

Ownership Advantages and Firm Factors Influencing Performance of Foreign Affiliates in Japan

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Abstract

This empirical study explores the impact of knowledge development factors, parent firm-specific and subsidiary characteristics on foreign affiliated performance. First, we examine the ownership and performance (based on return on asset, return on sales and profitability) of foreign affiliated in Japan. Second, we extend the subsidiary's factors with parent company's firm factors in order to analyze the performance and ownership advantages based on wholly owned subsidiary (WOS) and international joint venture (IJV). Third, we explore the relationship between firm factors and foreign ownership ratio. Our finding suggested that first, when a subsidiary operates in the manufacturing industry; MNCs prefer to have a majority of equity ownership. Second, the factors of industry, foreign employees and size of parent firm and subsidiary, demonstrate a statistically significant on performance. Finally, our findings indicate that foreign ownership ratio has a positive relationship with knowledge transfer factors, import and export ratio of foreign affiliates.

Keywords: Ownership advantages, Foreign manager, Knowledge transfer, Firm factors and performance

1. Introduction

The purpose of this empirical study was to extend and develop the literature in foreign direct investment, ownership advantages and performance of multinational companies' subsidiaries. This research contributes to the literature by providing empirical support for several theories and previously defined and/or tested constructs. The parent and subsidiary's factors measured in this study suggest the importance of internationalization and ownership advantages of Dunning's eclectic theory.

The primary of the paper is to explore the main determinants of the factors influencing performance of foreign investment in Japan as a developed country, based on an integrative perspective incorporating contingencies at both parents and subsidiaries levels. Drawing on primary data from a sample of 3500 foreign companies, this study makes a number of contributions to the literature on foreign ownership and multinational companies' performance. First, it builds upon prior research by given a comprehensive account of various variables affecting performance, which may be critical to understanding the subsidiary's performance. Second, our research extends existing literature by integrating parent firm factors with the subsidiaries factors. Third, we use several variables to assess the performance, covering different measures of firm performance such as net profit, return on sales (ROS) and return on assets (ROA). Fourth, we compare different aspects of ownership advantages including management and employee levels of foreign investment including the interactions between parent companies and subsidiaries. Fifth, we employed variables like manager authority, foreign manager, new graduate and foreign employees as proxies of knowledge transfer and development.

Researchers have focused on the firm, industry, and country levels of explanatory variables for both home and host country. A review of the equity ownership literature indicates a preponderance of studies focusing on firm characteristics and host country characteristics.

In this context, one of the most important decisions faced by a firm going abroad through a foreign investment is that related to the ownership arrangement, and in particular, the choice between a wholly owned subsidiary and a joint venture. Many authors refer to this decision as entry mode choice and consider the main alternatives to be full control over the foreign unit (either by acquisition or new creation) or joint ventures with a partner. From now on, we will refer indifferently to entry mode choice or ownership arrangement, in both cases meaning the degree of ownership exerted by the parent company on the subsidiary. Although the ownership and internationalization advantages have been long explored in the conceptual and empirical literature on foreign investment, multinational firms, and foreign subsidiary performance, most other studies focused on entry mode and performance of subsidiaries established in developed and Asian developing countries by focusing on one host country and foreign direct investment outflow of a single country.

In this paper, beside the equity ownership, we focus on a different viewpoint considering the foreign ownership ratio as a key issue for firm-specific factors and knowledge transfer. Mutinelli and Piscitello, 1998, maintain that competencies and assets are firm-specific, unique, very difficult to reproduce outside the firm's boundaries, and path-dependent. The difficulty of firms in building and acquiring knowledge and competencies influences their

growth strategies and in particular, their entry mode and ownership in foreign markets, that is the decision to undertake international joint ventures and alliances rather than wholly owned subsidiaries.

2. Theoretical background and hypotheses

There are several reasons for studying international modes of entry and ownership. First, the sheer amount of foreign direct investment flows in the world, make it a critical factor in overall economic performance. Second, firms need to identify which host country industry factors are important in choosing among the various modes of entry (joint ventures, acquisitions, or Greenfield ventures). Third, international diversification through foreign market entry can provide growth and profitability at rates unavailable in home markets. A fourth reason that warrants some attention is the various modes of entry or ownership that can be effectively used to counter international competition by engaging foreign rivals on their home turf.

Fifth, firms have the option of choosing the appropriate entry mode for international markets based on balancing their resources, capabilities, and international experience with their desire for ownership and control. Several studies have examined the performance differences between wholly owned and joint ventures (Nitsch et al., 1996; Pan et al., 1999; Rasouli and Hoshino, 2007). Finally, equity ownership choices are often massive and irreversible and can influence the long-term performance of the firm (Shrader, 2001). Brouthers' (2002) study of international market entry showed that firms selecting their mode of entry based on the institutional context, transaction costs, and cultural context variables should achieve higher entry mode success than firms selecting modes of entry that do not take these factors into consideration. We introduce the following factors into this context.

2.1 Knowledge transfer

In this study, we employed manager authority, foreign manager, new graduate, and foreign employees as knowledge transfer factors.

Research on knowledge transfer has developed out of studies focused on how firms could best accomplish international technology transfers to facilitate pursuit of Vernon's (1966) product life cycle. Early studies found that transfer costs decrease with experience (Teece, 1977) and examined the speed through which firms are able to first develop and then transfer innovations to subsidiaries (Mansfield and Romeo, 1980 and Davidson, 1980). Early conceptual work focused on the role of administrative structures on knowledge flows to and from the rest of the corporation (Bartlett and Ghoshal, 1986). Birkinshaw and Morrison (1995) found that firms with organizational structures that supported combining activities and sharing resources across subsidiary boundaries were more innovative.

Previous studies have provided evidence that a country's knowledge transcends its national boundaries and contributes to the productivity growth of other countries. These studies usually presume particular channels of knowledge transmission (Lee, 2006). Foreign direct investment is also likely to be a significant channel for international knowledge transfer.

The importance of developing and sharing knowledge within the MNC has been stressed by various researchers (Buckley & Carter, 2004; Jensen & Szulanski, 2004; Schlegelmilch & Chini, 2003). The discussion of other researchers focuses on the issue of how to manage the processes of recognizing, developing, and sharing knowledge across subsidiaries worldwide (Foss & Pedersen, 2002; Mudambi, 2002; Yenyurt et al., 2005). By tapping various kinds of knowledge from the subsidiaries, the MNC can share the existing knowledge and combine this in building new knowledge (Birkinshaw, 2001; Frost, 2001; Hadley & Wilson, 2003). When acknowledging the differentiated MNC, the role of the diverse subsidiaries as creators and contributors of knowledge (Gupta & Govindarajan, 2000) as well as the necessity for MNC subsidiaries to design and choose organizational mechanisms supporting knowledge development and sharing across subsidiaries, must be paid increased attention (Birkinshaw, 2001; Adenfelt and Lagerström, 2006).

H1a: *The knowledge transfer factors are positively associated with firm's performance.*

The knowledge-based model is based on an evolutionary view of the firm (Nelson & Winter, 1982) and focuses on cross-border transfer of knowledge. The model understands MNCs as social communities that specialize in the creation and internal transfer of knowledge (Kogut & Zander, 1993). Accordingly, the existence of MNCs is explained by the tacitness and codifiability of knowledge, which make it efficient and effective to transfer a set of capabilities overseas within the same governance structure as that in which the knowledge is embedded. Therefore, MNCs are understood not only as exploiters of their capabilities through knowledge transfer, but also as global learners in the global marketplace (Madhok, 1997).

An important variable that can determine the payoff from foreign ownership is the complementarity of firms' knowledge bases. Learning crystallizes when the new information encourages the organization to reexamine its assumptions, combine the new knowledge with existing knowledge, or modify its procedures and practices (Zahra et al., 2000). Greater opportunities to acquire, understand and assimilate new knowledge exist when foreign ownership complement rather than substitute their existing knowledge (Hoskisson and Busenitz, 2002). If the recipient firm has the requisite absorptive capacity, it can quickly assimilate and later exploit the knowledge gained from its international ventures. This can facilitate new product and process developments that improve profitability and growth (Block and MacMillan, 1993). Consequently, the acquiring firms that have high absorptive capacity are more likely to benefit from their foreign ownership in gaining superior profits and higher rates of growth (Zahra and Hayton, 2008).

An approach to defining transfer success, termed knowledge internalization and adopted in this study, comes from institutional theory (Meyer and Rowan, 1977). It defines success as the degree to which a recipient obtains ownership of, commitment to, and satisfaction with the transferred knowledge. According to Kostova (1999), three factors appear to be related to knowledge ownership. First, greater discretion over the knowledge can allow a recipient to “invest more of their own ideas, unique knowledge, and personal style” in the knowledge (Pierce et al., 2001, p. 301). Second, the intensity of the recipient’s association with the knowledge (i.e. the number of interactions involving the knowledge) can affect its feeling of ownership. Lastly, knowledge ownership also relates to the degree that an individual invests energy, time, effort, and attention in the knowledge (Csikszentmihalyi and Rochberg-Halton, 1981). Thus, we hypothesize;

H1b: *The knowledge transfer factors are positively associated with type of ownership and foreign ownership ratio.*

We employed foreign manager, the number of new graduate, the number of foreign employees working in subsidiaries and the authority of top manager in subsidiary as proxies of knowledge development and transfer.

Pak and Park (2005) proposed that while knowledge transfer played only a marginal role in differentiating the selection of East or West, its effect became stronger when we considered only the two representative target countries, China and the US. This effect deserves consideration because cross-border knowledge transfer is the principal tenet of internalization theory, the knowledge-based approach, and the OLI paradigm. Their results support the notion that the knowledge base of Japanese multinational companies exerts a significant influence on their investment activities in the US and China, and further, confirms that Japanese multinational companies with a higher level of knowledge development are more actively engaged in the US and West than in China and the East.

Branstetter (2000), using data on patent citations between Japanese investing firms and American indigenous firms, shows that foreign investment is a significant channel for knowledge spillovers, both from investing firms to indigenous firms and from indigenous firms to investing firms. Hanel (2000) approximates the knowledge stock of foreign subsidiaries in 19 Canadian industries as being proportional to the share of sales accounted for by those subsidiaries. His estimation results also indicate that foreign knowledge stocks contribute to Canadian productivity growth; however, the estimated effect of foreign investment from one of his main models is statistically significant only at a 15 percent significance level.

The MNC motivation for investing in a particular country determines its relative bargaining power with respect to the host and this power balance influences the type of ownership.

Wholly owned subsidiary offer firms the highest levels of control, since there is no problem of having to integrate different cultures, divergent strategic view points, and separate policies (Nitsch et al., 1996). In addition to entry strategy, according to Dunning’s eclectic paradigm (Dunning, 1988), some industry and firm-specific factors, as delineated in ownership and internationalization advantages have impact on subsidiary performance.

Dispatch of personnel from the parent multinational company (MNC) to manage or work in foreign affiliates has often been used as a way to transfer knowledge from parent company to the subsidiary. Firms with more experience in a host country have developed organizational capabilities to that country, which are able to make greater commitments to foreign investments. Makino and Delios (1996) found that local firm’s host country knowledge can substitute for the acquisition of local knowledge when the parent has spent a considerable amount of time in the host country.

2.2 Ownership advantages

The literature on foreign investment has recently analyzed the nature of the firm’s entry mode choice in a foreign market, particularly the choice between a joint venture and a wholly owned subsidiary. The literature on modes of entry is extensive (Pan and Tse, 2000; Brouthers and Brouthers, 2001; Davis et al., 2002).

H2: *A foreign manager will be preferred to a local manager when the firm’s ownership is wholly-owned or has a majority of foreign ownership.*

Foreign investment in developing countries has maintained relatively stable growth over the period, is concentrated in the tertiary industrial sector, with a higher level of control within a subsidiary, and has been initiated by parent firms with market-seeking and strategic-seeking purposes and with relatively strong ownership advantages (Makino et al., 2004).

The strategy of the parent is proxied by the type of ownership (wholly-owned subsidiary vs. joint venture) and the size of foreign investment venture relative to parent. Modes of entry and equity ownership are key variables in international business research (Li and Guisinger, 1991; Nitsch et al., 1996) and are believed to have a significant impact on performance. They are also an excellent proxy for the resources committed to the venture, as well as extent of control exerted by the MNC parent (Woodcock et al., 1994).

H3: *Wholly owned subsidiaries and firms with greater ratio of foreign ownership are more likely to have greater performance.*

The wholly owned subsidiary (WOS) typically offers the benefits of whole profits and greater control over the operations of a foreign subsidiary. However, since the foreign parent is the sole owner, it must expend greater resources in establishing the operations (Tatoglu and Glaister, 1998). Consequently there is greater downside if the venture fails. Previous studies have argued that, in risky environments, firms often choose other types of

ownership over WOS (Pangarkar and Lim, 2003). In international joint ventures (IJVs), considerable resources need to be spent in finding a partner, and the risks of choosing an inappropriate partner are also borne by the MNC parent. Partners also must work together to integrate different corporate cultures, divergent strategic viewpoints, and policies (Nitsch et al., 1996; Pan and Chi, 1999). In fact, some studies argue that joint ventures are intrinsically inefficient because of the inherently complex management relationships (Beamish and Makino, 1994)

Though there is substantial literature examining the link between entry mode choice and performance, there are several issues with this literature. First, the criteria used by different studies to assess performance have varied across studies. While some studies have examined the degree to which an operation was integrated into the rest of the system, others use factors such as instability, exit rate and longevity. There are several issues with some of the measures employed. Lack of integration into the parent MNC's system may simply be a function of the parent strategic intent for the subsidiary. While control over a subsidiary may be critical to bring about strategic alignment between the parent and the subsidiary, control is hardly an end in itself and hence a problematic measure of subsidiary performance. Other measures such as the amount of exports to the parent also suffer from similar limitations (Pangarkar and Lim, 2003).

2.3 Parent firm-specific

Previous literature has argued that cultural differences might have a significant impact on the performance of MNC's subsidiaries (Child, 1994). Makino et al. (2004) research on Japanese investment in developed and less developed countries found that the cross-country differences in financial performance and the exit rate. In the other hand they concluded that the choice of location between less developed countries and developed countries is a key determinant of subsidiary performance. Also, their founding suggests that developing countries provide the environments that reduce the variability of both financial performance and survival likelihood. Therefore;

H4a: *The country of origin of parent company is positively associated with subsidiary's performance.*

A parent firm experience in the target market is critical for international expansion, and consequently can have significant effects on performance of foreign subsidiaries (Davidson, 1980). This experience can be learned only through learning-by-doing, which is time-consuming. Hence, the accumulation of experience helps the parent firm to increase know-how of doing business in the host market and consequently reduce operational uncertainties (Johanson and Vahlne, 1977).

The lack of international experience may cause the novice investor setting up a wholly owned subsidiary to take inappropriate decisions on matters such as the choice between producing certain inputs locally or importing them from the parent company, the location of plants in the foreign country, production levels, adaptation of products and services to local market requirements, management of relations with workforce, suppliers, customers, banks, local authorities. The empirical evidence confirms that earlier operations in the target country by the parent company increase the probability of choosing a wholly owned subsidiary (Mutinelli and Piscitello, 1998).

Parent local experience revealed in a negative and significant effect on subsidiary. It means that having a longer presence in the local market allows the firm to interact with a variety of workers, customers, suppliers and other local actors (Zahra et al. 2000). In addition, it helps the firm to learn more about the host country, to develop more capabilities (Makino and Delios, 1996), to increase know-how of doing business in the market.

The host experience helps MNCs overcome the liability of foreignness and is likely to be positively associated with joint venture wholly owned. However, empirical results about foreign experience effect on entry mode are controversial (Somlev, 2005).

H4b: *The parent companies with greater performance are more likely to have subsidiaries with greater performance.*

H4c: *The higher the parent firms experience in the host market, the greater its propensity to enter through wholly owned subsidiary.*

There is a relationship between the size of the parent firm, the entry mode and performance (Brouthers, 2002; Luo & Tan, 1997; Pan et al., 1999; Pangarkar & Lim, 2003). For instance, Hennart and Park (1993) argued that managerial constraints on Greenfield expansion might be especially tight when the investor is a relatively small size organization. Larger size MNCs with global reach and an integrated network may facilitate a more effective supply chain (Glaister & Buckley, 1999) further enhancing cost effectiveness of operations and hence leading to better performance. In line with the findings of previous research that foreign parent size impacts on subsidiary performance (Brouthers, 2002; Child et al., 2003; Pangarkar & Lim, 2003; Rihai-Belkaoui, 1998), we hypothesize that:

H5: *The size of parent company is positively associated with subsidiary's performance.*

Entry aiming to acquire resources and complementary assets in foreign markets generally involves greater uncertainty and risk than domestic investments as it requires facing a complex environment where the firm has to deal with many unfamiliar factors. Those reasons induce the firm to commit itself in the costly exercise of gathering and collecting information (Radner, 1992) and influence the internationalization strategy of the firm, particularly its entry mode choice. That is crucial for small-sized firms which suffer from financial and managerial constraints. Constraints and the lack of complementary assets afflicting small-sized firms leave them with few means of reducing uncertainty and force them to resort to co-operative agreements with other (local)

firms which enjoy easier access to information channels and assets, as a result of their close network of relations with the surrounding environment. Smaller firms going abroad are then particularly exposed to the risks inherent in foreign investment, because a failure could lead them to bankruptcy. For this reason, they would orient their internationalization strategies towards prudent arrangements, i.e. joint ventures and alliances, in order to minimize risks (Kogut and Singh, 1988; Larimo, 1994).

2.4 Subsidiary firm-specific

When intermediate market conditions are imperfect, firms have an incentive to bypass them by establishing internal markets (Buckley & Casson, 1976). Hence, one might expect JMNEs to pursue higher equity ownership in the East because of its imperfect markets. However, Buckley and Casson (1976) stipulate that there are further conditions (i.e., region-specific and nation-specific factors) required to organize an internal market. These are conditions that often fail to obtain in the East, where the social and legal environment imposes strict ownership restrictions, and is permissive to the piracy of patents and proprietary knowledge, and where the political mood is open to at times to expropriation of foreign ownership. In concert, these political and legal constraints and risks discourage Japanese multinational companies from organizing the internal markets they might otherwise be motivated to create.

Accordingly, internalization theory appears to predict that multinational companies will have lower equity ownership in the East. The knowledge-based view seems to make the same prediction; the East has been targeted to exploit standardized technologies, and such a strategic motive usually leads to a lower level of commitment. Dunning's envelope OLI paradigm also expects that multinational companies will avoid full commitment in the East markets, where asset-augmenting activities are rarer than in the West.

The firms demonstrate increased propensity for foreign investment when they are more technology intensive, when their managers have more international experience, and when they are more profitable, controlling for firm size, financial leverage, prior global expansion, and home-country currency variation (Trevino and Grosse, 2002)

H6: *The size of subsidiary is positively associated with the ratio of foreign ownership.*

Relative size of the subsidiary is important for two reasons. First, it is a proxy for the importance of the subsidiary to the parent; which might, in turn, impact contributions by the parent (Luo, 2001). Greater contributions from the MNC parent in the form of technology or other skills might lead to enhanced revenue potential for the subsidiary. Secondly, relative size also serves as a proxy for the competitiveness of the subsidiary due to the presence (or absence) of economies of scale.

H7: *Firms with greater ratio of import are more likely to be organized as wholly-owned subsidiaries or firms with greater ratio of foreign ownership.*

In general, when foreign firms invested abroad in the same activity, the parent firms are more likely to possess skills, resources and intangible assets that can be transferred to the subsidiaries (Li, 1995). The foreign owned company to use out sourcing in order to provide required resources which may determined by parent firm. The reasons might be access to the different markets and cheaper raw material; reasonable resources and knowledge or technology transfer.

Kiyota and Urata (2007) found a positive relationship between foreign investment and exports. Also, the multinational firms register faster export growth than domestic firms. They suggested the firms do not choose either exports or foreign investment. Rather, exporters choose whether or not to undertake foreign investment. The foreign investors strongly prefer firms with high export ratios with which they are more familiar on account of their higher foreign sales. Foreign investors hold more shares of high beta stocks than of low beta stocks for small firms (Lin and Shiu, 2003).

3. Research design and methodology

The research site was chosen on several grounds. First, Japan is the world's second largest national economy. Second, Japan is an important source of foreign investment research and Japanese foreign investment has one of the largest FDI outflows in the world especially in South Asia and East Asian countries. Third, there are a very few studies about foreign affiliated companies in Japan.

3.1 Sample and data collection

The empirical study examines the effects of equity ownership, country of origin, managerial skills, and employees, based on relationship between parent company specific factors and subsidiary's characteristics, on performance of foreign subsidiaries in Japan.

The primary data source for this study is the Toyo Keizai Inc. Foreign Affiliated Companies in Japan: A Comprehensive Directory (GaishikeiKigyo), which compiles information on the foreign subsidiaries in Japan that have been established by foreign companies from around the world. The database includes a sample of 3500 foreign subsidiaries established by parent companies from 52 countries which covering the period up to 2006. A summary of data distribution presented in Table 1 based on country of origin and type of ownership. Because of missing data for several variables, the final sample size for the analysis of each variable varied and was reported together with the results of the analysis wherever such a need arose.

Insert Table 1 - here

As shown in Table 1, America (United States) with 1544 companies, which is more than 44%, has a great

number of foreign affiliates in Japanese marketplace. Germany, France and England respectively with 386, 270 and 263 companies, have the great numbers of affiliates in Japan. Table 1 presents that from the all foreign companies reported in GaishikeiKigyo, more than 60% (2105) of foreign companies are wholly owned subsidiaries while less than 40% of them have international joint venture ownership. Consequently, MNCs tends to acquire greater equity ownership when they have planned to enter in Japanese market.

Also, Table 1 presents the number of firms which are organizing by foreign manager based on each country. According to the information illustrated in Table 1, it is remarkable that Korea, China and Indonesia have high rates of foreign manager ship with 80%, 69% and 83% subsidiaries having foreign managers, while only 23% of American subsidiaries, 27% of British and 32% of Germany's subsidiaries in Japan have a foreign manager. This implies that cultural differences and location factors may have a decisive influence on subsidiary management based on employing local managers or foreign managers. This could be due to Western business culture. Also, the location distribution of foreign companies in Japan is shown in Figure 1. It demonstrates that the United States plus Canada and European countries respectively with 46 and 41 percent have a considerable majority of foreign subsidiaries in Japan.

Insert Figure 1 - here

Table 2 presents the number of foreign companies in Japan based on type of industry. According to data showed in Table 2, MNCs have more investment and greater number of subsidiaries in Machinery, electronic and electrical equipment; and other manufacturing industries in Japan.

Insert Table 2 - here

3.2 Description and measurement of variables

3.2.1 Dependent variables

For this study we used several dependent variable based on our hypotheses.

The first are variables which measure the subsidiary's performance. Previous research indicates significant differences in the operationalization of performance with researchers assessing firm performance by measures such as profitability, learning and growth. Consequently, no consensus on an appropriate definition and measurement of performance has yet emerged (Demirbag et al., 2007). Many researchers recognize the inadequacy of traditional measures such as profitability in assessing subsidiary performance (Christman, Day, & Yip, 1999; Pothukuchi et al., 2002; Delios& Beamish, 2004, Rasouli et al., 2010). Since an international subsidiary might perform a variety of roles within the MNCs network, a multifaceted measurement might be more appropriate (Delios & Beamish, 2004; Demirbag & Mirza, 2000; Glaister & Buckley, 1999; Pangarkar & Lim, 2003; Tatoglu & Glaister, 1998). Studies using financial measures of performance indicated that WOSs perform better than JVs, but as Christman et al. (1999) argue, financial indicators do not include subsidies and transfer pricing. Furthermore, the magnitude of profit manipulation in many cases is a closely guarded secret. In line with these arguments, we developed three different performance measures, as follows: return on asset (ROA), return on sales (ROS) and net profit. The ROA is an indicator of how profitable a company is relative to its total assets. It gives an idea as to how efficient management is at using its assets to generate earnings. It calculated by dividing a company's annual earnings by its total assets and displayed as a percentage. ROS is ratio widely used to evaluate a company's operational efficiency. It determined by dividing net profit by sales. ROS is also known as a firm's "operating profit margin". This measure is helpful to management, providing insight into how much profit is being produced per dollar of sales. Net profit or net income is calculated by subtracting a company's total expenses from total revenue, thus showing what the company has earned (or lost) in a given period of time. The measure of net profit was computed as averages over 2001- 2006 period.

Second, the dependent variable for ownership is a dichotomous dummy variable constructed based on type of ownership the variable will take a value of zero when the subsidiary's ownership is international joint venture and will take a value of one when the subsidiary's ownership is wholly owned.

Third, to examine the effect of MNCs and subsidiary's characteristics on ownership, we divided the equity ownership based on the percentage of equity held by the MNC into three categories: majority-owned, co-owned and minority owned subsidiary. Majority-owned is defined as a subsidiary with greater than fifty percent equity and excluded one hundred percent equity ownership; a subsidiary is co-owned when the equity is equal to fifty percent and a minority-owned subsidiary has less than fifty percent equity. If the subsidiary is majority owned, it is coded 1 and 0 if categorized as one of the other types of equity. Fourth, the foreign ownership ratio, which is the percentage of equity owned by foreign companies or parent company, has been used as a dependent variable to examine the relationship between foreign affiliated firm-specific and foreign equity ownership.

3.2.2 Independent variables

The independent variables were measured as follows:

Type of ownership: previous empirical researches on subsidiaries have found that wholly-owned subsidiaries outperform joint ventures. Entry mode selection is one of the most important decisions faced by MNCs that are expanding in nations outside their home locations, whereby WOS (Wholly Owned Subsidiary) and joint venture entail direct investment in business sites in the target country. Wholly-owned subsidiaries are subsidiaries in another nation in which the parent company has full ownership and sole responsibility for the management of the operation. International Joint Ventures (IJV) on the other hands, involve a local and/or a foreign partner that

share the ownership, management, risks and rewards of the newly formed entity. However, in this study, we divided the ownership in two categories and used a dummy variable; a subsidiary is considered to be wholly owned and coded 1 if has 100 percent of equity ownership and otherwise coded 0 as an international joint venture.

We employed four independent variables in order to define the proxies for knowledge transfer. These variables are foreign manager, foreign employees, new graduate and manager authority which can be defined as follows;

Foreign manager is a non-Japanese manager of the foreign affiliate in Japan. We assume that using a foreign manager instead of local managers for a subsidiary increases the likelihood of knowledge transfer and development between multinational companies and their subsidiaries by bringing a broaden experience and training with him. The existence of foreign manage is a dummy variable that takes a value of 1 if the subsidiary's manager is Japanese and 0 otherwise.

Manager authority refers to the formal or legitimate authority specified in a charter gives a top manager the authority to act in the name of the sponsoring executive or on behalf on the organization. Subsidiary's manager position was measured by a dummy variable which takes a value of 1 if the top position in affiliated firm is representative manager which has appropriate authority to manage the subsidiary and 0 otherwise.

A representative manager should be appointed and given authority by parent company to manage, monitor, evaluate and coordinate the subsidiary's activities.

Foreign employees are the number of foreign persons from parent's company or other countries except host country admitted to work in MNC' subsidiary in host market. The variable was measured by the number of non-Japanese employees in subsidiary. The subsidiary's intensity of foreign employment is the ratio of foreign employees to total number of employees for each subsidiary.

New graduate refers to the number of new employees in foreign companies who are granted an academic degree including college and graduate degrees.

Country of origin is categorized based on parent's company's location. It was measured by using a variable which takes the value from 1 to 4 to represent each category. We give the value of 1 for United States and Canada, the value of 2 for countries from Europe, the value of 3 for Asia and the value of 4 for the others.

Parent firm size: Several measures have been used by researchers to measure for firm size, e.g., total assets (Yu and Ito, 1988), equity (Cho, 1985), exportation sales and total sales (Kimura, 1989; Agarwal and Ramaswami, 1992) expenditure in R&D (Makino and Delios, 1996) and number of employees (Demirbag et al., 2007, Rasouli and Hoshino, 2007). However, a previous test on the current sample shows that these variables have a high degree of correlation. Because of that, the amount of total assets, sales and parent's employee, were chosen as the indicators of firm size.

We employed parent's sales growth ratio and parent's assets growth as a proxy of parent's performance. Also, we used the number of employees, the amount of capital and total sales of subsidiary as independent variables in order to measure the subsidiary size.

The corporation comprises three sets of distinct interests: the shareholders (the owners), the directors, and the corporation officers (the top management). Traditionally, the shareholders control the corporation's direction, policies, and activities. The shareholders elect a board of directors, who in turn selects top management. Members of top management serve as corporate officers and manage the operation of the corporation in the best of shareholders. In closely held corporations with few shareholders there may be a large overlap among the shareholders, the directors, and the top management are likely to be distinct groups.

The potential separation of ownership from management gives the corporation several advantages over proprietorships and partnerships: 1) because ownership in a corporation is represented by shares of stock, ownership can be readily transferred to new owners; 2) the corporation has unlimited life. Because the corporation is separate from its owners, the death or withdrawal of an owner does not affect its existence; 3) the shareholders' liability is limited to the amount invested in the ownership shares.

Import ratio and export ratio variables are determined by the ratio of the amount of import and export from affiliated company to third country.

Experience in host country: Makino and Delios (1996); Delios and Beamish (2001) used the parent company's experience in the host country in logarithmic form as a proxy for internalization advantage. It is computed as the log of the total number of firm-years of experience in the host country for one foreign investment.

Parent's experience with the host country may interact differentially in terms of performance (Delios & Beamish, 2004; Uhlenbruck, 2004). Brouthers et al. (2000) found a negative relationship between experience and performance, while Luo and Peng (1999) argued that experience leads country specific knowledge to overcome the liability of foreignness; as a result the firm's performance improves. Given that firms with longer experience are considered to enjoy greater experiential and tacit knowledge, age is considered to provide a positive relationship with exports and capabilities.

Since the distribution of monetary values usually do not follow the normal distribution curve, the use of natural logarithm of the quantity is applied for parent's total assets, employees and capital; to smooth the values and to bring them closer to the normal distribution. In light of the controversy involving the defining criterion for different sizes, the number of employees, capital and total sales were used as multidimensional measures of the

size.

3.2.3 Control variables

Industries are complex entities and multidimensional in nature, and the impact of industry structure on entry strategy and ownership has been relatively unexplored in previous studies. Also, the performance level of firms in one industry may be different from other industries. We included a dummy variable to control industry effects on the performance to avoid biases, coding a value of 1 for manufacturing firms and 0 for service firms.

Considering that other factors may influence the performance of a given subsidiary, the number of employees, capital, total sales and total assets are also applied as control variables for this study.

4. Empirical analysis and discussion

Table 3 presents the correlation matrices and descriptive statistics for study's variables. As the result of Pearson correlation in Table 3 shows; country of origin has a negative relationship with the number of parent's and subsidiary's employees ($p < 0.01$) and parent's assets growth ($p < 0.05$). Table 3 further shows prior experience in host country is positively associated with subsidiary sales growth and foreign ownership ratio on 1 percent significant level, respectively. Also, it is negatively associated with parent and subsidiary's employees as well as minority owned subsidiaries ($p < 0.01$). It implies parent companies that have a longer presence in the local market, do not prefer to enter as an international joint venture.

According to Table 3, foreign manager has negative relationship with type of ownership ($p < 0.05$) and foreign ownership ratio ($p < 0.01$) which states MNCs preferred to have a Japanese manager when the subsidiary is international joint ventures. Manager authority as a one of the knowledge transfer factors, which implies the level of authority acquired by subsidiary in order to make decision, is positively associated with return on assets ($p < 0.01$). However, they partially support hypotheses H1a and H1b.

Insert Table 3 - here

Insert Figure 2 - here

As Table 3 shown there is a positive relationship between the number of foreign employees and net profit on 1 percent significant level. Thus, firms with greater number of foreign employees had greater profit as a proxy of performance. Therefore, it partially supports H1a hypothesis. The type of industry, including manufacturing and services industries, has a positive relationship with import and export ratio on 1 and 5 percent significant, respectively. Thus, manufacturing firms were more intend to import and export activities in compare with services firms. Also, foreign ownership ratio is positively associated with import ratio ($p < 0.01$) and initial wage ($p < 0.01$), which implies firms with greater ratio of foreign ownership are more likely to have greater ratio of import and higher level of wage expenditure. Therefore, it is good support for hypothesis H7 in this study.

Insert Table 4 - here

As Table 4 shows, almost all correlations are low. In addition Tolerance and variance inflation factor (VIF) are examined to determine the existence of multicollinearity. The result of Collinearity test showed that all of the scores show that multicollinearity should not be a problem with these data. However, VIF is less than 3.4 showed no support for existence of multi-co-linearity.

To test the hypotheses, we ran separate regressions analyses. First, as Table 5 presents, we ran regression for three measures of firm's performance included return on assets, return on sales and net profit. The unit of analysis for this part is firm's performance based on financial data available over 2006. From the initial sample of 3500 foreign companies, the sample was reduced to 310 cases for analysis of performance. However, because of incomplete data for ROA, ROE and net profit used in this study, we used a final count of 310 foreign companies in Japan for the analysis of firm's performance. We divided the explanatory variables to five categories including industry, knowledge transfer, ownership, parent firm's factors and subsidiary's factors.

Insert Table 5 - here

As shown in Table 5, the type of industry (manufacturing and services) has both positive ($p < 0.05$) and negative ($p < 0.01$) effects on ROA and ROS as performance factors, respectively. From the knowledge transfer variables, foreign employees ($p < 0.1$) and manager authority ($p < 0.05$) have positive relationship with return on sales as well as new graduate employee ($p < 0.01$) is positively related to net profit. Also there is no significant relationship between foreign manager and performance factors. However, they partially support hypothesis H1a in this study.

From the ownership variables, we found only a positive relationship between foreign ownership ratio and ROA on 5 percent significant level. It is good support for hypothesis H3. On the other hand, subsidiaries with greater ratio of foreign ownership are more likely to have greater performance. Ramaswamy et al. (1998) found that the relationship between ownership control and performance is curvilinear. Contrary to prevailing views that advocate an equal sharing of equity, performance was found to improve with increasingly unequal levels of ownership.

The result of regression shows parent's total assets ($p < 0.01$) and total sales ($p < 0.01$), as proxies of parent's size, are positively associated with ROA and ROS which support hypothesis H5 in this study. Also, the relationship between parent's assets growth and performance is positive with 5 percent significant level. It is a limited support for hypothesis H4b in this study. Subsidiary's total sales and capital as control variables have positive relationship with return on assets on 5 percent significant level. Also, capital and total sales as proxies of

subsidiary's size have effects on performance. Somewhat surprising, significant negative relationship ($p < 0.01$) has been found between subsidiary's total sales and net profit. Some of the variables including new graduate employee, manager authority, parent assets growth and the number of employees were associated with only one of dimension of performance (ROA, ROS or net profit) providing only limited support for H1a, H3 and H4b hypotheses.

Our findings do not found support for hypothesis H4a. The relationship between performance and country of origin or cultural distance has been discussed by the previous literatures particularly in context of the inherent instabilities of international joint ventures. Our findings do not provide support for either of the positions (positive or negative). Therefore, the evidence remains inconclusive. Pangarkar and Lim (2003) and Demirbag et al. (2007) reached a similar conclusion, although other studies have found a negative association between cultural distance and performance (Li and Guisinger, 1991; Uhlenbruck, 2004)

Insert Table 6 - here

In the second step of analysis, we used binary logistic regression, as reported in Table 6, in order to explore the influence of the independent variables and control variable on the likelihood of either a wholly owned subsidiary or international joint venture and equity ownership (majority-owned, co-owned and minority-owned), we conducted a binary logistic regression analysis. We conducted a logistic regression analysis, which is suitable given the dichotomous characteristic of the dependent variable, and the mix of continuous and categorical independent variables we use (Hair et al., 1995; Dikova and Witteloostuijn, 2007). Before performing the moderations of the ownership variables with a number of independent variables, all predictors were centered to avoid potential multicollinearity problems.

As Table 6 presents, foreign manager (F_MNGR) and new graduate (N_GRAD) are negatively associated with type of ownership ($p < 0.01$ and $p < 0.05$ respectively) and minority-owned subsidiary ($p < 0.1$). Further, both have positive coefficient with co-owned subsidiary ($p < 0.05$ and $p < 0.01$ respectively). Therefore, as we expected, parent firms preferred to have a foreign manager for affiliates, when a subsidiary is wholly-owned and majority-owned. Thus, it supports hypothesis related to foreign manager (H2). We found only a positive relationship between prior experiences in host country (EXPRNC) and co-owned subsidiary on 5 percent significant level. However, our findings do not support hypothesis H4c in this study. Parent sales growth (P_SLSGR) is negatively associated with type of ownership and majority-owned subsidiary on 5 and 10 percent significant level, respectively and has a positive relationship with co-owned equity of ownership.

Based on Table 6, parent's employees (P_EMPLY) as a proxy of size of parent company has positive relationship with type of ownership (wholly-owned and international joint venture) and majority owned subsidiaries on 1 percent significant level. Consequently, it implies that parent company with greater size preferred to enter as majority-owned and wholly owned subsidiaries. The import ratio (IMPORT) is positively associated with type of ownership and majority-owned subsidiary on 1 percent significant level. However, it partially supports hypothesis H7. In the other hand, wholly owned subsidiary and international joint venture with majority owned subsidiary, have a greater ratio of import. As the results in Table 3.6 shows, export ratio (EXPORT) is negatively associated ($p < 0.05$) with minority-owned equity ownership.

Insert Table 7 - here

The third step of analyses (Table 7) tested three regression models. First in the Model 1, subsidiary's factors including control variables were regressed on foreign ownership ratio. Second, in Model 2, we added the knowledge transfer factors to the control variables already in model 1 were regressed on foreign ownership ratio. Third, Model 3 illustrates the adapted regression for the all full sample including knowledge transfer variables, subsidiary's factors and control variables.

As the dependent variable in these models is the ratio of foreign ownership and it may not have a normal distribution, we applied a normal score of foreign ownership ratio through using Blom's Formula. Table 7 presents, the number of shareholders in Model 1 and 3 are negatively ($\beta = -0.235$, $p < 0.05$) associated with foreign ownership ratio. Kim et al., 2007 studied that when a public firm's ownership is concentrated into the hands of a few large shareholders, then these large shareholders should have both the intensive and the power to monitor the firm's operations and management effectively. However, while the large shareholder enjoys returns for its monitoring efforts, it also suffers some cost.

Import ratio both in Model 1 and Model 2 has a positive relationship with foreign ownership ratio on 1 percent significant level. Consequently, there is relatively strong support for H7 with respect to majority equity ownership. As we expected, the results shows that export ratio is negatively ($\beta = -0.251$, $p < 0.05$) associated with the ratio of foreign ownership, supporting our hypothesis H7 in this study. In other words, firms with smaller ratio of foreign ownership and minority owned are more likely to have greater ratio of export. Consequently, when the subsidiary is export-oriented, parent firms preferred to have minority owned subsidiary and limited ratio of ownership.

According to regression results of Model 3, manager authority and the number of foreign employees have positive significant relationship with the ratio of foreign ownership on 1 percent significant level. Thus, they partially support hypothesis H1b. Contrary to our expectation, new graduate is negatively associated with the ratio of foreign ownership. Finally, based on the results, all control variables have been affected on dependent variable (foreign ownership ratio). Also, based on hypothesis H6, the number of employees and capital as

proxies of subsidiary's size, are positively associated with foreign ownership ratio. Consequently, the multinational companies preferred to own a greater ratio of equity ownership for larger subsidiaries.

5. Conclusion and limitations

This research contributes to the literature by providing empirical support for several theories and previously defined and/or tested constructs. For example, the parent and subsidiary's factors measured in this study suggest the importance of internationalization and ownership advantages of Dunning's eclectic theory. Moreover, according to resource-based theory, the number of employees, capital and total assets constructs measured in this study propose the effect of firm's recourses on performance and ownership of foreign companies.

Our findings offer a number of contributions to the literature. First, consonant with Demirbag et al. (2007), we adopt an integrative approach, which incorporates knowledge transfer factors, parent firm and subsidiary's variables. Second, we employ a multidimensional measure of performance which enables us to examine subsidiary performance determinants at different views. Third, our findings reveal that impacts of explanatory variables are different on various dimensions of performance. Fourth, our results demonstrate a positive relationship between foreign ownership and some of knowledge transfer factors.

The results on the impact of knowledge transfer appear a partially support for our hypotheses. Our findings suggest that manager authority and the number of foreign employees as proxies of knowledge transfer are positively associated with equity ownership. In other words, foreign affiliates in Japan with higher level of foreign ownership are more likely to have higher level of management authority and greater number of foreign employees. Therefore, firms with higher levels of ownership control by MNCs (parent companies) are more likely to share and transfer the knowledge.

The size of MNCs firm reflects its capability for absorption of the high costs of marketing, for enforcing patents and contracts, and for achieving economies of scale in foreign markets. Empirical evidence indicates that the impact of firm size on FDI is positive (Cho, 1985 and Kimura, 1989).

Our findings indicate that the size of parent company has impact on subsidiary's performance. However, larger multinational companies had better returns on sales and assets in Japan. As the study of Pradeep and Chhibber (1999) showed, after controlling for a variety of firm and environment-specific factors, only when property rights devolve to foreign owners, at ownership levels providing unambiguous control at 51 percent, do firms in which there is foreign ownership display relatively superior performance. In case of ROA, we found limited support that parent firm performance has effect on subsidiary's performance. The results shown subsidiaries with greater ratio of foreign ownership had greater returns on assets. Several studies hold that since the entry strategies have specific resource and organizational control demands, the performance of a subsidiary will depend on the selected entry strategies. However, while a study by Vermeulen and Barkema (2001) agrees with the proposition that the entry modes are related to specific levels of resource commitment and levels of control, it does not correspond with the proposition that performance will be directly determined by the selected entry mode.

This empirical study has explored the determination of factors influencing ownership and performance of foreign affiliates in Japan. Findings in this study support the hypothesis that multinational companies preferred to enter as wholly-owned subsidiary in Japanese market.

Contrary to our expectations, country of origin did not affect any of performance dimensions which are consistent with Pangarkar and Lim (2003) and Demirbag et al. (2007). Also, our findings indicate that foreign manager and parent's experience in host country, did not impact on subsidiary performance. Our findings imply that larger foreign affiliates have greater performance in Japanese markets. The evidence demonstrates a negative relationship between export ratio and one dimension of performance. Consequently, export oriented firms may not exhibit excellent performance in Japan which is a developed country.

The present study holds that both ownership and performance attained by the subsidiary are a direct consequence of the possession or lack of advantages of the parent firms and the subsidiary itself. Consequently, if a parent company possesses enough advantages to overcome the resource commitment and the managerial control costs, it will probably be able to transfer enough capabilities including knowledge to its subsidiary in order to make it generate high performance as well. The evidence provided in this study partly supports the arguments that ownership and parent firm factors may have impact on firm performance. Still, companies that venture through cross-border activities do not always improve their financial performance. This may happen because the integration of acquired firms is time-consuming (Jemison and Sitkin, 1986) and can disrupt the operations of both acquiring and acquired companies (Ahuja and Katila, 2001). Zahra and Hayton (2008) argue that technological knowledge is also usually grounded in national cultures and traditions, inhibiting the transfer of this knowledge. Thus, organizational learning plays a key role in the success of foreign ownerships.

The results demonstrate that wholly owned subsidiaries and firms with greater ratio of ownership have superior import ratio. However, MNCs preferred to enter and hold minority equity of ownership when a subsidiary is export oriented firms. Size of subsidiary had positive impact on foreign ownership. In other words, parent companies preferred to own more equity ownership for large size subsidiaries. Finally, our findings suggest that firms with greater ratio of foreign ownership are supposed to have managers with higher proportion of authority and greater number of foreign employees.

This study is subject to some limitations related to its validity and scope. First, since the study covers foreign

affiliates in Japan. The recent studies found stark differences in the characteristics and performance of investment between developed and less developed countries (Makino et al., 2004). Secondly, some of the factors examined in this study may interact with each other. For instance, returns on sales and net profit are both elements of profitability. Also, type of ownership (wholly owned subsidiary, international joint venture) and equity ownership are both elements of ownership advantages. When these elements are integrated, they may exert more significant results for ownership and performance. Thirdly, we employed limited number of variables including manager authority, foreign manager and foreign employees as proxies for knowledge transfer. Measuring knowledge transfer through these factors may be criticized, as it does not capture location and industry factors. Future studies that use different dimensions to measure knowledge transfer can add to this study in order to improve the validity of related findings.

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Table 1. Distribution of foreign companies by country and ownership

Country	Number	WOS	%	IJV	%	Foreign Manager	%
America	1544	922	60%	622	40%	356	23%
Australia	25	14	56%	11	44%	9	36%
Austria	20	15	75%	5	25%	7	35%
Belgium	27	16	59%	11	41%	9	33%
Bermuda	11	11	100%	0	0%	2	18%
Canada	46	36	78%	10	22%	23	50%
China	64	38	59%	26	41%	44	69%
Denmark	39	33	85%	6	15%	16	41%
England	263	121	46%	142	54%	72	27%
Finland	27	19	70%	8	30%	12	44%
France	270	164	61%	106	39%	133	49%
Germany	386	238	62%	148	38%	123	32%
Holland	74	48	65%	26	35%	31	42%
Hong Kong	62	35	56%	27	44%	15	24%
India	17	8	47%	9	53%	9	53%
Indonesia	6	3	50%	3	50%	5	83%
Ireland	8	7	88%	1	13%	2	25%
Israel	14	12	86%	2	14%	1	7%
Italy	70	47	67%	23	33%	35	50%
Korea	165	92	56%	73	44%	132	80%
Lichtenstein	8	5	63%	3	38%	4	50%
Luxemburg	5	3	60%	2	40%	1	20%
Norway	17	10	59%	7	41%	2	12%
Singapore	26	12	46%	14	54%	7	27%
Spain	13	6	46%	7	54%	8	62%
Sweden	54	45	83%	9	17%	20	37%
Switzerland	156	111	71%	45	29%	57	37%
Taiwan	45	22	49%	23	51%	22	49%
Others	38	12	32%	26	68%	15	39%
Total	3500	2105		1395		1172	
<i>Percentage</i>		60.10%		39.90%		33.50%	
Mean	120.69	72.59		48.1		40.41	
Std. Deviation	288.9	172.19		117.29		71.94	

Note: % is the percentage of each number.

Table 2. Data distribution across industries

Type of Industry	Number
Agriculture	2
Automobile	137
Bank	128
Chemistry	259
Construction	17
Consulting	155
Electronic & electrical equipment	331
Finance, insurance & real state	179
Food products	128
Information service	171
Machinery	355
Medical equipment & supply	151
Other manufacturing	340
Petroleum	23
Primary & fabricated metals	104
Publication	29
Retail industry	99
Services	252
Software	264
Steel	6
Transportation	150
Wholesale trade	220
Total	3500

Table 3. Bivariate Pearson correlation matrix for variables

Variables	1	2	3	4	5	6	7	8	9	10	11
1 Type of Industry	1										
2 Prior experience	-.238**	1									
3 Type of Ownership	-.034	.056	1								
4 Majority-owned	.034	.095	.379**	1							
5 Co-owned	.050	.066	-.386**	-.667**	1						
6 Minority-owned	-.097	-.184**	-.346**	-.610**	-.157**	1					
7 Country of Origin	.065	.033	.094	.031	.030	-.072	1				
8 Initial wage	-.102	.091	.071	.108	.015	-.161**	.075	1			
9 Foreign Manager	.122*	-.141*	-.127*	-.099	.063	.065	-.092	-.060	1		
10 Foreign Employees	-.099	-.026	-.078	-.084	.118*	-.012	.052	.060	-.165**	1	
11 Manager authority	.053	-.066	-.046	-.037	.087	-.062	-.085	.024	.061	-.060	1
12 Parent's Assets Growth	.026	.011	-.011	.004	-.030	.024	-.113*	-.035	.071	-.105	.040
13 Parent's Employees	-.182**	-.144*	.133*	.043	-.050	-.003	-.207**	-.007	.040	.129*	.077
14 Employees	-.171**	-.362**	-.122*	-.101	-.119*	.249**	-.177**	-.106	.024	.288**	-.063
15 Capital	-.184**	-.191**	-.186**	-.129*	-.042	.207**	-.099	.009	-.152**	.237**	.030
16 Parent's Sales Growth	.053	.016	-.064	.032	-.027	-.015	-.050	-.023	.055	.088	.035
17 Sales Growth	-.129*	.151**	-.010	.053	-.037	-.032	.045	.061	-.043	.021	-.097
18 ROA	.101	-.074	-.035	-.076	.034	.055	.002	.029	-.042	-.051	.161**
19 Net profit	-.011	-.174**	-.080	-.097	-.040	.169**	.008	-.023	-.094	.211**	.006
20 ROS	-.191**	.082	-.008	-.052	.019	.039	-.055	.085	-.058	.059	.108
21 Total sales	.041	.041	-.023	.061	.005	-.085	.008	-.018	-.030	-.017	.048
22 Import	.299**	.034	.322**	.197*	-.146	-.133	.165	.204*	-.197*	-.111	-.129
23 Export	.215*	-.075	-.003	.006	.002	-.017	-.105	.000	.137	.096	.016
24 Foreign ownership ratio	-.065	.170**	.661**	.577**	-.328**	-.403**	.082	.166**	-.265**	-.079	-.100
25 Shareholders	-.071	-.143*	-.175**	-.271**	-.031	.391**	-.035	-.076	-.003	.117*	-.066
26 New graduate	-.103	-.196**	-.135*	-.185**	-.006	.251**	-.049	-.073	.096	.168**	-.075

* Correlation is significant to 0.05. ** Correlation is significant to 0.01.

Bivariate Pearson correlation matrix for variables (Table 3 continued)

Variables	12	13	14	15	16	17	18	19	20	21	22	23	24	25
1 Type of Industry														
2 Prior experience														
3 Type of Ownership														
4 Majority-owned														
5 Co-owned														
6 Minority-owned														
7 Country of Origin														
8 Initial wage														
9 Foreign Manager														
10 Foreign Employees														
11 Manager authority														
12 Parent's Assets Growth	1													
13 Parent's Employees	.066	1												
14 Employees	.056	.430**	1											
15 Capital	.057	.348**	.611**	1										
16 Parent's Sales Growth	.129*	.056	.067	.044	1									
17 Sales Growth	.092	-.025	-.133*	-.087	-.005	1								
18 ROA	.086	.089	.007	.067	-.027	.096	1							
19 Net profit	.025	.116*	.296**	.305**	-.002	-.015	.001	1						
20 ROS	.021	-.057	-.078	.104	-.012	.132*	.477**	.063	1					
21 Total sales	-.043	.056	-.029	-.003	-.004	.023	.133*	-.016	-.004	1				
22 Import	-.053	-.107	-.476**	-.180*	.060	-.161	.009	-.104	-.068	-.006	1			
23 Export	-.134	-.049	.114	.143	.085	-.021	-.097	.027	-.090	.219**	-.122	1		
24 Foreign ownership ratio	-.096	.024	-.140*	-.094	-.008	.043	-.032	-.044	.062	.027	.382**	.054	1	
25 Shareholders	.107	.106	.289**	.285**	.004	-.005	-.014	.578**	.071	-.027	-.113	-.053	-.163**	1
26 New graduate	.162**	.183**	.440**	.349**	.005	-.031	.004	.225**	.068	-.009	-.250**	.027	-.173**	.487**

Descriptive Statistics (Table 3 continued)

Variables	N	Min.	Max.	Mean	Std. Error	Std. Deviation
Type of industry	310	0	1	0.623	0.028	0.486
Prior experiences	310	1.6	100.7	30.654	1.039	18.295
Type of ownership	310	0	1	0.474	0.028	0.500
Majority-owned	310	0	1	0.729	0.025	0.445
Co-owned	310	0	1	0.142	0.020	0.350
Minority-owned	310	0	1	0.129	0.019	0.336
Country of origin	310	1	3	1.490	0.043	0.754
Initial wage	310	176000	326000	216421	1092	19235
Foreign manager	310	0	1	0.752	0.025	0.433
Foreign employee ratio	310	0	0.408	0.020	0.003	0.055
Manager authority	310	0	1	0.723	0.025	0.448
Parent's assets growth	310	-0.645	1.312	0.128	0.011	0.189
Parent's employees	310	1	13.134	9.256	0.170	3.001
Employees	310	0.693	10.422	5.108	0.110	1.936
Capital	310	1	13.314	6.729	0.135	2.375
Parent's sales growth	310	-0.911	32.340	0.226	0.105	1.850
Sales growth	310	-0.900	9.821	0.169	0.048	0.838
ROA	310	-0.308	0.933	0.117	0.009	0.163
Net profit	310	-8661	512281.0	5799.3	1810.8	31882.4
ROS	310	-0.116	0.594	0.059	0.004	0.070
Total sales	310	67	23691510	516880	149226	2627395
Import ratio	310	0	100	17.680	1.896	33.382
Export ratio	310	0	100	5.284	0.811	14.283
Foreign ownership ratio	310	20	100	73.477	1.561	27.479
Shareholders	310	1	197954	3446.6	1045.2	18402.2
New graduate	310	0	380	12.200	2.308	40.636

Table 4. Collinearity Statistics

Variables	Tolerance	VIF
Type of Industry	0.64	1.6
Foreign Manager	0.80	1.2
Foreign Employees	0.77	1.3
New graduate	0.59	1.7
Manager authority	0.90	1.1
Type of ownership	0.49	2.0
Shareholders	0.64	1.6
Foreign ownership ratio	0.45	2.2
Parent assets	0.23	3.3
Parent sales	0.23	3.4
Parent employees	0.36	2.8
Parent sales growth	0.93	1.1
Parent assets growth	0.88	1.1
Country of origin	0.90	1.1
Prior experiences	0.77	1.3
Initial wage	0.92	1.1
Employees	0.42	2.4
Total sales	0.70	1.4
Capital	0.60	1.7
Sales growth	0.91	1.1
Import ratio	0.75	1.3
Export ratio	0.86	1.2

Table 5. Regression results of performance variables

<i>Variables</i>	<i>Performance</i>		
	ROA	ROS	Net Profit
1-Industry;			
Type of industry	.103*(1.497)	-.166**(-1.943)	.113(1.142)
2-Knowledge transfer;			
Foreign manager	-.034(-0.597)	-.007(-0.104)	-.018(-0.228)
Foreign employees	-.170**(-2.017)	.154*(1.447)	-.100(-0.817)
New graduate	-.011(-1.133)	-.056(-0.523)	.329***(-2.692)
Manager authority	.008(0.131)	.122**(1.700)	.044(0.526)
3-Ownership;			
Type of ownership	-.120(-1.294)	-.006(-0.049)	.068(0.511)
Number of shareholders	.018(0.288)	-.055(-0.714)	-.007(-1.077)
Foreign ownership ratio	.180**(-2.098)	-.098(-0.895)	-.071(-0.564)
4-Parent firm-specific;			
Parent assets	-1.422***(-9.186)	1.227***(-5.165)	-.067(-0.218)
Parent sales	1.521***(-8.003)	.262***(-2.933)	.127(0.358)
Parent employees	.008(0.079)	-.060(-0.494)	.136(0.983)
Parent sales growth	-.011(-0.183)	-.145(-1.932)	.108(1.250)
Parent assets growth	.115**(-1.892)	.013(0.172)	.033(0.377)
Country of origin	.014(0.233)	-.016(-0.222)	.092(1.104)
Experience in host country	-.031(-0.466)	-.166(-1.943)	-.079(-0.840)
5-Subsidiary firm-specific;			
Initial wage	.054(0.973)	-.006(-0.090)	.079(0.993)
Employees	.014(0.151)	.049(0.428)	.227*(1.753)
Sales	.147**(-2.439)	-.133(-1.261)	-.272***(-3.266)
Capital	.197**(-2.343)	-.197(-1.846)	.235**(-1.903)
Sales growth	-.010(-0.172)	.068(0.966)	.062(0.777)
Import ratio	-.095(1.306)	.108(1.176)	-.119(-1.132)
Export ratio	-.177***(-2.935)	.148(1.904)	.033(0.913)
<i>Constant</i>	(-2.137)**	(1.826)*	(-2.082)**
Number of cases	310	310	310
R²	0.768	0.634	0.533
Adjusted R²	0.707	0.537	0.404
df	24	24	25
F statistic	12.563***	6.559***	4.112***

* Significant to 0.1. ** Significant to 0.05. *** Significant to 0.01.

Note: the numbers in parenthesis are t value.

Table 6. Regression results of type of ownership and equity ownership

Variables	Type of Ownership		Equity Ownership					
			Majority-owned		Co-owned		Minority-owned	
INDTRY	-.918	1.215	-.375	.248	1.401	2.182	-0.059	.044
F_MNGR	-.900***	7.584	-.719*	3.436	1.172**	4.564	.234	0.157
F_EMPLY	.060	.375	.234	1.341	-.167	.615	-0.247	.107
N_GRAD	-.387**	7.076	-.278**	6.002	.449***	8.440	0.234	.386
MNGR_A	.645	.955	-1.364*	2.593	1.999*	3.107	0.279	.214
SHAR_H	-0.001**	7.290	-0.002**	6.588	-0.001	.657	0.001**	10.313
P_ASSET	.252*	2.371	.091	.260	-.107	.290	1.521	.051
P_SALS	1.256	.605	1.449	.716	-.001	.277	1.748	.095
P_EMPLY	3.101*	2.827	3.678*	2.552	-0.001**	4.614	1.828	.462
P_SLSGR	-4.853**	5.869	-3.034*	2.778	3.637*	3.044	-0.001	.029
P_ASSTG	4.336**	4.798	1.526	.568	-1.411	.368	0.412	.070
CNTRY	.139	.161	.161	.206	-.362	.763	0.303	.176
EXPRNC	-.002	.016	-.020	.599	.058**	3.101	0.004	1.875
I_WAGE	-.0001	1.456	5.684	.144	1.496	.751	-0.229	.819
EMPLYE	.001	.611	.006**	4.136	-.009**	5.850	-0.01	.097
SALES	2.602	.044	-.0002	.344	1.216	1.080	0.001	.059
CAPTL	-.193	.756	-.166	.522	.244	.819	1.828	.046
SALSGR	-.352	.081	1.184	.528	-1.225	.353	0.011	.695
IMPORT	.028***	13.345	.022***	7.515	-.022**	5.995	-0.004	.016
EXPORT	.026*	3.242	.004	.073	-.004	.064	-1.909**	2.836
Constant	6.779	.030	38.637	.580	-21.637*	3.311	0.214	1.545
Cases	310		310		310		310	
Chi-square	49.715***		31.266**		37.047***		37.408***	
-2Log likelihood	111.096		99.195		81.231		3.814	
Cox & Snell R²	0.349		0.236		0.273		0.276	
Nagelkerke R²	0.465		0.350		0.428		0.922	

* Significant to 0.1. ** Significant to 0.05. *** Significant to 0.01.

Notes: 1. Numbers in right sides are Wald Statistics. 2. Majority-owned are subsidiaries that have greater than 50 percent equity and exclude 100 percent equity ownership. INDTRY, type of industry (manufacturing and services); F_MNGR, foreign manager; F_EMPLY, foreign employees; N_GRAD, new graduate; MNGR_A, manager authority; SHAR_H, the number of shareholders; P_ASSET, total assets of parent company; P_SALS, parent company total sales; P_EMPLY, the number of parent company's employees; P_SLSGR, parent company sales growth ratio; P_ASSTG, parent company assets growth ratio; CNTRY, country of origin; EXPRNC, parent's experience in host country; I_WAGE, the amount of initial wage in subsidiary; EMPLYE, the number of subsidiary's employee; SALES, subsidiary total sales; CAPTL, subsidiary's capital; SALSGR, subsidiary sales growth ratio; IMPORT, import ratio of subsidiary; EXPORT, export ratio of subsidiary.

Table 7. Regression models for foreign ownership ratio

Independent Variables;	Foreign Ownership Ratio					
	Model 1		Model 2		Model 3	
Constant	*	(-1.672)		(0.572)		(-1.455)
Number of shareholders	-0.204**	(-2.318)			-0.235**	(-2.724)
Import ratio	.431***	(4.495)			.379***	(3.725)
Export ratio	.082	(0.808)			-.251**	(-2.048)
Initial wage	.100	(1.065)			.010	(0.084)
Manager authority			-0.018	(0.186)	.586***	(6.071)
Foreign manager			-.307***	(-3.089)	-.163	(-1.169)
Foreign employees			.058	(0.538)	3.278***	(3.284)
New graduate employees			.236	(1.191)	-1.170***	(-4.582)
Control Variables;						
Capital	.385**	(2.322)	-0.048	(-0.425)	.584***	(3.900)
Number of employees	-0.353**	(-2.268)	-0.415**	(-1.996)	.821***	(3.466)
Total Sales	-.037	(-0.346)	.072	(0.626)	-3.322***	(-3.618)
R ²	0.365		0.183		0.856	
Adjusted R ²	0.314		0.121		0.787	
df	7		7		11	
F statistic	7.159***		2.975**		12.431***	
Number of Cases	3500		3500		3500	

* Significant to 0.1. ** Significant to 0.05. *** Significant to 0.01.

Note: The dependent variable is foreign ownership ratio for all three models.

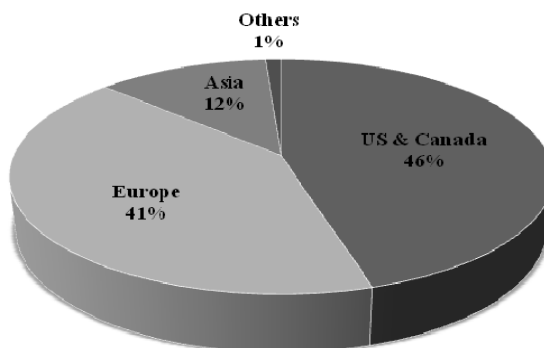


Figure 1. Regional distribution of foreign companies in Japan

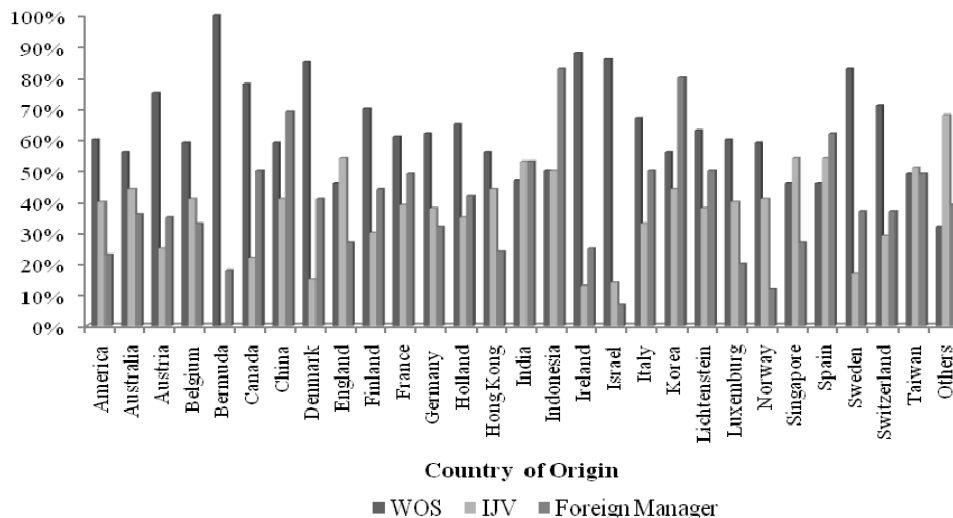


Figure 2. The percentage of foreign managers in foreign affiliates and the type of ownership based on country of origin