>
<td>53.1</td>
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<td>5.3</td>
<td>43.4</td>
<td>16.1</td>
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<td>56.5</td>
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<tr>
<td>1978</td>
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<td>70.2</td>
<td>58.4</td>
<td>56.1</td>
<td>53.7</td>
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<tr>
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<td>31.4</td>
<td>45.5</td>
<td>42.9</td>
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<tr>
<td>1980</td>
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<td>59.1</td>
<td>47.3</td>
<td>58.0</td>
<td>49.6</td>
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<tr>
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<td>58.7</td>
<td>49.2</td>
<td>51.6</td>
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<td>78.9</td>
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<tr>
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<td>57.9</td>
<td>60.2</td>
<td>56.2</td>
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<td>56.1</td>
<td>59.3</td>
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<td>75.4</td>
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<td>43.1</td>
<td>46.1</td>
<td>47.9</td>
</tr>
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<td>73.5</td>
<td>48.4</td>
<td>59.6</td>
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<td>57.0</td>
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<td>54.2</td>
<td>64.7</td>
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<tr>
<td>1993</td>
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<td>88.7</td>
<td>58.1</td>
<td>91.1</td>
<td>75.7</td>
</tr>
<tr>
<td>1994</td>
<td>71.1</td>
<td>94.6</td>
<td>79.6</td>
<td>85.1</td>
<td>82.6</td>
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<td>68.5</td>
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<tr>
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<td>67.0</td>
<td>62.4</td>
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<td>74.8</td>
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<tr>
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</tr>
<tr>
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<td>82.5</td>
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<td>98.5</td>
<td>79.6</td>
<td>91.9</td>
<td>78.1</td>
</tr>
<tr>
<td>2001</td>
<td>68.6</td>
<td>76.7</td>
<td>78.9</td>
<td>61.2</td>
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</tr>
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<td>56.0</td>
<td>31.2</td>
<td>29.1</td>
<td>48.4</td>
</tr>
<tr>
<td>2004</td>
<td>60.9</td>
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<td>27.1</td>
<td>81.8</td>
<td>57.8</td>
</tr>
<tr>
<td>2005</td>
<td>45.0</td>
<td>97.9</td>
<td>11.2</td>
<td>63.3</td>
<td>54.3</td>
</tr>
<tr>
<td>2006</td>
<td>36.3</td>
<td>72.3</td>
<td>11.9</td>
<td>15.0</td>
<td>33.9</td>
</tr>
<tr>
<td>2007</td>
<td>52.3</td>
<td>37.5</td>
<td>39.3</td>
<td>23.2</td>
<td>38.1</td>
</tr>
<tr>
<td>Average (1967–2007)</td>
<td>45.99</td>
<td>61.95</td>
<td>52.45</td>
<td>57.39</td>
<td></td>
</tr>
</tbody>
</table>

Source: DAC Development database on Aid.
Although it never claimed formal war reparations, Thailand was the first country to conclude a reparation-like agreement with Japan. In 1955, an agreement on the repayment of a yen loan taken out during WWII is reached. Thailand was to receive 5.4 billion yen in cash and 9.6 billion yen in the form of capital and services.

Figure 2

Japan's ODA to Thailand 1960-2007
(millions constant Yen 1990=100)

Note: Loan and Grant Aid are on an E/N basis, and technical cooperation is on a JICA's disbursement basis.
Source: ODA Annual Report, Ministry of Foreign Affairs of Japan, various issues.

Although Japan has been providing technical assistance to Thailand since 1950, Chaisakul (2001) notes that it received its first OECF yen loan of 10 billion only in 1968, and a second one of 17 billion in 1972. During this initial period and until the beginning of the 70’s, Japanese aid was closely linked to the Japanese business interests and to the promotion of exports markets of Japanese firms (Söderberg 1996). As pointed out by Lincoln (1992), Thailand is a very good example of the common agenda prevailing between the Japanese government and the business community. He notes that a significant part of Japanese aid was allocated in the form of loans for the industrial complex of Laem Chabang, enhancing Japanese FDI in this region. However, facing rising discontent in Asian recipient countries and in particular in Thailand, Japanese grant aid was progressively redirected towards rural and agricultural development.

In the case of the Philippines, aid was initiated within the framework of formal
war-reparation in the period 1956-76. With more than $550 million out of $ 1.01 billion, this country received the largest amount, twice the one of Indonesia. Conceptualised as an investment rather than a provision of service, including capital goods, more than 60 per cent of aid was spent on infrastructure projects (public works, transport, education and medical equipment) and 15 per cent in the industry sectors (cement and steel works, electrical machinery, telecommunication equipments, domestic electric goods, etc.). In addition, Japanese firms granted $250 million to their Filipino affiliates as development loans on commercial terms.

But ‘real’ ODA began with a budget of $250 million for a motorway project in 1969, the consecutive establishment of loan programs in 1971 and the start of grant aid in 1972. Japan became a member of the Consultative Group of Donors for the Philippines in 1971, and as war reparations ended, the cooperation system was completely settled with both loans and grants. Warkentin (1996) also emphasised that until the 80’s, roughly 50 per cent of bilateral ODA (excluding US military assistance) came from Japan. In 1982, disbursements reached 71.4 per cent of total bilateral ODA and 65.2 per cent of total multilateral and bilateral aid. From the 80’s to nowadays, the Philippines has usually been the third largest recipient of Japanese ODA. Following the 1986 revolution and the coming to power of President Aquino, commitments have more than doubled, as a consequence of the political support of the Japanese government and the strong appreciation of the yen. It is worth noting that Mapalad (2000) for instance, found a positive evaluation of the impact of Japanese aid on the economy of the Philippines.

Figure 3

Japan's ODA to the Philippines 1960-2007
(millions constant Yen 1990=100)

Note: Ibid. Source: Ibid.
The main feature of Japanese aid, that is the preponderance of loan aid over grant aid, is again quite obvious: the bulk of aid flows is composed by loans, which represent between 80 and 92 per cent of total ODA on the whole period, except for a few years.

The next Asian country to sign formal war-reparation with Japan was Indonesia in 1958. Yet, it was not until 1968 that the framework for ODA was set up. Indonesia was the main recipient of Japanese aid until China rose as the top recipient in 1993. Besides, from the 70’s onwards Japanese ODA outstripped US aid in the country. Malmström (1996) also observes that Japan became the leading donor in 1988, surpassing bilateral and multilateral commitments to Indonesia. At the end of the 90’s, Japanese assistance had financed, according to the author, about 45 per cent of hydroelectric development and 17 per cent of roads in Indonesia, as well as 76 per cent of telecommunications equipments in Jakarta. Those aid flows have been determined by the macroeconomic conditions of the economy and structured like an integral part of the financing of Indonesia’s development.

Figure 4

For the period 1960–2007, Figure 4 shows that the major part of ODA is composed of loan aid, which started in 1968 and amounted to 27 billion yen for ten specific projects. Orr (1990) indicates that in the 60’s, aid policy was almost exclusively focused on the promotion of exports whereas from the 70’s it started to focus on the development of natural resources, especially on large capital projects in the energy sector (p.79). Loans are composed of commitments undertaken within the framework of the Consultative
Group on Indonesia (CGI which succeeded the Intergovernmental Group on Indonesia in 1992), and others, out of this frame, were distributed in an ad hoc way on specific projects after consulting the two governments. Such loans are generally allocated to large scale projects such as the industrial development that do not fall under the framework of the CGI. However, some infrastructure projects in the energy or transport sectors are financed under this framework.

Reparation-like agreements were reached more tardily with Malaysia in 1967. The total budget of 8.2 million dollars was considerably weaker than for other neighbouring countries. Jomo (1964) notices that the benefits earned from the selling of Japanese properties were treated as reparation-like. He adds that this reparation effort was quite limited by the desire to see Japan giving support to the Cold War. Furthermore, such reparations were mainly paid to British investors in Malaya rather than Malaysians who suffered most from the Japanese occupation.7

As highlighted in Figure 5, grant aid became significant in the 80’s, when the Malaysian economy was suffering deficit and problems of balance of payments. Since 1976, Japan has been the second largest source of external finance of the Malaysian economy (Jomo 1994) and Malaysia has often been one of the top recipients of Japanese aid.

Figure 5

![Graph showing Japan's ODA to Malaysia 1960-2007](image)

**Japan's ODA to Malaysia 1960-2007**

*(millions constant Yen 1990=100)*

**Note:** Ibid. **Source:** Ibid.

Furthermore, the increase in the Malaysian per capita income led the Japanese government to shift its aid to technical cooperation which significantly increased over the period. As pointed out by Orr (1990), Malaysia represents a particular case: its strategic
position on the sea route leading to the Middle-East oil resources and its relatively reconciling approach towards Vietnam, thus countering the dependence of Hanoi on the Soviet Union, brought continuous support from Tokyo to Malaysia. Moreover, the country has important essential natural resources and the Japanese government was particularly attracted by the ‘Look East’ Policy of Prime Minister Mahathir.

**b) An emphasis on economic infrastructure**

A look at Japanese loan aid to ASEAN-4 by sector confirms that the bulk of aid was allocated to economic infrastructure projects. In all countries, ODA loans primarily focused on infrastructure projects in the sectors of transport and energy production (Figure 6). For instance, since the beginning of the 80’s, Japanese ODA has represented around 20 per cent of investment in electricity production in Indonesia, 22 per cent in Thailand, 50 per cent in Malaysia; 50 per cent of investment in telecommunications in Indonesia and respectively 12 and 15 per cent of investment in railway and motorway in Indonesia, 58 and 6 percent in Thailand, etc. (Gaimusho 1996).

In Thailand, aid was allocated to 28 execution agencies mainly in the transport sector. The largest share was assigned to the Department of Motorways, which, along with the authority in charge of expressways, received almost 20 per cent of loans (Söderberg 1996). The second important sector is electric energy and gas (17 per cent), and social services follow up (10 per cent). Soesastro (2004) observes that such strategy of infrastructure building was in keeping with the Thai development plan and largely beneficial to the economy, even if some projects did have negative social and environmental impacts.8

At the beginning of the 90’s, the total amount of loan aid surpassed 100 billion constant yen, projecting Thailand to the third rank among Japan’s top recipients, after Indonesia and China. Taking into account the fact that the Thai population was 56 million in 1991, against respectively 181 million and 1.15 billion in Indonesia and China, Japanese aid per capita is far higher in Thailand.

In other respects, Japan decided to stop grant aid to Thailand in 1993, considering that the level of per capita income achieved after a sustained growth, had become inappropriate to the continuing of this type of assistance.9 However, some minor projects will be maintained in the environment sector as well as technical assistance and development studies. For instance, the JBIC has recently placed emphasis on the development of urban infrastructure (given the deterioration of urban conditions), the regional development (because of rising disparities) and the development of human resources.

Japanese loan aid to the Philippines has the same sectoral composition: cooperation is mainly linked to electricity and other energy development as well as infrastructure such as roads and harbours. When the economy of the Philippines moved into a deep recession,
Figure 6

Source: former Japan Bank of International Cooperation online database, now available on JICA website.
as in the mid-80s and during the Gulf War in 1991, Japan provided loans for commodities. Under the Ramos government, aid was directed towards sectors such as transport (36 per cent, in particular roads and airports), water resources and electricity, which had worsened because of the financial difficulties of the previous administration.

In the agriculture sector, a sustained effort was provided to rural development and to land reform, with an emphasis on irrigation (though its share of total loans remains low). In order to redress regional disparities, funds were allocated to infrastructure such as roads and bridges so that the integrated rural development creates a growth factor in local sectors. Japan has also worked on projects for the improvement of water supply and sanitation, for the basic electricity in some poor regions. In the environmental sector, apart from forest conservation and the control of pollution, cooperation attempts to reduce the damages due to disasters, for example following the eruption of Mount Pinatubo in 1991, and efforts for flood control.

As far as grant aid is concerned, it was allocated to the sectors of education and the development of human resources, in particular health and medical care as in the agricultural sector. After the 1997 financial crisis, Japan significantly increased aid flows to the Philippines especially in the support of socio-economic infrastructure in local sectors. In fields such as education for the prevention of AIDS, the improvement in the conditions of ethnic minorities, education and health, Japan attempted to make aid more flexible through its grants to grassroots projects. Tecson (2001) notes that the low share granted to the social development in total ODA is mainly explained by the reluctance of the Philippines government to use yen loan for human development projects because of recurrent problems of balance of payments. Lastly, technical assistance was implemented in various sectors such as agriculture, industrial technology, transport and health as early as the 60’s. In the agricultural sector, technical studies aimed at improving the productivity and rural development were undertaken, with the long term objective of improving the life of farmers. Volunteers from the Japan Overseas Cooperation Volunteers (JOCV) have played a significant role in the diffusion of agricultural techniques. In recent years, cooperation focused on economic and social infrastructure in rural areas, cooperation for local development and aid to the development of the private sector.10

The sectoral composition of Japanese loan aid to Indonesia reveals that 29 per cent were allocated in the form of commodity loans. Those were provided with the aim of slackening the constraints of balance of payments, especially for the imports of goods. As in other ASEAN countries, project aid massively focused on economic infrastructure, in particular in the transport sector (22 per cent) and the electric energy and gas (17 per cent). Soesastro (1991) notices that: “This is exactly the areas that appear to the Indonesian government as well as to the public at large as most appropriate for Japan’s participation
in Indonesia’s development.’ He adds that there has not been any violent criticism from
the Indonesian public concerning projects financed by Japanese aid, in contrast with some
projects financed by the World Bank. However, some obvious problems arose in terms of
aid effectiveness: in March 1998, Mainichi Shimbun reported that 80 per cent of medical
equipment provided under the framework of ODA since 1979 were not used because of
insufficient electric power production. This explains why this sector has benefited from a
significant part of loan aid over the period. Other problems linked to Japanese aid projects
in Indonesia have been pointed out. For example, on the 26 March 2003, the Japan Times
reported the doubling of plaintiffs involved in the legal action concerning the construction
of Kotopanjang hydroelectric dam on Sumatra Island and the resettlement of about 3,900
persons.

JICA has administrated around 10 per cent of ODA to Indonesia in the form of
grant and technical cooperation since its establishment in 1969. Those activities include
project type technical cooperation, development studies, assignment of young experts,
grant aid projects, emergency aid as well as a training program of participants in Japan.
Malmström (1996) underlines that Japanese experts working in Indonesia are quite familiar
with development plans and priority projects, and are often responsible for preliminary
evaluations of selected projects.

Lastly, yen loans to Malaysia are also mainly allocated to projects of infrastructure
development and telecommunications. In contrast with the three others recipients, the
energy and gas sector is the largest one with 52 per cent of total loans over the period.
Social services have benefited from 20 per cent of flows and the transport sector ranks
third, after the mining industry sector and manufacture (12 per cent).

In conclusion, this analysis shows that Japanese ODA to ASEAN-4 was mainly
allocated in the form of loans to projects for economic infrastructure. This permanent
feature of Japan’s aid policy reflects a logic based on the concept of ‘self-help’, which is
deeply rooted in Japan’s own experience of economic development. Underlying Japan’s
ODA is the conviction that economic development is only possible when the government
and citizens of a developing country make unremitting efforts to improve their current
situation. Unless the people of a developing country take it upon themselves to make the
necessary effort and sacrifices, neither aid nor development will ultimately be successful.
Such a philosophy explains the preponderance of loans over grant aid. It is also worth
recalling that the request-based system of Japan’s ODA is the most obvious outcome of
the concept of self-help effort.
II- Japan’s FDI in ASEAN-4

Japan’s financial flows to the developing world have not been limited to ‘aid monies’ and other official and private flows have expanded tremendously since the emergence of Japan as the top donor in 1989. Indeed, also deeply embedded in Japan’s aid philosophy is the idea that public and private sectors must work not as adversaries, but as partners in development. As a consequence, Japanese public and private flows to developing countries have been institutionally and officially linked. Private flows reached $23 billion in 1995, of which roughly $10 billion was foreign direct investment (FDI). One should notice that the recent aid reform in Japan constitutes a significant departure from this system, and realignment towards the international community’s so-called ‘best practice’ in providing aid.

Since the beginning of the 70’s, Japanese FDI have been concentrated on developing Asian countries. Lipsey (1999) notices that more than half of Japanese FDI stocks were implemented in those countries in the 70’s and at the beginning of the 80’s. After the yen revaluation, this share progressively decreased to 25 per cent in 2000. Japan’s FDI in the region reveals the same logic as aid flows: the so-called ‘flying geese’ pattern. Indonesia is the only ASEAN country that received substantial FDI as early as the 70’s. In Thailand, Malaysia and the Philippines, the bulk of FDI flows occurred later, in the 80’s.

Rapidly, Thailand also became highly coveted by Japanese investors: in 1989, it received the third largest amount of Japanese direct investment in the region with 171 billion constant yen. The integration of those investments in the productive structure of Thailand has been shown to be a vertical rather than horizontal integration. Milner et al (2004) investigate the effects of both home country (Japan) and host country (Thailand) characteristics on the inter-industry pattern of FDI. For 85 manufacturing industries over the period from 1985 to 1995, they find a positive influence of industry variation in skill intensity and market size in the host country and a negative effect of transport costs on the amount of FDI. These results provide strong direct econometric evidence of vertical integration of production across the countries.

Another substantial difference lies in the sectoral decomposition of investment flows: they were mainly allocated to the manufacturing sector, except in Indonesia, where most Japanese investment was directed towards the mining sector (Table 4).

Aoki (1992), Womack, Jones and Roos (1991) or Yamamura (1990, 1994) among others, show that Japanese multinational firms have unique specificities. Some of them may be largely beneficial to the host country, and especially those related to inter-firms relations or relationships between the domestic government and the multinational firm, such as:

- ‘lean’ production techniques;
- ‘just in time’ sourcing;
– total quality management;
– quality control circles;
– processes of collective decision (ringi sei) which promote the participation of employees to management and allow the firm to consider a greater number of alternatives and to reduce implementation delay of a directive;
– promotion by seniority system (nenko) lifetime job, favouring the development of an internal job market and reducing staff rollover and the loss of skilled workers, etc (Ravenhill, 1999).

In addition, keiretsu type relations linking assemblers and suppliers and maximising market shares rather than short term profitability, may also bring substantial benefits in that local firms are included in production networks.

Those peculiarities engender different forms of investments (compared with US FDI for instance). Indeed, while US FDI in Asia’s manufacturing sector is generally undertaken in technologically sophisticated industries with differentiated products (therefore more costly), Japanese FDI is generally directed towards standardised products industries, which are more labour intensive (JETRO 1995). Consequently, most Japanese direct investment is undertaken by small and medium-sized firms (Urata and Kawai 1998), which implies that the level of technology and the transfer mode are noticeably different.\(^{14}\)

**Figure 7**

![Japanese FDI to Indonesia 1980-2004](image1)

![Japanese FDI to Thailand 1980-2004](image2)

![Japanese FDI to Malaysia 1980-2004](image3)

![Japanese FDI to the Philippines 1980-2004](image4)

*Source: Financial Statistics, Japan’s Ministry of Finance, various issues (discontinued in FY2004).*
Table 4: Japan’s FDI to ASEAN-4 by sector (1980–2004, per cent)

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>Indonesia</th>
<th>Malaysia</th>
<th>Thailand</th>
<th>Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>0.7</td>
<td>2.2</td>
<td>3.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Textile</td>
<td>4.3</td>
<td>1.7</td>
<td>3.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Lumber and Pulp</td>
<td>2.9</td>
<td>2.5</td>
<td>0.7</td>
<td>0.4</td>
</tr>
<tr>
<td>Chemical</td>
<td>12.4</td>
<td>9.9</td>
<td>6.7</td>
<td>4.8</td>
</tr>
<tr>
<td>Metal</td>
<td>9.0</td>
<td>9.9</td>
<td>10.4</td>
<td>6.6</td>
</tr>
<tr>
<td>Machinery</td>
<td>0.8</td>
<td>4.7</td>
<td>6.7</td>
<td>4.1</td>
</tr>
<tr>
<td>Electrical</td>
<td>3.8</td>
<td>24.9</td>
<td>16.3</td>
<td>24.5</td>
</tr>
<tr>
<td>Transport</td>
<td>6.8</td>
<td>4.3</td>
<td>12.4</td>
<td>11.3</td>
</tr>
<tr>
<td>others</td>
<td>3.0</td>
<td>13.0</td>
<td>7.5</td>
<td>6.2</td>
</tr>
<tr>
<td>Manufacturing Total</td>
<td>43.8</td>
<td>73.1</td>
<td>67.5</td>
<td>69.5</td>
</tr>
<tr>
<td>Farming and Forestry</td>
<td>0.4</td>
<td>0.1</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Fishery</td>
<td>0.8</td>
<td>1.1</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Mining</td>
<td>36.2</td>
<td>1.9</td>
<td>0.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Construction</td>
<td>0.6</td>
<td>1.7</td>
<td>2.6</td>
<td>0.8</td>
</tr>
<tr>
<td>Trade</td>
<td>0.8</td>
<td>5.5</td>
<td>6.4</td>
<td>1.3</td>
</tr>
<tr>
<td>Finance and Insurance</td>
<td>7.6</td>
<td>5.2</td>
<td>4.0</td>
<td>5.1</td>
</tr>
<tr>
<td>Service</td>
<td>4.6</td>
<td>5.4</td>
<td>3.9</td>
<td>5.4</td>
</tr>
<tr>
<td>Transportation</td>
<td>0.7</td>
<td>0.7</td>
<td>3.3</td>
<td>7.1</td>
</tr>
<tr>
<td>Real Estate</td>
<td>4.0</td>
<td>3.5</td>
<td>3.6</td>
<td>3.2</td>
</tr>
<tr>
<td>others</td>
<td>0.2</td>
<td>0.1</td>
<td>0.0</td>
<td>0.1</td>
</tr>
<tr>
<td>Non-Manufacturing Total</td>
<td>55.9</td>
<td>26.6</td>
<td>25.3</td>
<td>29.6</td>
</tr>
<tr>
<td>Branches</td>
<td>0.3</td>
<td>0.2</td>
<td>7.2</td>
<td>1.0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Ibid.

In a comparative analysis of American and Japanese FDI in developing countries, Kojima (1991) shows that in most cases, Japanese FDI contributes to the development of recipient countries with a greater efficiency than US FDI and points out that Japanese FDI are pro-trade type investment whereas US FDI act as a substitute to trade.

Overall, this short review of the literature supports the view that Japanese FDI flows in East Asian countries may be seen as a vector of industrialisation and of trade promotion by fostering the replication of production networks in recipient countries and the strong involvement of the domestic private sector.

III- Aid: a pre-requisite for FDI?

a) A short review of the literature

A number of works was carried out on the relationship between ODA and FDI in the case of Japan. Nevertheless, the causal relation that has been evaluated has often been the opposite. That is, to assert the impact of FDI as a determinant of ODA flows. As far as we know, few studies have considered the possibility that ODA acts as a prerequisite for future
Japanese FDI. Among earlier studies, we find The International Development Centre of Japan (1997), Yoshioka et al. (1998), Inui (2000) and Nakamura et al. (2001).

More recently, Harms and Lutz (2006) and Karakaplan et al. (2005) examined the direct relation between foreign aid and FDI, using aggregate data on FDI and foreign aid for each recipient LDC. Harms and Lutz (2006) found that the effect of aid on FDI is generally insignificant but significantly positive for countries where private firms face heavy regulatory burdens. Karakaplan et al. (2005) also found an insignificant effect of aid on FDI. In contrast to Harms and Lutz (2006), their results suggest that good governance and developed financial markets have a positive effect on the aid-FDI nexus. Harms and Lutz (2006) and Karakaplan et al. (2005) both use governance indices developed by the World Bank Institute. A notable difference between these two studies is the time period covered: 1988–1999 in Harms and Lutz (2006) and 1960–2004 in Karakaplan et al. (2005).

Lastly, Kimura and Todo (2007) studied the impact of foreign aid on FDI by using disaggregated data on FDI and aid, i.e., data for each source-recipient country pair during the period 1995–2002. This country-pair data set allowed the authors to employ gravity equation-type estimation that is often used in recent studies on determinants of FDI. They presumed that there are possibly multiple channels through which aid affects FDI: a positive ‘infrastructure effect’ and a negative ‘rent-seeking effect’ by encouraging unproductive rent-seeking activities. In addition, the study proposed that aid has a positive ‘vanguard effect’ through which foreign aid from a particular donor country promotes FDI from the same country but not from other countries.

Kimura and Todo (2007) found that foreign aid in general does not necessarily promote FDI, a result consistent with Harms and Lutz (2006) and Karakaplan et al. (2005). They also found that the quality of governance does not significantly affect the effect of aid on FDI. As to the final role of foreign aid on FDI, the vanguard effect, their results show that foreign aid from Japan has a vanguard effect, while the effect of aid from all other countries on FDI is weak. In other words, aid from Japan promotes FDI from Japan to the same recipient country, while having no impact on FDI from other countries. The size of the vanguard effect for Japanese aid is substantial, since the study found that the increase in Japanese FDI in East Asia is mostly attributed to the increase in Japanese aid.

This short review of the existing literature reveals contrasting results, although the suggestion that Japanese ODA has had a positive impact on FDI inflows and more particularly Japanese FDI inflows seems well-founded. Still, these studies suffer a number of shortcomings ranging from misspecification for some, to invalid estimation methodology for others. More problematic is the fact that several studies use aggregated FDI data from the Ministry of Finance in Japan, which are based on notifications by firms and are known
to be grossly inflated due to the fact that many projects never materialised (Ramstetter 1996:109–112). In this context, the originality of our work is to use more reliable FDI data from the Toyo Keizai surveys.

b) Methodology

Our econometric evaluation of Japan's ODA and FDI nexus focuses, as mentioned before, on the indirect effect of aid on Japanese FDI inflows. The previous empirical analysis showed that Japanese aid was mainly allocated to economic infrastructure and more especially to the transportation or energy sectors. Therefore, we assume that the direct effect of ODA is to enhance the development of such infrastructure.

The location decision of Japanese investors in ASEAN-4 is analysed by means of a conditional logistic regression in which we introduce ODA along with other profit-maximising factors. The aim is to analyse the effect of national characteristics on Japanese firms' location choice.

This model has been widely used in previous empirical studies of location choice. For example Head, Ries and Swenson (1995) examined the agglomeration benefit and location choice of Japanese manufacturing in the United States. Fukao and Yue (1997) analysed the determinants of FDI by Japanese electronic firms. Belberdos and Carree (2000) also examined the location of Japanese Investment in China, focusing on agglomeration effects, Keiretsu and firm heterogeneity. Urata and Kawai (1999) studied the determinants of the location of FDI by Japanese small and medium-sized enterprises. The conditional logit model was first developed in economic analysis by McFadden (1973).

Our purpose is to verify if, in a given country, the amount of Japanese aid has an impact on the location choice of Japanese private investors, for instance through the development of infrastructure. To model the location of Japanese FDI in ASEAN-4, we assume that Japanese firms undertake FDI in a country where they can maximise their profit after evaluating relevant characteristics of alternative locations. By assuming that the firm has a production function of Cobb-Douglas form, let us describe the profit \( \pi \) of firm obtained from undertaking FDI in country j as (1).

\[
\pi_j = a_0 X_{1j}^{a_1} \cdots a_m X_{mj}^{a_m} e^\mu_j
\]

where \( a_0, ..., a_m \) are unknown parameters, \( X_{sj} \) (s=1,...,m) are variables describing the characteristics of the country j (j=1,..., n), and \( \mu_j \) is a random disturbance term capturing country- and investment specific-heterogeneity in total factor productivity.

Given profit equation (1), if and only if \( \mu_j \) is distributed as Type I extreme value (independent random variable) according to the Weibull distribution, then the probability that country j will yield investor \( \pi_j \) the highest profit among all the provinces is given by the logit expression (2) (McFadden, 1973).
We express the number of FDI selections made by Japanese firm \( n \) in the country \( j \) as \( W_{ij} \) \((j=1, \ldots, n)\). This dependent variable takes the value 1 if the country is selected by the investor and 0 otherwise. Finally, we obtain the probability of observing such FDI pattern as equation (3).

\[
L = \prod_{i} \prod_{j=1}^{n} P_{ij}^{W_{ij}}
\]

The parameter \((a_0, \ldots, a_m)\), which indicates the characteristics of potential host countries to Japanese FDI, is estimated by the maximum likelihood method, which maximises the likelihood function (3).

In other respects, as pointed out in previous studies the location choice criteria may vary across different sectors. Therefore, the estimation is carried out in both manufacturing and non-manufacturing sectors. The following variables enter into consideration as independent variables:

- **Agglomeration effect**: economic activities of existing Japanese firms in one province that generate positive externalities for nearby firms engaged in similar activities. This is measured by the number of existing Japanese affiliates before the venture began operation (JAmc and JAnmc, respectively for manufacturing and non-manufacturing sector).

- **Level of economic activity**: we control the economic size of the countries by including the per capita real GDP (GDPc). The larger the economic size of a country, the more likely it will receive foreign investments.

- **Japanese imports**: Japanese FDI may follow an import substituting strategy. In that case, Japanese FDI and imports to the host country are likely to be positively related.

- **Production cost**: labour cost is recognised as one of the most important factors influencing efficiency seeking FDI. It is given by the average wage level of workers (Wage), which is expected to discourage investment especially in the case of manufacturing location.

- **Infrastructure**: a well developed transportation infrastructure reduces the costs of importing inputs and exporting or distributing output, as a good communication infrastructure facilitates and reduces the cost of communication of affiliates as
well. Consequently, one expects infrastructure indicator to have a positive impact on the location decision of private investors.

We introduce the distance from Japan (DIST) as well as a measure of the quality of telecommunication infrastructure: the number of telephone mainlines (per 1,000 people) (PHONE). Finally, we introduce the cumulative amount of Japan’s ODA gross disbursements (ODAc), which is also supposed to enhance the development of infrastructure, particularly in the transportation sector. Gross disbursement figures are expected to give a more precise idea of the Japanese effort and contribution to the development of Southeast Asian countries. The use of a cumulated measure aims at reflecting the extent to which investment decisions are influenced by the past contributions of Japanese aid to infrastructure development, rather than by the aid projects implemented in any given year. A two-year lag is introduced on the variable, in order to account for the delay between aid disbursement and the achievement of aid projects.

- **Human capital**: the level of education is expected to have a positive impact on the location decision especially in non-manufacturing sectors as it enhances the quality of human capital. The education level if measured by the gross secondary school enrolment (EDU).

- **Foreign investments’ legal framework**: we introduce a time dummy variable in order to account for the evolution of foreign investments’ legal framework over the period. This variable takes the value 1 from 1988 for Malaysia, 1993 for Thailand, 1994 for Indonesia and 1991 for the Philippines. Those years correspond to the implementation of new foreign investment laws or deregulation packages in each country. We use the log of all variables, except for the Distance variable.

The principal limitation of conditional logit models is known as the independence of irrelevant alternatives (IIA). This property implies that the relative odds between two alternatives are the same no matter what other alternatives are available. It is thus important to check whether the assumption of IIA is valid or not. This is done by the use of a Hausman test.

This evaluation is carried out over the period 1975–2007. Statistics for ODA are issued from DAC database. As far as FDI are concerned, we use Toyo Keizai’s ‘Overseas Japanese Companies Data’ from the 1990, 1999 and 2008 editions. Statistics for each ASEAN country are compiled from Word Development Indicators published by the World Bank, as well as UNIDO industrial statistics (wages). Lastly, the distance from Japan is given by the distance in nautical miles from port to port.
c) Results

Results are given in Table 5 and confirm the prevalence of agglomeration effects and the quality of infrastructure as the main characteristics influencing Japanese investors’ location choice in ASEAN-4.

In both sectors, agglomeration effects appear to have the strongest positive impact on location choice, as it was the case in our previous study of China. This finding is in line with quoted previous studies of Japanese investors’ location choice.

The level of economic activity, however, holds a negative and weakly significant coefficient in both sectors. This is a noticeable difference with previous results obtained in the case of China, which might arise from the aggregate nature of statistics at national level.

As expected, high wage levels seem to discourage Japanese investors, especially in the manufacturing sector. This finding may suggest that the cost of labour is of greater importance in manufacturing activities than in non-manufacturing ones. The negative impact of education level in the two sectors confirms that investors attach less importance to a qualified labour force. Again, this impact is more significant for manufacturing activities. The estimation results on Japanese imports also tend to confirm that Japanese FDI in ASEAN-4 consist mainly of efficiency-seeking FDI, rather than import-substituting FDI.

Most importantly, the cumulated amount of Japanese ODA attributed to each country is strongly significant in both sectors and confirms that aid has a spill-over effect on the location decision of Japanese investors in those countries. As we suggested, aid projects acted as prerequisite for future investment through the development of infrastructure. This impact is stronger in the case of manufacturing activities, for which the quality of transport infrastructure is particularly important.

The quality of communication infrastructure also appears to be a major factor influencing Japanese FDI: the number of phone mainlines is shown to be a significant determinant of the location choice of both manufacturing and non-manufacturing activities.

The port-to-port distance from Japan has no significant impact on FDI location, even in the case of manufacturing activities which imply greater international fragmentation of productive structures. Finally, the implementation of new foreign investment laws and regulations negatively influence Japanese investors: such a finding may be due to the fact that Japanese FDI has been substantial in ASEAN-4 countries as early as the 80s (and the 70s in the case of Indonesia), thus before the easing of foreign investment legal framework in those countries. As far as the IIA is concerned, both models estimated on these data meet the asymptotic assumptions of the Hausman test.
Table 5: Conditional (fixed-effects) logistic regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Manufacture</th>
<th>Non-Manufacture</th>
</tr>
</thead>
<tbody>
<tr>
<td>LJAc</td>
<td>1.56***</td>
<td>0.99***</td>
</tr>
<tr>
<td></td>
<td>(9.87)</td>
<td>(6.84)</td>
</tr>
<tr>
<td>LODAc</td>
<td>1.10***</td>
<td>0.59***</td>
</tr>
<tr>
<td></td>
<td>(7.23)</td>
<td>(3.64)</td>
</tr>
<tr>
<td>LGDPc</td>
<td>-0.27</td>
<td>-0.37</td>
</tr>
<tr>
<td></td>
<td>(-0.92)</td>
<td>(-1.18)</td>
</tr>
<tr>
<td>LJIMPORT</td>
<td>-1.18***</td>
<td>-0.65***</td>
</tr>
<tr>
<td></td>
<td>(-7.99)</td>
<td>(-4.06)</td>
</tr>
<tr>
<td>LWAGE</td>
<td>-0.81***</td>
<td>-0.29</td>
</tr>
<tr>
<td></td>
<td>(-3.13)</td>
<td>(-1.09)</td>
</tr>
<tr>
<td>LEDU</td>
<td>-2.80**</td>
<td>-1.73*</td>
</tr>
<tr>
<td></td>
<td>(-2.94)</td>
<td>(-1.51)</td>
</tr>
<tr>
<td>DIST</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(-0.58)</td>
<td>(0.81)</td>
</tr>
<tr>
<td>LPHONE</td>
<td>0.99***</td>
<td>0.72***</td>
</tr>
<tr>
<td></td>
<td>(6.04)</td>
<td>(4.08)</td>
</tr>
<tr>
<td>FIL</td>
<td>-0.19*</td>
<td>-0.42***</td>
</tr>
<tr>
<td></td>
<td>(-1.73)</td>
<td>(-3.32)</td>
</tr>
<tr>
<td>Log likelihood</td>
<td>-3007.667</td>
<td>-2190.7236</td>
</tr>
<tr>
<td>Hausman Test</td>
<td>Chi2(7) = 53.63</td>
<td>Chi2(7) = 13.07</td>
</tr>
<tr>
<td></td>
<td>Prob&gt;chi2 = 0.0000</td>
<td>Prob&gt;chi2 = 0.0703</td>
</tr>
</tbody>
</table>

Notes: *, **, *** mark the results which are respectively 10 per cent, 5 per cent and 1 per cent significant.
Hausman test: H0 = difference in coefficient not systematic.

Conclusion

This econometric analysis allowed us to support the view that Japan’s ODA has been quite effective in promoting Japanese FDI in ASEAN-4 countries, both in the manufacturing and non-manufacturing sectors. Even though other profit-maximising factors such as agglomeration effects or the quality of telecommunication infrastructure had a leading role in location decision of Japanese investors, the allocation of aid projects did have a significant positive impact. The concentration of ODA projects on economic infrastructure, considered as high priority by most of the ASEAN-4 governments, aimed at resolving serious bottlenecks in those economies. This had an important ‘spill-over effect’ on promoting Japanese investors’ activities.

As far as the loan component of ODA is concerned, this finding confirms the idea that the incentive for future private investment and technology transfers not only allowed a high rate of reimbursement of loan aid, but that the duty to reimburse constitutes an indicator of solvability well perceived by private investors (Teboul and Bassino 1999). Yet, this study calls for further investigations on the different channels through which foreign
aid promotes private investments inflows. It can be:

- directly, by involving Japanese firms in aid projects;
- indirectly, by developing economic, social and physical infrastructure and improving the macroeconomic economic environment in recipient countries;
- but also by bringing business practices, rules, and systems that are specific to Japan in the recipient country, and by accumulating information about the local business environment that can be disseminated to Japanese firms, therefore reducing the investment risk they perceive.

A more detailed analysis, sector by sector, as well as case studies should allow us to capture the very nature of this spill-over effect.

In a context of growing scarcity of aid funding, we wish to assert the importance of such a complementary process in which foreign aid is aimed at enhancing the development of infrastructure and improving the economic environment, acting as a pre-requisite for future direct investments. Japan providing an interesting case study, we stress the need for a better cooperation between public and private sectors in development assistance programs.

**Acknowledgements**

This work was achieved with the support of the Research Unit for Statistical and Empirical Analysis in Social Sciences of Hitotsubashi University (Kyakuin Kenkyuin), a Global Centre of Excellence program directed by Professor Kyoji Fukao.

This paper was presented in the Arndt-Corden Division of Economics seminar series at the Australian National University, Canberra in November 2009. The author is very grateful to all the colleagues for their very constructive and useful comments at that seminar.
APPENDIX 1: Japanese grant aid to ASEAN-4 by sector

Source: Ministry of Foreign Affairs of Japan, ODA annual reports, various issues. Calculations by the author.
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Notes

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2 On the whole period, Singapore and Hong-Kong received comparatively low amounts of Japanese aid, mainly because of the size of these economies and their high level of per capita income.

3 In earlier works, the flying geese pattern referred to the shape of curves of import, domestic production and export growth of Japanese modern industries from 1870 to WWII.


7 See Hara (1993) on this issue.

8 He notably mentions social and environmental problems caused by some projects of dam construction.

9 The allocation of grant aid by sector is presented in Appendix 1.
10 Also see Potter D.M. (1996) on Japanese aid to Thailand and the Philippines.
11 The Overseas Technical Cooperation Agency (OTCA) created in 1969, changed its name and became the Japan International Cooperation Agency (JICA) in 1974.
12 See Blaise (2006).
13 In 2008, as the JBIC merged with other institutions to become the Japan Finance Corporation, the Overseas Economic Cooperation Operations (providing loan aid) have been succeeded by the new Japan International Cooperation Agency which becomes Japan’s unique aid agency.
14 See Kojima (1978) and Ravenhill (1999) on technology transfer issues.
16 Egger and Winner (2006); Carr, Markusen and Maskus (2001), and Wei (2000).
17 Other examples can be found in Fukao (1996), Fukao and Tei (1996).
18 In Malaysia, a string of reforms is implemented in order to promote foreign investment from 1985 to 1987. In Thailand, the Board of Investment introduces new incentives and eases approbation procedures to encourage foreign investment in 57 provinces out of Bangkok in 1992-93. In Indonesia, where the 1967 foreign investment laws still prevails (amended in 1970), the Investment Coordinating Board issued an important deregulation package on foreign investment in May 1994. It was seen as a very significant step toward a much more conducive and attractive investment environment in Indonesia. Lastly, the Foreign Investment Act adopted in the Philippines in 1991 puts an end to important restrictions for foreign investors (except in areas of the ‘negative list ‘).
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