

# Assets Growth, Foreign Ownership and Type of Industry in Multinational Companies

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## Abstract

This empirical study explores first the relationship between type of industry and subsidiary age, export ratio and MNCs' firm factors. Second, we examined the impact of country of origin, foreign ownership and parent's specific factors on asset growth ratio (AGR). Based on data derived from 2500 foreign companies in Japan, the findings show that the factors of foreign ownership, experience in host market, country of origin, export and parents company's sales and the number of employees as a proxy of firm size have significantly effect on AGR. Also our finding shows that foreign companies in manufacturing industries are more likely to be as an international joint venture with a foreign manager and higher ratio of import and greater number of foreign employees. Finally, contrary to our expectations, we found that the total asset of parent company has negatively associated with type of industry. In the other word, firms in service industries are more likely to have greater total asset than those in manufacturing sectors.

**Keywords:** Asset growth ratio, Foreign ownership, MNCs, Country of origin

## 1. Introduction

The multinational company has several choices of entry mode, ranking from the market (arm's length transactions) to the hierarchy (wholly owned subsidiary). The multinational companies (MNCs) choose internalization where the market does not exist or functions poorly so that transactions expenses of the external route are high. The subsistence of a particular know-how or core ability is an asset that can give rise to economic rents for the firm. These rents can be earned by licensing the firm specific advantages to another firm, exporting products using these firm specific advantages as an input, or adjustment subsidiaries abroad.

Considerable research efforts have been made to test the importance of firm specific versus industry structure factors in relation to performance variation (e.g. Hawawini et al., 2003; Roquebert et al., 1996). Generally, the effects of firm factors on performance variability have been shown to be more important than industry effects.

Building upon previous research, the present study investigates the firm specific factor versus industry structure. However, a decidedly different approach is taken. First, the vast majority of foreign firms in Japan come from the United States and Europe. Second, there are very few researches that used the asset growth for performance appraisals. Third, we build hypotheses to test key aspects of the firm's factor theories in the stream. Fourth, parent's firm factors and subsidiary factors are operationalized and measured to determine their effects on the asset growth ratio. Lastly, manufacturing versus services firms are compared, which, surprisingly, has rarely been done.

Asset performance means that a company can either earn a higher return using the same amount of assets or is efficient enough to create the same amount of return using fewer assets.

Hymer (1976) proposed that firms exist because they possess unique assets in terms of products, processes, and skills. Examples of unique firm-specific assets and intangible wealth include established brand names, the firm's reputation, favored access to suppliers and skilled manpower, and superior products and processes. These resources, when employed in a host country during overseas entry, serve to reduce rivalry, as they are imperfectly imitable. The poor imitability of these unique assets enables a firm to gain competitive advantage or market power over its rivals. Hence, the foreign entrant can be viewed as a special case of the multi-plant firm operating in different countries due to market imperfections (Horaguchi and Toyne, 1990). Such firms integrate industries by owning assets or controlling activities across countries as a result of structural market imperfections and transaction cost advantages

Nevertheless, foreign firms are likely to be at a disadvantage in terms of understanding the local environment and culture. The international business literature is full of examples of foreign entrants stumbling and failing due to lack of managerial skills or knowledge of local contacts, regulatory issues, political nuances, customer idiosyncrasies, and other issues usually unknown to new foreign entrants. These disadvantages are commonly referred to as liabilities of foreignness.

This empirical study explores first the relationship between type of industry and firm's factors including ownership, experience, import and export ratio and MNCs' factors. Second, we examined the impact of country of origin, foreign ownership and parent's and subsidiary's factors on the asset growth ratio (AGR).

The rest of the paper is structured as follows. We begin with a review of the literature, and then develop five testable hypotheses relevant to the industry structure and asset growth. Next, we describe the data and estimation methodology, and report the empirical results. We conclude with a discussion of the results.

## **2. Theoretical background and hypotheses**

Firms seeking to establish a presence in the region also faced the decision of how much equity to commit. Empirical studies using cross-country data show that locational and modes of entry choices of MNEs are significantly influenced by host country characteristics. For example, Altomonte (2000) and Bevan and Estrin (2004) use project-specific investment data primarily from European firms, as well as some Asian and US MNEs, to analyze the determinants of foreign direct investment to the region. In addition to factors such as country risk and market size, Tihanyi, Griffith, and Russell (2005) highlight gravity factors and cultural distance as important components of investment decision. For US firms, advantages such as geographical and cultural proximity are less apparent than for their European counterparts. Yet analyses of market response to early investment announcements by US firms (e.g., Lang, Ofek & Stulz, 1995) find that, on average, shareholders of US firms experience positive excess returns when they announce expansion plans in transition economies. (Paul and Wooster, 2008)

Eclectic theory suggests that in developed countries, wholly owned subsidiaries have the highest long-term potential (Dunning, J.H., 1988). Erramilli et al. (1997) found that even the firm-specific advantages of Korean MNEs were dependent on host country location. Therefore, the influence of host country characteristics on entry mode, of which industry structure is an underlying element, is well established.

Previous research suggests that a firm's capacity to earn profits is highly correlated to the attractiveness and profitability of the industry in which the firm operates (Schmalensee, 1989). Hence, when entering an overseas market, a foreign firm will attempt to choose an entry mode that would help overcome industry barriers that might prevent it from succeeding in that overseas market. Therefore, other conditions remaining equal, one would predict that industry characteristics of the host country would play a role in determining a firm's choice of entry mode (Elango & Sambharya, 2004).

### *2.1. Industry and firms factors*

An important benefit of wholly owned is that a foreign firm can be in control of an established firm, thereby overcoming industry structural barriers in the host country and the liabilities of foreignness rather quickly. Also wholly owned does not create new industry capacity, as do greenfield investments, and therefore does not increase industry supply. Wholly owned subsidiaries by the foreign firm result in ownership by a single firm. An international joint venture is a partnership wherein the venture (business) is jointly owned by two or more firms. It involves two or more firms investing in or sharing resources, thereby allowing for some degree of flexibility in the sourcing and deployment of resources to overcome industry barriers and minimizing the risks of liabilities of foreignness. While it is hard to accurately predict the influence of a joint venture on industry supply, joint

ventures allow for risk pooling, thereby enabling the entrant to more effectively face industry structural barriers and risks due to liabilities of foreignness.

Previous research suggests that a firm's capacity to earn profits is highly correlated to the attractiveness and profitability of the industry in which the firm operates (Elango & Sambharya, 2004). Another notable study was by Caves and Mehra (1986), who looked at 138 entry decisions of foreign firms and considering many industry variables along with firm level variables. The two modes they looked at were mergers and greenfield entrants while controlling for joint ventures. They concluded by claiming that the type of goods produced (durable vs. nondurable), firm size, product diversity, and the extent of multi-nationality were likely predictors of acquisition as preferred entry mode, depending on the industry structure.

**H1.** *Multinational companies in manufacturing industry are more likely to enter a host market through wholly owned subsidiaries.*

Companies in different industries face different competitive challenges, causing them to use different approaches to international venturing. When the MNC is diversifying through a FDI, uncertainty and information costs may be higher, so that less control ownership modes should be preferred. Foreign investors are also more likely to enter a foreign market through joint ventures or strategic alliances if they are diversifying into a different industry, as they need tacit industry-specific knowledge, which is subject to relevant transaction costs and it also costly to acquire on the market (Mutinelli & Piscitello, 1998)

Hence, when entering an overseas market, a foreign firm will attempt to choose an equity ownership that would help overcome industry barriers that might prevent it from succeeding in that overseas market. Therefore, other conditions remaining equal, one would predict that industry characteristics of the host country would play a role in determining a firm's choice of entry mode.(Elango & Sambharya, 2004)

**H2a.** *Foreign companies in manufacturing industry are more likely to have a greater number of foreign employees than services industry.*

A common barrier to entry in manufacturing industries is scale economies. Scale economies refer to the need to build a plant at a particular size to produce goods at a reasonable cost. Stated differently, this concept refers to the change in operational costs associated with the change in size of the firm. According to Porter (1980), scale economies arise due to the ability of the firm to perform value activities efficiently at a larger volume. Scale economies result from less than proportional increases in costs or increased efficiencies in operation associated with particular levels of production volume.

Multinational companies need to use their technical employees or expert managers in order to build a manufacturing subsidiary in a host country. Manufacturing firms in subsidiary level are encouraged to hire a number of parent company's employees in order to technology transfer and employee training. MNCs build a manufacturing firm and invest in a host market to producing high demanded products in host market or goods with lower production costs.

When plants are built to scale, the production costs of goods are lowest when operated at capacity (Harrigan, 1981 and Scherer, 1980). Industries characterized by a manufacturing structure have significant barriers to entry, as entrants are forced to make significant investments to enter the industry at a particular size. Second, new entrants could face a strong competitive reaction from existing incumbents due to these firms' sunk costs. Third, the creation of new capacity in such industries would hurt all firms, including the entrant. In manufacturing industries, entrance through wholly owned or joint ventures can significantly minimize risk. Therefore, the presence of manufacturing industry requires large investments to be made by the foreign firm, encouraging firms to enter foreign markets through joint ventures or wholly owned subsidiary.

To the best of our knowledge, no study on ownership and foreign investment has incorporated this important explanatory variable.

**H2b.** *Foreign companies in manufacturing industry are more likely to have greater ratio of import.*

Elango & Sambharya (2004) argue that in industries characterized by import intensity, firms are likely to prefer wholly owned ownership as an entry strategy.

The influence of import on industry profitability and firm behavior is well known in the literature (e.g., Cubbin and Geroski, 1987 and Turner, 1980). Though this variable has not been specifically tested in the entry mode literature, other studies on this topic (e.g., Caves and Mehra, 1986; Porter, 1987) have incorporated import market share in other variables (such as industry concentration) in entry mode models (Note 1). As this study focuses on type of industry, we decided to test the relationship between the import ratio and industry

characteristics. In industries with high levels of import, foreign entrants are likely to use greenfield operations as a favored mode of entry over wholly owned or joint ventures. This will happen because foreign entrants might be more confident in succeeding by setting up operations on their own, considering the fact that they or other foreign firms have had some degree of success selling their products in the host nation (Elango & Sambharya, 2004)

## 2.2. Asset growth

Asset is a business's ability to take productive resources and manage them within its operations to produce subsequent returns. Asset performance is typically used to compare one company's performance over time or against its competition. Possessing strong asset performance is one of the criteria for determining whether a company is considered a good investment.

Analysts use metrics like the cash conversion cycle, the return on assets ratio and the fixed asset turnover ratio to compare and assess a company's annual asset performance (asset growth). Typically, an improvement in asset performance means that a company can either earn a higher return using the same amount of assets or is efficient enough to create the same amount of return using fewer assets.

Hennart and Reddy (1997) reported that joint ventures would be preferred by firms in instances where non-desirable assets are linked with desirable assets, when the Japanese firm has previous experience, when there is good product compatibility, and where there is a growing market. Although these studies found support for the notion that industry structure influences the equity ownership choice of firms, they only used two variables or less to capture that effect.

The ownership advantage explains a firm's resource commitment and refers to assets power that a firm must possess to compete successfully with host country firms in their own markets, which can be tangible and intangible such as firm size, multinational experience, proprietary products or technologies, specialized know-how, and skills by its ability to innovate or to develop differentiated products, (Dunning, 1995 and Nitsch et al., 1996). The size of parent's 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, 1986 and Kimura, 1989). Another form of asset power, a firm's level of multinational experience, has also been shown to influence entry choices (Agarwal and Ramaswami, 1992) and performance (Siripaisalpipat and Hoshino, 2000). As a firm expands its operations overseas, it learns more about how to cope with different environment in terms of economic, political, and legal systems as well as the cultural distances. This ownership advantage generated corporate performance (Delios and Beamish, 1999 and Gomes and Ramaswamy, 1999), and consequently reflected on subsidiaries performance. Finally, intangible assets are necessary to compete efficiently in a certain business line or a given industry (Siripaisalpipat and Hoshino, 2000). A firm will enjoy competitive advantages over its rival if it owns a proprietary product, specialized technology or knowledge, specific know-how, and management capabilities (Kimura and Pugel, 1995).

**H3.** *The greater the ratio of sales growth in MNCs, the greater ratio of asset growth will increase.*

The above hypothesis, in the other words, assumes that the MNCs' sales growth ratio has significantly impact on the ratio of asset growth.

One of the measurements for performance appraisal is the rate of sales growth. We assume that the ratio of asset growth is related to its sales growth rate. In other word, the increase of sales growth has effect on the ratio of asset growth.

The poor imitability of these unique assets enables a firm to gain competitive advantage or market power over its rivals. Hence, the foreign entrant can be viewed as a special case of the multi-plant firm operating in different countries due to market imperfections (Horaguchi and Toyne, 1990). Such firms integrate industries by owning assets or controlling activities across countries as a result of structural market imperfections and transaction cost advantages.

Nevertheless, foreign firms are likely to be at a disadvantage in terms of understanding the local environment and culture. The international business literature is full of examples of foreign entrants stumbling and failing due to lack of managerial skills or knowledge of local contacts, regulatory issues, political nuances, customer idiosyncrasies, and other issues usually unknown to new foreign entrants. These disadvantages are commonly referred to as liabilities of foreignness.

**H4.** *Foreign companies with more experience in host country are more likely to have greater ratio of asset growth.*

Experience in the host country may interact differentially in terms of performance (Delios & Beamish, 2004; Uhlenbruck, 2004, Rasouli et al., 2008). 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.

Entry in foreign markets and the related uncertainty are also crucial for international neophytes which lack experience in managing foreign operations. 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 (Mutinelli & Piscitello, 1998). The firms acquire increasing capabilities and knowledge about how to manage foreign operations and to correctly assess the risks and the expected economic returns of foreign investment. This is particularly true when the parent company already manages other subsidiaries in that country or if it has entered before other countries which are culturally similar to the country being entered.

*H5. Country of origin is significantly associated with the asset growth ratio.*

It is worth mentioning the role of differences in the geographical spread of FDI. *Ceteris paribus*, high physical and psychical or socio-cultural distance between the parent's home country and the target country engenders high information needs because of the uncertainty perceived by executives and the problems in transferring values, management techniques and operating methods from the home to the host country (Mutinelli & Piscitello, 1998).

Eicher and Kang (2005) present a theoretical model of the multinational firm's optimal entry mode. They show that the choice between FDI, acquisition, or exports depends on host country characteristics such as market size, FDI fixed costs, tariff levels, and transportation costs. The authors argue that expansion through a sales presence is more likely when firms invest in smaller markets, but as tariffs and transportation costs rise, acquisitions and Greenfield investments (such as new plants and wholly owned subsidiaries) become more likely.

Erramilli et al. (1997) found that even the firm-specific advantages of Korean MNEs were dependent on host country location. Therefore, the influence of host country characteristics on entry mode, of which industry structure is an underlying element, is well established.

### **3. Research design and methodology**

The empirical study examines the relationship between the type of industry entered by MNCs to a host country and type of ownership, import ratio, firm's size and the number of foreign employees. Also we examine the effect of experience in host country, foreign ownership and country of origin on the asset growth ratio (AGR).

#### *3.1. Sample and data collection*

The study focused on a broad set of foreign firms in Japan in the both the manufacturing and service industries. Manufacturing firms operated in industries such as food and beverages, textiles, wood and paper products, chemicals, printing and publishing, metal products, and machinery. Services firms operated in industries such as construction, wholesale trade, retail trade, transport and storage, and business services.

The primary data source for this study was derived from 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 across the world. The database includes subsidiaries in manufacturing and service industries. However, it includes a sample of 2500 foreign subsidiaries established by MNCs from fifty two countries which covering the period till 2006. A summary of data distribution presented in Table 1 based on year of entry, equity ownership and country of origin. From the initial sample of foreign companies in Japan, because of missing data for some variables, the final sample size for the research analysis was reduced to 293 cases for the analysis of asset growth ratio and type of industry.

Insert Table 1 Here

As shown in Table 1, in the years between 1903 and 1970 the percentage of wholly-owned subsidiaries is 43% while the international joint venture is 57%. For the period of 1991 to 2000 and the last period (2001-2006), the percentage of wholly owned subsidiary, respectively with 67% and 61%, showed the multinational companies were interested in keeping a larger equity ownership of subsidiaries in Japanese market. It seems, MNCs were

interested in enter as a wholly owned firm, based on the sample distribution. As the Table 1 shows, 85% of foreign companies in Japan come from North America (United State and Canada) and Europe with 45% (1580) and 40% (1412) respectively. Therefore, recently, multinational companies are more interested in holding the majority of equity of their subsidiaries in Japan as a developed country.

Insert Figure 1 and Table 2 Here

Figure 1 shows the trends of equity ownership in five periods of foreign investment in Japan till 2006 by multinational companies. As shown in Figure 1, the number of international joint venture companies have slump during recent periods. However, the majority of foreign companies are wholly owned subsidiaries. The wholly owned firms have dramatically increased from 1980s.

As the Table 2 shows, we find that the machinery industry (10.1%), Electronic & electrical equipment (9.5%), software (7.5%), Chemistry (7.4%) and the other manufacturing industry (9.7) have the higher percentage of foreign investment in Japan.

### 3.2. Description and measurement of variables

#### 3.2.1. Dependent variables

Zahra (1991) indicates that companies in different industries face different competitive challenges, causing them to use different approaches to international venturing. The payoff from international venturing might vary also by industry type.

For this study we used two dependent variables. First, the type of industry which is dummy variable coding a value of 1 for manufacturing firms and 0 for the services firms. The second dependent variable is asset growth ratio was measured by the ratio of average increase in firm's total asset of five years leading to 2006.

#### 3.2.2. Independent variables

In this study we measured the independent variables as follows:

The first variable is the experience in host country. As in Makino and Delios (1996) and Delios and Beamish (2001), we use the parent company's experience in the host country which is computed as the total number of firm-years of experience in the host country for one foreign investment.

Type of ownership: 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 ownership and otherwise coded 0 as an international joint venture.

The existence of foreign manager is a dummy variable that takes a value of 1 if the subsidiary's manager is Japanese and 0 otherwise. Foreign employee 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 is the number of new graduate employees in a foreign company.

The variable for the country of origin categorized in four regional categories including United State and Canada, Europe, Asia and others based on our data distribution and countries location. It was measured by using a dummy variable for each category which takes the value from 1 if the nationality of foreign company is in the category and otherwise 0.

Several measures have been used by researcher to proxy 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 which is the average of five years growth rate of parent company's total sales. Import ratio and export ratio variables are determined by the ratio of the amount of import and export from affiliated company.

#### 3.2.3. Control variables

To segregate the effect of firms specific factor on AGR, we incorporated five control variables into the regression model: three at the subsidiary level and two at the parent firm level. At the subsidiary level, we incorporated capital, gross sales, and the number of employees based on a review of firm variables studied in the foreign investment literature (e.g., Harzing, 2002; Kwon and Konopa, 1992). At the parent's firm level, we incorporated parent's employee and parent's gross sales as control variables based on past research (Hennart and Larimo, 1997). Needless to say, these five variables represent important firm specific advantages and would play

a part in influencing foreign firms' factors towards a greater asset growth. Therefore, they need to be controlled in hypothesis testing.

In light of the controversy involving the defining criterion for different sizes, all control variables in this study can be used as the proxies for the firm's size.

The rationale for the inclusion of firm size is that larger firms are likely to have greater resources and ability to absorb higher risk compared to smaller firms, thereby influencing asset performance differentially.

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 firm's gross sales and total assets, parent and subsidiary's employees and capital; to smooth the values and to bring them closer to the normal distribution as well as to avoid spurious effect.

Insert Table 3 Here

Table 3 shows the name of independent variables used in this study and we have explained shortly about each variable's definition.

#### 4. Empirical analysis and discussion

As a preliminary step, Table 4 shows a descriptive statistics of variables and the correlations of all the variables in the regression models are reported in Table 5. the results of Collinearity statistics are shown in Table 6 which there is no support of existence of multicollinearity in the variables of this study.

Insert Table 4, Table 5 and Table 6 Here

We used a binary logistic regression for the type of industry's analysis. Binomial (or binary) logistic regression is a form of regression which is used when the dependent is a dichotomy and the independents are of any type. Continuous variables are not used as dependents in logistic regression. Logistic regression can be used to predict a dependent variable on the basis of continuous and/or categorical independents and to determine the percent of variance in the dependent variable explained by the independents; to rank the relative importance of independents; to assess interaction effects; and to understand the impact of covariate control variables. The impact of predictor variables is usually explained in terms of odds ratios.

Based on Omnibus test result for our binary logistic regression, the model is significant in one percent. Omnibus tests of model coefficients reports significance levels by the traditional chi-square method and is an alternative to the Hosmer-Lemeshow test. It tests if the model with the predictors is significantly different from the model with only the intercept. The omnibus test may be interpreted as a test of the capability of all predictors in the model jointly to predict the response (dependent) variable.

Insert Table 7 Here

As Table 7 presents, the experience in host market (EXPRNC) has a positive significant ( $p < 0.05$ ) with type of industry. The type of ownership (WOS\_IJV) and new graduate (N\_GRAD) are negatively associated with type of industry ( $p < 0.05$  and  $p < 0.01$  respectively). It is contrary to our expectation based on hypothesis H1. Therefore, MNCs are interested in holding an international joint venture when the subsidiary is in a manufacturing industry. In the other words, multinational companies in service industry are more likely to enter a host market through wholly owned subsidiary.

As shown in Table 7, the number of foreign employee has a positive significant relationship with type of industry. This supported our hypothesis H2a and implies that foreign companies in manufacturing industry are more likely to have a greater number of foreign employees than services industry. However, the results show a positive significant relation between foreign manager (F\_MNGR) and parent company's gross sales (P\_SALS) with type of industry. In the other words, firms in manufacturing industry are more likely to have a foreign manager and greater gross sales.

Our result analysis showed that parent company's total asset (P\_ASSET) is negatively associated ( $p < 0.01$ ) with type of industry. It implies that foreign companies in service industry are more likely to have greater amount of total asset in compare with manufacturing industry.

Larger companies usually have the slack resources for international venturing. Size also gives these firms the market power to preempt competitors' entry and reap higher than normal rates of performance. Conversely, some larger organizations are bureaucratic and therefore slow to adapt to change through international venturing activities (Block and MacMillan, 1993 and Hastings, 1999).

Insert Table 8 Here

To test the hypotheses related to asset growth ratio, we ran a multiple linear regression analysis which is shown in Table 8. The analyses tested three models. First, in Model 1, all independent variables and one part of country of origin (US & Canada) were regressed on the study's control variables. Second, in Model 2, we added country of origin's variables and excluded the parent company's factor in the regression model. Third, in Model 3, parent company's factors were added to the variables already in Model 2. However, we regressed all variables which can effect on AGR based on our hypotheses.

As the results illustrated on Table 7, the sales growth ratio in all three models has a significant effect ( $p < 0.05$ ) on asset growth ratio on five percent significant level. However, the ratio of parent's sales growth is positively associated with AGR. These support our hypothesis H3 in this study which implies that firms with the greater ratio of sales growth are more likely to have a greater ratio of asset growth. As Model 3 shows, the experience in host market is significantly associated with AGR. Therefore, it supported the hypothesis H4. In the other words, foreign companies with the more experience in host market (older subsidiaries) are more likely to have greater ratio of asset growth. As we expected, variables related to country of origin (US & Canada, Europe) are significantly associated with AGR. It implies that the nationality of foreign companies has a significant effect on their asset growth rate and this support our hypothesis H5 in this empirical study. Also the new graduate has a positive significant relationship with AGR on one percent significant level.

The regression result Model 3 shows that foreign ownership ratio is significantly associated with the ratio of asset growth. However, the firms with the greater ratio of foreign ownership are more likely to have a greater AGR. The ratio of export has a negative significant with the AGR on 1 percent significant level. Therefore, firms with the lesser export rates have the greater asset growth rates.

Based on the result of multiple linear regression analysis to examine the impact of type of industry, experiences, foreign ownership ratio, country of origin, import ratio, export ratio, new graduate, sales growth ratio, sales growth ratio, foreign employees, parent's sales growth ratio, on likelihood of the ratio of asset growth, the following model can be explained:

Asset Growth Ratio = f (experience, foreign ownership ratio, country of origin, export ratio, new graduate, sales growth ratio, foreign employees, parent's sales growth ratio)

The model can be expressed as:

$$\begin{aligned} \text{AGR} = & \beta_0 + \beta_1 \text{EXPRNC} + \beta_2 \text{FOWNR} + \beta_3 \text{COUNTRY} + \beta_4 \text{EXPORT} + \beta_5 \text{NGRAD} \\ & + \beta_6 \text{FEMPLY} + \beta_7 \text{SGR} + \beta_8 \text{PSGR} + \varepsilon \end{aligned}$$

Where, AGR is the asset growth ratio,  $\beta_1$ EXPRNC is the experience in host market,  $\beta_2$ FOWNR is foreign ownership ratio,  $\beta_3$ COUNTRY is country of origin,  $\beta_4$ EXPORT is the ratio of export,  $\beta_5$ NGRAD is the new graduate,  $\beta_6$ FEMPLY is foreign employees,  $\beta_7$ SGR is sales growth ratio and  $\beta_8$ PSGR is parent's sales growth ratio and  $\beta_i$  is the coefficient of the independent variables. The  $\beta_0$  refers to the constant and finally  $\varepsilon$  is the disturbance term.

As the results of Table 8 shown, the all three models were significant to one percent level. International venturing enhances a firm's ability to exploit its existing capabilities and resources while exploring new growth options. Exploitation centers on using the firm's existing knowledge, capabilities and resources in current and new foreign markets (Audia et al., 2000). However, excessive focus on the exploitation of existing capabilities can lead to organizational myopia and stagnation. International venturing reduces this risk by promoting exploration activities. Foreign owned companies and international alliances allow the firm to identify emerging technological, marketing, and competitive trends in foreign markets. This can stimulate innovation and enhance the variety of the firm's strategic options.

## 5. Conclusion and limitations

Our results show a positive relationship between import ratio and type of industry. However, manufacturing firms have higher import in compare with firms in service industries. Contrary to our expectations, the type of ownership is negatively associated with type of industry. In the other words, multinational companies in service industry are more likely to enter a host market through wholly owned subsidiary. The results of industry structure analysis showed that foreign companies in manufacturing industry are more likely to have a greater number of foreign employees than services industry.

The Resource-based Theory emphasizes factors internal to the firm. It is argued that acquisition and retention of resources that are rare, non-substitutable and, in combination, difficult to imitate are a source of economic rent and accounts for the heterogeneity of firms in any industry (Reed and DeFillipi 1990; Mahoney and Pandian



1992; Oliver 1997).

According to this view, a company's competitive advantage derives from its ability to assemble and exploit an appropriate combination of resources. Sustainable competitive advantage is achieved by continuously developing existing resources and creating new ones and capabilities in response to rapidly changing market conditions. According to resource-based theorists like Grant (1991) and Peteraf (1993), firms can achieve sustainable competitive advantage from resources like strategic plans, management skills, tacit knowledge, capital, employment of skilled personnel among others. The assets and resources owned by companies may explain the differences in performance. Resources may be tangible or intangible and are harnessed into strengths and weaknesses by companies and in so doing lead to competitive advantage.

We found that the total asset of parent company has negatively associated with type of industry. In the other words, firms in service industries are more likely to have greater total asset than manufacturing industry. Our findings indicate that experience in host market; foreign ownership and new graduate have a positive and significant impact on AGR. Based on our results, country of origin of foreign companies has a significant effect on the ratio of asset growth. Our findings suggest that foreign companies from North America including US and Canada outperform subsidiaries from Europe and Asia. In the other words, North American's multinational companies have greater performance and the ratio of assets growth in Japan. It implies that country of origin matters for assets growth and MNCs have different strategy to invest and asset management and consequently, they have different asset performance. However, foreign companies from United States have greater AGR versus European subsidiaries in Japan.

Cultural distance is the difference in the values and beliefs shared between investing country and host country. Large cultural distances lead to high transaction costs for multinationals investing overseas (Chen and Hu, 2002) and may limit the effectiveness of behavioral based control mechanisms that rely upon trust, value congruence, and respect (Woodcock et al., 1994)

Therefore, foreign companies with greater ratio of foreign ownership and higher experience in host market and greater sales growth rate and lower ratio of export are more likely to have greater ratio of asset growth (Note 2).

This study has several limitations, related to its validity and scope. First, the scope of our conclusions is limited to the context of foreign companies in Japan. The second limitation is related to the database used in this study which has limited data about firm assets. Therefore, our study covered 293 firms out of 3500 foreign companies for analysis of asset growth ratio. Third, we employed limited number of variables based on our data bases in order to analyze of AGR. Therefore, there are more variables which could affect the results of asset growth ratio. Future studies that use more independent variables to measure the asset performance can add to this study in order to improve the validity of related findings.

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### Notes

Note 1. The empirical evidence of short and medium-term impact of foreign investment on exports is mixed. For example, in the case of certain newly industrialized Asian markets such as Chinese Taipei, Singapore, Hong Kong and Malaysia, the consensus seems to be that MNCs have played an important role in exports growth (e.g. Kumar, 1996). Moreover, studies of the determinants of FDI location in developing countries indicate that main driving factor is the ease with which enterprises located in the host market can participate in international trade (Sing and Jun, 1995, and Kokko et al., 2001). However, broader-based empirical studies generally yield mixed results regarding the role of MNCs in expanding the exports of developing countries (Dunning, 1993 and Sharma, 2000).

Note 2. The direct impact of foreign investment on import falls into two parts, namely an immediate effect emanating from the actual investment and the effects on the import pattern of the targeted enterprises. The former channel is generally limited to the imports of initial inputs of imported machinery and equipment, or of where FDI is large compared with the size of host market; it may include the knock-on effect on aggregate imports from rising total domestic demand. The second channel, which essentially depends on the investor's choice between imported and local inputs, has been studied extensively.

Table 1. Data distribution based on year of entry

Period	Equity Ownership			Country of Origin			
	No.	WOS	IJV	North America	Europe	Asia	Others
1903 - 1970	476	207	269	217	205	35	19
	<b>14%</b>	<b>43%</b>	<b>57%</b>	<b>46%</b>	<b>43%</b>	<b>7%</b>	<b>4%</b>
1971 - 1980	471	263	208	207	201	43	20
	<b>13%</b>	<b>56%</b>	<b>44%</b>	<b>44%</b>	<b>43%</b>	<b>9%</b>	<b>4%</b>
1981 - 1990	887	527	360	403	371	86	27
	<b>25%</b>	<b>59%</b>	<b>41%</b>	<b>45%</b>	<b>42%</b>	<b>10%</b>	<b>3%</b>
1991 - 2000	1002	673	329	460	393	113	36
	<b>29%</b>	<b>67%</b>	<b>33%</b>	<b>46%</b>	<b>39%</b>	<b>11%</b>	<b>4%</b>
2001 - 2006	664	402	262	293	242	95	34
	<b>19%</b>	<b>61%</b>	<b>39%</b>	<b>44%</b>	<b>36%</b>	<b>14%</b>	<b>5%</b>
<b>Total</b>	<b>3500</b>	<b>2072</b>	<b>1428</b>	<b>1580</b>	<b>1412</b>	<b>372</b>	<b>136</b>
	100%	59%	41%	45%	40%	11%	4%

Table 2. Data distribution based on type of industry

Type of Industry	Number	Percentage
Agriculture	2	0.1%
Automobile	137	3.9%
Bank	128	3.7%
Chemistry	259	7.4%
Construction	17	0.5%
Consulting	155	4.4%
Electronic & electrical equipment	331	9.5%
Finance, insurance & real state	179	5.1%
Food products	128	3.7%
Information service	171	4.9%
Machinery	355	10.1%
Medical equipment & supply	151	4.3%
Other manufacturing	340	9.7%
Petroleum	23	0.7%
Primary & fabricated metals	104	3.0%
Publication	29	0.8%
Retail industry	99	2.8%
Services	252	7.2%
Software	264	7.5%
Steel	6	0.2%
Transportation	150	4.3%
Wholesale trade	220	6.3%
<b>Total</b>	<b>3500</b>	<b>100.0%</b>

Table 3. Data variables and definition

Sign	Variable name	Variable definition
EXPRNC	Experience in host market	The number of firm-years of experience in the host country
WOS_IJV	Type of ownership	Wholly owned subsidiary (1) and International joint venture (0)
IMPORT	Import ratio	The ratio of import in a foreign company
EXPORT	Export ratio	The ratio of export in a foreign company
F_EMPLY	Foreign employee	The number of foreign employees working in a subsidiary
N_GRAD	New graduate	The number of new graduates in a subsidiary
EMPLYE	Employee	The number of employee in a subsidiary
P_EMPLY	Parent's employees	The number of employee in parent company
F_MNGR	Foreign manager	Manager nationality of subsidiary (Japanese 1 and otherwise 0)
P_SALS	Parent's sales	Gross sales of parent company
P_ASSET	Parent's asset	Total assets of parent company
CAPTL	Capital	The amount of capital of subsidiary

Table 4. Descriptive Statistics

<i>Variables</i>	<i>N</i>	<i>Min.</i>	<i>Max.</i>	<i>Mean</i>	<i>Std. Deviation</i>
Experiences in host market	293	1.6	97.9	30.027	17.182
Type of Industry	293	0	1	0.642	0.480
Capital	293	10	385000	7958.809	31026.799
Type of Ownership	293	0	1	0.471	0.500
Europe	293	0	1	0.403	0.491
Asia	293	0	1	0.089	0.285
Others	293	0	1	0.058	0.234
Import ratio	293	0	100	43.157	40.307
Export ratio	293	0	100	5.621	14.634
Employees	293	0	14413	580.259	1318.200
New graduate	293	0	380	10.014	34.852
Foreign Manager	293	0	1	0.768	0.423
Asset Growth Ratio	293	-0.64	0.87	0.123	0.181
Parent's Sales	293	22	370998	33702.321	75563.101
Parent's Sales Growth	293	-0.91	32.34	0.233	1.903
Parent's Employees	293	50	506000	63204.519	97729.944
Foreign Employees	293	0	102	2.645	8.242

Table 5. Pearson Correlations

	1	2	3	4	5	6	7	8	9
1 Type of industry	1.00								
2 Experience	0.23	1.00							
3 Capital	-0.23	-0.05	1.00						
4 Type of ownership	-0.01	-0.03	-0.02	1.00					
5 Europe	0.03	0.10	0.09	0.12	1.00				
6 Asia	-0.02	0.00	-0.02	0.07	0.14	1.00			
7 Others	0.00	0.00	0.00	0.06	0.27	0.74	1.00		
8 Import ratio	0.29	-0.04	-0.15	0.33	-0.04	0.00	-0.01	1.00	
9 Export ratio	0.24	0.10	-0.06	0.01	-0.09	0.00	-0.01	-0.18	1.00
10 Employees	-0.08	0.25	0.18	-0.12	-0.05	-0.06	-0.03	-0.22	-0.01
11 Foreign Employees	-0.09	-0.02	0.06	-0.10	0.06	0.02	0.00	-0.11	0.03
12 New graduate	-0.16	0.10	0.18	-0.17	-0.04	0.06	0.10	-0.24	-0.06
13 Foreign Manager	0.09	0.15	-0.12	-0.11	-0.08	0.00	0.07	-0.19	0.12
14 Parent's Employees	-0.24	0.10	0.12	0.07	-0.07	-0.12	-0.08	-0.13	-0.11
15 Asset growth ratio	0.03	-0.03	-0.03	0.01	-0.21	0.01	0.02	-0.05	-0.07
16 Sales growth ratio	-0.01	-0.05	0.00	0.00	-0.21	-0.02	0.01	-0.01	-0.07
17 Parent's Sales	-0.05	0.08	0.06	0.09	0.19	-0.01	0.01	-0.21	-0.12
18 Parent's sales growth	0.05	-0.01	-0.01	-0.06	-0.07	-0.02	-0.02	0.06	0.10
N	293	293	293	293	293	293	293	293	293

Table 5. Pearson Correlations (continue)

	10	11	12	13	14	15	16	17	18
1 Type of industry									
2 Experience									
3 Capital									
4 Type of ownership									
5 Europe									
6 Asia									
7 Others									
8 Import ratio									
9 Export ratio									
10 Employees	1.00								
11 Foreign Employees	0.34	1.00							
12 New graduate	0.58	0.15	1.00						
13 Foreign Manager	0.10	-0.12	0.11	1.00					
14 Parent's Employees	0.25	0.07	0.17	0.07	1.00				
15 Asset growth ratio	0.08	-0.13	0.16	0.09	0.05	1.00			
16 Sales growth ratio	0.08	0.02	0.19	0.04	0.05	0.91	1.00		
17 Parent's Sales	0.01	-0.01	-0.03	0.02	0.36	0.04	0.01	1.00	
18 Parent's sales growth	0.04	0.10	0.01	0.06	0.13	0.14	0.14	0.09	1.00
N	293	293	293	293	293	293	293	293	293

Table 6. Collinearity Statistics

Variables	Tolerance	VIF
Type of industry	0.709	1.41
Experience in host market	0.801	1.25
Foreign ownership ratio	0.860	1.16
Europe	0.812	1.23
Asia	0.430	2.33
Others	0.409	2.44
Import ratio	0.784	1.28
Export ratio	0.902	1.11
New graduate	0.615	1.62
Sales growth ratio	0.929	1.08
Foreign employees	0.837	1.19
Parent's sales growth ratio	0.944	1.06
Parent's Employees	0.714	1.40
Parent's Sales	0.759	1.32
Capital	0.581	1.72
Employees	0.309	3.23
Gross sales	0.307	3.25

Table 7. Binary logistic regression for type of industry

Variables	Type of Industry
EXPRNC	0.054** (3.957)
WOS_IJV	-1.335** (3.302)
IMPORT	0.029*** (9.053)
EXPORT	0.025 (1.147)
F_EMPLY	0.100** (3.748)
N_GRAD	-0.24*** (6.512)
EMPLYE	0.382 (1.236)
P_EMPLY	-0.253 (1.528)
F_MNGR	1.555* (2.523)
P_SALS	0.946** (3.876)
P_ASSET	-1.068*** (4.769)
CAPTL	0.099 (0.169)
Constant	0.273 (0.028)
<b>Cases</b>	<b>293</b>
<i>Chi-square</i>	48.544***
<i>-2 Log likelihood</i>	74.579
<i>Cox &amp; Snell R<sup>2</sup></i>	0.318
<i>Nagelkerke R<sup>2</sup></i>	0.512

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

Notes: 1. Numbers in right sides are Wald Statistics.

2. The dependent variable is the type of industry which is a dummy variable coded 1 if the firm is in manufacturing industry and coded 0 if it is in services industry. F\_MNGR, foreign manager; F\_EMPLY, foreign employees; N\_GRAD, new graduate; P\_ASSET, parent's total assets; P\_SALS, parent's total sales; P\_EMPLY, the number of parent firm's employees; EXPRNC, parent's experience in host country; EMPLYE, the number of firm's employee; SALES, firm total sales; CAPTL, firm's capital; IMPORT, the ratio of import; EXPORT, the ratio of export; WOS\_IJV, type of ownership (wholly owned subsidiary and international joint venture).

Table 8. The multiple linear regression result of asset growth ratio

Independent Variables	Model 1		Model 2		Model 3	
(Constant)		1.236**		3.074**		-0.833
Type of industry	0.067	1.032	0.071	1.075	0.050	0.493
Experience in host market	-0.019	-0.290	-0.036	-0.544	0.188**	1.871
Foreign ownership ratio	-0.074	-1.218	-0.067	-1.095	0.172**	1.707
Europe			-0.209***	-3.363	-0.257***	-2.593
Asia			-0.015	-0.169	-0.099	-0.685
Others			0.080	0.904	0.205*	1.460
US and Canada	0.192***	3.243				
Import ratio	0.054	0.838	0.023	0.339	-0.132	-1.252
Export ratio	-0.067	-1.166	-0.077	-1.309	-0.293***	-2.970
New graduate	0.179***	2.703	0.169***	2.495	0.182***	2.711
Sales growth ratio	0.121**	2.101	0.131**	2.227	0.124**	2.135
Foreign employees	-0.159***	-2.686	-0.144**	-2.410	-0.160***	-2.696
Parent's sales growth ratio	0.138**	2.434			0.246***	2.519
<b>Control Variables</b>						
Parent's employees	-0.062	-0.672			-0.220**	-1.776
Parent's sales	0.175	1.838			-0.116	-1.006
Capital	-0.020	-0.291	0.001	0.019	0.063	0.358
Employees	-0.039	-0.460	0.037	0.448	-0.372	-1.102
Gross sales	-0.036	-0.448	-0.028	-0.337	0.375	1.069
$R^2$		0.145		0.118		0.282
Adjusted $R^2$		0.101		0.073		0.170
$df$		14		14		17
$F$ statistics		3.313***		2.612***		2.223***
No. of cases		293		293		293

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

Note: 1. the dependent variable is asset growth ratio for all three models.

2. The numbers in parentheses are the t values.

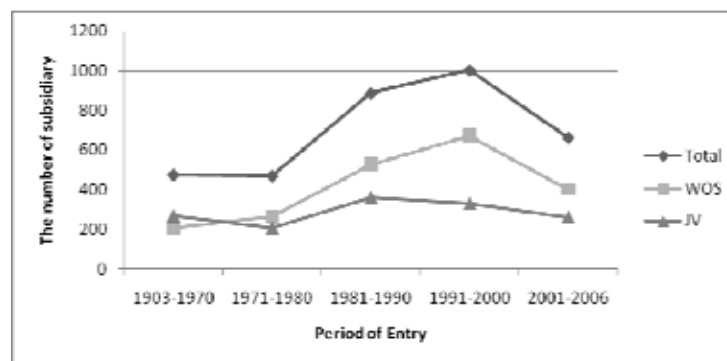


Figure 1. The ownership of foreign companies in Japan based on period of entry