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Jean-Luc Arregle, Paul W. Beamish, and Louis Hebert

Abstract: This paper examines the regional interdependence of FDI localization decisions. We hypothesize that the level of FDI in a country is determined by a firm's prior FDI activity at both the country and regional level. We test these hypotheses on 1,076 Japanese MNEs that created 3,489 FDIs over the period 1996-2001. We use a multi-level Negative Binomial approach with three levels of analysis: FDI decisions in a country (49 countries), FDI decisions in a region (six regions), and FDI decisions at the headquarters level. In this way, we test the regional effects controlling for country and corporate dimensions. Our results strongly support the semi-globalization perspective in that the regional level effects are significant and different from the country level effects. Japanese MNEs have an FDI regional strategy and make arbitrage decisions between countries in the same region.

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Traditional internationalization research has emphasized host country conditions as well as a firm's idiosyncratic characteristics in determining foreign entry decisions (e.g., Delios and Beamish, 1999; Dunning, 1993). More recently, sociological approaches have shown that market entry decisions are embedded in historical and cultural contexts, and that firms are subject to isomorphic and mimetic pressures. In particular, such research has demonstrated an interdependence between a firm's entry decision and its prior entry decisions, as well as with other firms' behaviour in this regard (Chan, Makino and Isobe, 2006; Davis, Desai and Francis, 2000; Guillen, 2003). A growing number of scholars have also hypothesized that market entry decisions are influenced by variables belonging to different levels of analysis, and have advocated for further investigation of the phenomenon from a multi-level perspective (Makino, Isobe, and Chan, 2004; Reus and Ritchie III, 2004).

Most previous investigations of FDI location decisions have overlooked the potential impact of geographical regions. In fact, a debate has emerged about the actual "globalization" of international firms relative to the development of a more intermediate vision, or "semi-globalization" (Ghemawat, 2003; Rugman and Verbeke, 2007). Semi-globalization implies "*that we observe neither extreme geographical fragmentation of the world in national markets nor complete integration*" (Rugman and Verbeke, 2004:6). This view is situated between the two extreme perspectives of complete isolation and complete integration and allows a better, more subtle, understanding of the strategies of international firms (Buckley and Ghauri, 2004; Ghemawat, 2003) and their regionalization (Rugman and Verbeke, 2004). Moreover, it highlights the crucial role of economic geography and raises questions about the spatial reorganization of FDI and regional economic integration (Buckley and Ghauri, 2004). There continues to be a strong debate on this issue in international business (IB) research and this has resulted in divergent answers about the existence and nature of this regionalization process and its logic (e.g., Delios and Beamish, 2005; Dunning, Fujita, and Yakova, 2007; Rugman and Verbeke, 2007; Stevens and Birds, 2004). This ongoing debate is an important component of the "big question" that IB research must address (Buckley and Ghauri, 2004), for its relevance as a distinct research stream (Ghemawat, 2003).

We contribute to this debate and to the field of international strategy by examining whether the localization decision of FDIs is regionally interdependent. Specifically, we consider two new issues resulting from the semi-globalization view. The first is the extent to which a firm's decision to create FDIs in a country depends on country-level variables versus regional-level variables. The second is how the decision for market entry into any given country is integrated into a regional strategy. We test and validate the existence of a regional integration approach in firms' international strategy. As advocated by Rugman and Verbeke (2007), we test this model using firm-level data on foreign direct investments (joint-ventures, wholly-owned subsidiaries and acquisitions). We attempt to explain the number of FDIs made by a firm in a country by two independent variables (the number of prior FDIs and the ratio number of exited to existing FDIs) measured at the country-level and at the regional-level as they embody the dynamic integration of a firm's international presence and strategy.

BACKGROUND

Several perspectives have been used to explain why and where firms engage in FDI, including transaction cost analysis (Anderson and Gatignon, 1986; Brouthers, Brouthers and Werner, 2003) , the resource-based view of the firm (Chang 1995), institutional theory (Yiu and Makino, 2002), and the eclectic paradigm (Dunning, 1988), among others. Similarly, considerable efforts have been invested in identifying host country conditions (e.g., Delios and Beamish, 1999) and firm-level determinants of FDI decisions (for a review, see Reus and Ritchie III, 2004). Recent developments have found that FDI decisions are significantly influenced by the firm's external environment and internal organizational practices and routines (Yiu and Makino, 2002). Consistent with this institutional perspective (DiMaggio and Powell, 1983), the firm's prior entry decisions and the performance associated with these prior entries have been found to influence entry mode decisions (Lu, 2002; Yiu and Makino 2002). Firms developing a sizeable and recurrent FDI activity will probably develop a dominant logic (Prahalad and Bettis, 1986) about FDI decisions (Arregle et al., 2006). Furthermore, studies have suggested a mimetic effect as firms tend to be influenced by entry and exit decisions made by other firms in the same country and in the same

local and global industry (Chan et al. 2006; Yiu and Makino, 2002). However, the results to date are unclear about the relative importance of these internal and external institutional environment forces for FDI decisions.

Despite this variety of perspectives, prior studies share a common inattention to the regional dimension of firms's internationalization and FDI activity (Enright, 2005a). A perspective emphasizing both global headquarters and country-level subsidiary issues has more or less dominated the IB field (Rugman and Verbeke, 2001). However, there is growing evidence that both trade and FDI activity have a strong regional dimension (Rugman, 2000; Rugman and Verbeke, 2004, 2007). In fact, few MNEs have achieved a truly global scope as a large proportion focus only on one or two key continental regions of the world (Rugman and Verbeke, 2003) and others centralize key activities in their home region.

The structure and operations of the MNE also mirrors this regionalization or the semi-globalization argument (Ghemawat, 2003). In what is seen as efforts to cope efficiently with both globalization and localization pressures (Buckley and Gauri, 2004), firms have been found to concentrate key management activities in regional management centers (Enright, 2005a). These centers play distinct roles complementing both global and local organizational units (Enright, 2005b). Firms also adopt regional strategies and create regional operational hubs which enable them to serve an entire continental region from one country (Buckley and Gauri, 2004; Ricart et al., 2004). Rugman and Verbeke (2005) interpret this regionalization as a reaction to the costs and limitations associated with the geographical deployment of the firm's proprietary knowledge. In the presence of substantial transaction costs, in particular high FDI costs, a regional orientation, dispersing competencies and capabilities among internal and region-based networks, may be an efficient configuration (Rugman and Verbeke, 2001). The concept of region-bound firm-specific advantages (FSAs) to complement the traditional concepts of country-specific (location-bound) and non-location-bound FSAs was developed by Rugman and Verbeke (2005). These region-bound FSAs can be exploited successfully by a firm throughout a region rather than being restricted to one country. Such benefits are possible if the firm integrates its FDIs regionally while keeping a regional responsiveness at the country-level. Finally, trends toward greater regional economic

integration, in North America, Europe and Asia, may also support the regionalization of FDI (Buckley et al., 2001).

Still, the existence of a *regional interdependence in the localization* decisions of FDI remains only scantly investigated empirically. Most studies have been limited to examining the local, global or industry dimensions of this localization decision, not its regional dimension. Consequently, we build from the semi-globalization approach to account for this regional dimension in FDI localization choices. We investigate whether FDI decisions are regionally interdependent, in addition or instead of being locally and globally interdependent. Addressing this question allows us to measure and better understand geographic integration processes.

HYPOTHESES

Firm's FDI Decisions in a Country

FDI is a strong commitment for a firm. Therefore, a long range perspective that integrates various factors and motivations is required in making FDI decisions. When deciding the localization of FDIs in a specific country, firms have been found to consider their past decisions and to try to develop a pattern of investments according to their medium or long term international strategy (Guillén, 2003). Consequently, firms tend to persist in their international mode of entry behavior (Lu, 2002; Yiu and Makino, 2002).

Independent of mimetic effects (DiMaggio and Powell, 1983; Yiu and Makino, 2002), several rationales may explain this persistence and the effect of the number of prior FDIs in a country on subsequent FDIs. The first involves a legitimization process of entry decisions over time where prior entries stimulate subsequent decisions (Chan et al., 2006:651). Also, economies of agglomeration produce positive externalities that benefit firms located near one another (Sorenson and Baum, 2003). These are also relevant to analyze the dispersion of subsidiaries within firms. These benefits have been underlined by the "new economic geography" (Buckley and Ghauri, 2004). One potential mechanism for these economies of agglomeration is localized knowledge spillovers as a firm's FDIs located in the same country can more easily share knowledge or organizational routines, and save resources, thus avoiding the

need to redundantly develop them. Density of social ties, an important driver of knowledge diffusion within a firm, also declines rapidly with distance while the cost of maintaining established relationships rises (Sorenson and Baum, 2003:12). Therefore, these mechanisms explain how geographic proximity also constrains the movement of knowledge within a firm and among its FDIs favoring their agglomeration in one geographical area. There are spatial aspects of knowledge (Buckley and Ghauri, 2004; Sorenson and Baum, 2003) and flows of information are spatially constrained (Hedstrom, 1994). Geographic proximity influences the transmission of knowledge (Audretsch, 2003).

A second explanation is the attempt of firms to minimize the "double layered acculturation" (Barkema, Bell, and Pennings, 1996) they encounter when developing FDIs in a new country. They must accommodate new country conditions (markets, competitors…), suffering from a liability of foreignness position (Zaheer and Manrakhan, 2001; Zaheer and Mosakowski, 1997), as well as partners' diverse national cultures. By developing several FDIs in the same country, MNEs can limit this burden as knowledge about country specificities may be shared among FDIs in the same country.

A third explanation is the successful exploitation of routines that leads to repetition (March, 1991). This exploitation bias results in a momentum of strategic choice (Amburgey and Miner, 1992) and the fact that organizations establish FDIs in countries where they are already established (Bastos and Greve, 2003). As a result, firms tend to repeat decisions and practices that they have enacted before, and with which they are familiar. Unlike the two previous drivers, this mechanism does not necessarily have a positive effect on the performance of these firms as they can mistakenly overemphasize exploitation at the expense of exploration.

However, positive agglomeration effects have been argued to reach a limit and diminish as the number of FDIs in a country increases. From the "new economic geography", we know that co-location can increase homogeneity (Sorenson and Baum, 2003) among FDIs and decrease exposure to new knowledge. Similarly, firms with a greater propensity to develop repeated international alliances with prior partners experience inferior economic performance (Goerzen, 2007). This perspective argues that redundant ties (i.e. repeated partnerships) in a firm's network do not truly improve the quality of the

network (Goerzen, 2007) due to an emphasis on exploitation at the expense of exploration. Applied to our research question, this explains how the positive agglomeration effects of FDIs in a country will diminish from a certain level of FDIs as exploitation and redundancies begin to dominate.

All these effects are in favor of an agglomeration of a firm's FDIs in the same country and an inverted U-shaped effect of the number of prior FDIs in a country on the founding of subsequent FDIs in the same country. Hence, even if the motives differ, the general relationship should be the same as developed by Chan et al. (2006). Thus, the following hypothesis:

> Hypothesis 1: The number of subsequent FDIs developed in a country by a firm has an inverted U-shaped relationship with the number of prior FDIs of this firm in this country.

The second variable used to capture a firm's FDIs strategy and dynamic is prior exits (i.e., terminated FDIs) from a country. Chan et al. (2006) considered this issue and proposed an inverted U-shaped relationship between the number of subsequent FDIs made by a MNE and the number of prior exits (Chan et al., 2006:652). The main reason is that "*the prior exits of foreign subsidiaries release resources and* [MNEs] *reinvest them in other foreign subsidiaries. Further exits of foreign subsidiaries, however, signal that the foreign operations of the MNEs may not be supported by its stakeholders…*" (Chan et al., 2006:651).

We take a different perspective resulting in a different hypothesis. First, the mechanism of reinvestment of resources among FDIs corresponds exactly to the semi-globalization thesis examined in this paper. FDIs are integrated among different countries and are more "footloose" (Buckley and Ghauri, 2004). If regionalization pressures are active, they will have a negative effect at the country level. Firms will close down FDIs in a country according to their regional (or international) strategy and the released resources could be re-invested in *another* country. Therefore, there will be a negative effect on the subsequent number of FDIs made by the same firm in the same country. We expect a negative relationship based on the arguments of semi-globalization considering entry and exit strategies for

markets (Buckley and Ghauri, 2004) and the aggregation and arbitrage decisions (Ghemawat, 2003) taken by a firm for its FDIs.

The second difference is that we do not take into account in our model the number of prior FDIs exited by a firm but instead the ratio number of prior FDIs exited in a country by a firm to prior existing FDIs of this firm in that country. It is a different way to solve the problem mentioned by Chan et al. (2006) of a strong linkage between the number of exited FDIs and the number of existing FDIs. This ratio provides a more robust perspective on how managers manage their different FDIs, including their engagement in arbitrage. If firm A with ten FDIs and firm B with two FDIs in the same country each close one FDI in this country, it would not indicate the same level of inter-country arbitrage. For firm A, it can be simply a marginal adaptation of its subsidiaries without dramatically changing its international strategy. For B, it may be the first sign of a strong international strategic reorientation. However, we expect the negative relationship between the exits ratio and the number of subsequent FDIs in the country to be non-linear. High values of this ratio indicate a major shift in strategy, and the abandonment of a country, which may be relatively more difficult to implement than a partial reorientation. Thus, we formulate the following hypothesis:

> Hypothesis 2: The number of subsequent FDIs developed in a country by a firm has a U-shaped relationship with the ratio of prior exited FDIs of this firm in this country.

Having developed our hypotheses at the country level, we consider the same relationships at the region level.

Firm's FDI Decisions in a Region

As with the country level argument, we assume that the same determinants will have the same effects at the regional level. Therefore, we do not develop them again in this section. We expect an inverted U-shaped relationship between the number of subsequent FDIs made in a country by a firm and its number of prior FDIs in the region including this country. It must be noted though that this effect

should exist when controlling for the country-level effects identified in the previous assumption; it is an independent and additional effect to mechanisms at work at the country level.

However, due to the larger geographic size and diversity of the regions compared to the countries we can expect differences in the intensity of the aforementioned effects. First, the redundancy negative effect existing at the country level is probably weaker at the regional level due to higher diversity. This higher regional diversity also gives more opportunities for positive agglomeration effects. Second, regional economic integration supports the spatial reorganization of production and the integration of goods and services markets at the regional level (Buckley and Ghauri, 2004). Therefore, firms maximize their ability to exploit intra-regional differences and synergies. Finally, the existence, development or exploitation of region-bound FSAs (Rugman and Verbeke, 2005) support such effects as a firm upgrades its country-specific FSAs making them more valuable at the region level with new, and additional as compared to the country level, scale and scope advantages.

Validation of such an assumption would demonstrate a regional effect while *controlling* for country-level effects. Also, it would show that the interdependence of the FDI decisions taken at the country level with regional-level variables as an FDI decision in a country would be a part of a broader regional strategy. The second contribution of this question is to measure, once we know that this independent regional effect is significant, whether it is stronger or weaker than the aforementioned country-level effects. In line with our main theoretical perspective adopting the semi-globalization point of view, we assume that the answer is positive and that the regional effect of the number of prior FDIs made by a firm will be stronger than the country-level effect. Hence, we formulate the following hypotheses:

> Hypothesis 3a: The number of subsequent FDIs developed in a country by a firm has an inverted U-shaped relationship with the number of prior FDIs of this firm in this region.
>
> Hypothesis 3b: The effect of the number of prior FDIs made by a firm will be stronger at the region-level than at the country-level in explaining the number of subsequent FDIs made by a firm in a country.

When considering the next variables, the ratio number of prior exited FDIs to number of prior existing FDIs, the regionalization perspective provides a new approach embodying the potential value and relevance of the semi-globalization and regionalization approach and its contribution to IB research. If we apply the same logic previously developed at the country level, we would assume that the higher the ratio of prior exited FDIs in the region to prior existing FDIs in the region, the lower the propensity of a firm to develop subsequent FDIs in a country. Hypothesis 1 would be transferred to the regional effect. However, if semi-globalization exists, implying a regionalization of firms' international strategy, we anticipate a different relationship.

We start from the fundamental argument of this perspective: firms divide their international strategies according to regions and they aggregate and make arbitrage decisions among countries in these regions to organize their FDIs (Buckley and Ghauri, 2004; Ghemawat, 2003; Rugman and Verbeke, 2004). If the region is a relevant level of analysis, firms should make arbitrage decisions among countries in the same region when they develop their FDIs entry and exit strategies. MNEs' international operations should be organized at the regional level (Rugman and Verbeke, 2007). As a result, we can assume that firms reallocate their FDIs among countries in the same region in order to optimize their international strategy at the region level. They release resources by closing FDIs in the region but reinvest in the same region. Such behavior embodies the crucial role of flexibility and volatility in FDI activity (Buckley and Ghauri, 2004). Therefore, the higher this "reallocation" or arbitrage behavior at the regional level, the higher the propensity to develop new FDIs in the countries in this region. A high ratio of prior exited FDIs in the region to prior existing FDIs in the region indicates such behaviour and means that a firm is very active in reconfiguring its regional FDIs. However, such reorganization increases the average propensity to develop FDIs in these countries as they can benefit, on average, from the new arbitrage behavior. We anticipate that this positive relationship is non linear as very high levels of exits may signal that the FDIs in a region are no longer supported by its stakeholders or that the parent firm has decided to dramatically alter its international strategy, reorienting its FDI activity to other regions (Chan et al., 2006;

Oliver, 1992; Scott, 2001). As for the previous independent variable, we consider that the influence of the ratio of exited to existing FDIs will be stronger at the region level than at the country level. Thus, we formulate the following hypotheses:

> Hypothesis 4a: The number of subsequent FDIs developed in a country by a firm has an inverted U-shaped relationship with the ratio of prior exited to existing FDIs of the firm in this region.
>
> Hypothesis 4b: The effect of the ratio of prior exited to existing FDIs will be stronger at the regional-level than at the country-level in explaining the number of subsequent FDIs made by a firm in a country.

A validation of these hypotheses gives further important information about the semi-globalization and arbitrage processes taking place among countries in the same region, thus contributing to the testing of a central idea of semi-globalization.

METHOD

Data Source and Sample

This study used data available in *Kaigai Shinshutsu Kiyou Souran* (*'Japanese Overseas Investments'*), an annual publication of Toyo Keizei Inc., which provides subsidiary-level information on the overseas activities of Japanese MNEs. The database has been found to provide reliable data for the study of Japanese FDI (e.g., Delios and Henisz, 2003; Makino and Beamish, 1998). We selected firms which made more than four FDIs over the period 1986-2001 as our objective was to test and identify interrelationships between FDI decisions made at the country and regional levels. A firm with very low FDI activity does not correspond to such a type and cannot develop such behaviour integrating its FDIs in a regional or global perspective. However, we kept a relatively low threshold to ensure that we did not take into account only very large Japanese firms, so as to increase the generalizability of our potential results. Second, we selected firms which had FDIs in more than one country in at least one of

our six regions. Therefore, our final sample is made of 1,076 Japanese firms that made 3,489 FDIs over the period 1996-2001.

Variables

Dependent variable. Our dependent variable is the number of FDIs created by a firm in a country over the period 1996-2001. By FDI, we mean international joint ventures (5-95% ownership), wholly-owned subsidiaries and acquisitions as they represent the major forms of FDI. We excluded capital participation as they do not belong to the same FDI logic.

Independent variables. A firm's prior investment activity was measured by the number of FDIs established over a certain period (e.g., Chan et al., 2006). We used a count of prior FDIs established in a country over the period 1990-1995, and a count of prior FDIs established in a region over the same period. To test the inverted U-shaped relationships presented in Hypotheses 1 and 3, we included both linear and quadratic terms of these variables in the model.

The second independent variable is the ratio of prior FDIs exited by a firm to existing FDIs for the firm. Again, this variable is measured at two levels and gives two independent variables: the ratio number of prior FDIs exited by a firm in a country to number of existing FDIs by a firm in a country, and ratio number of prior FDIs exited by a firm in a region to number of existing FDIs by a firm in a region. As for the previous variables, we included both linear and quadratic terms of these two variables in the models to test the non-linear relationships, and they are also observed over the period 1990-1995.

Control variables. We included three sets of control variables at our different levels of analysis.

Lower level (firm's strategy in a country): firm's total prior international experience in a country measured by the log of the sum of subsidiary years of international experience of a firm in a country (Lu, 2002). Institutional isomorphism (mimetic) effects (Chan et al., 2006; Lu, 2002; Yiu and Makino 2002) measured by two variables: other Japanese firms' experience in a country (Henisz and Delios, 2001; Lu, 2002) calculated as the log of the number of subsidiary years experience of other Japanese firms in a country, and other Japanese firms' exits in a country (Chan et al., 2006) calculated as the ratio number of prior FDIs exited by other Japanese firms in a country / number of other Japanese firms' FDIs in a

country. Similar to Chan et al. (2006), we included the quadratic term of the ratio of exits to modelize a non-linear relationship. We also controlled for country specificities. Country specific variables are numerous in empirical IB articles, although most do not necessarily consider the same ones. Using recent articles about the localization of FDIs as reference (Delios and Henisz, 2003; Chan et al., 2006), we control for the following country variables: the log of GDP per capita, the GDP per capita growth rate, and the political hazards index. This political hazards index reflects the feasibility of a policy change in a country where a high value indicates a low political hazard risk (Henisz, 2000).

Intermediate level (firm's strategy in a region): we control for possible mimetic effects at the region level considering the same aforementioned isomorphism variables. They are the experience of other Japanese firms and their ratio of exited to existing FDIs in a region. The calculations are the same as indicated in the previous paragraph but at the regional level. Again, we included a quadratic term for the ratio of exits.

Upper level (firm): Firm's prior international experience (Delios and Henisz, 2000) was measured as the logarithmic transformation of the number of subsidiary years of investment history a firm had in all countries (Delios and Henisz, 2003), firm's research and development intensity (R&D expenses divided by total sales- 1990-1995 average) and advertising intensity (advertising expenses divided by total sales- 1990-1995 average) (Delios and Henisz, 2003). Finally, firm size was measured by the log of its annual sales (in 1995).

Levels of analysis. As mentioned, we consider in our hypotheses and models variables measured at different levels of analysis: firms' FDI choices in a country (level-1), firms' FDI choices in a region (level-2), and firm's corporate (headquarters) variables (level-3). Our variables of interest are at level-1 and-2. Level-3 is considered only as a control dimension as firm-level variables may have an effect on the number of FDIs. This allows us to control for a firm's corporate dimension: R&D intensity, advertising intensity, firm international experience, and firm size.

We dealt with a difficult issue when developing our models and variables. We noted earlier the roles of countries and regions. A definition of a country is straightforward but what are these regions that we need to define to measure region-level variables? Some scholars have defined regions based on geographical distance (e.g., McNamara and Vaaler, 2000; Rugman and Verbeke, 2004), others according to religion, language, institutional similarities, trade agreements, economic development, or cultures (e.g., Hofstede, 1980; Ronen and Shenkar, 1985). Because the geographic dimension is central for the organization of firms' international strategy (Buckley and Ghauri, 2004; Rugman and Verbeke, 2003, 2007), we decided to create geographic regions. For instance, Rugman and Verbeke (2007: 203) explain that regional clusters based on cultural dimension have some value but not for studies that attempt to understand the essence of international corporate strategy. We decided to use past IB research with geographic regions and to take into account trade agreements. Mexico was grouped with Canada and the USA in the NAFTA region.

We dropped regions with very low FDI activities, specifically the Middle East (15 FDIs), Africa (43 FDIs) and Oceania (65 FDIs). We had to drop Eastern Europe (88 FDIs) as the dramatic changes in Central and Eastern European countries (e.g., European integration) resulted in unstable regions over the period used to compute our variables.

A total of 2,522 FDIs in our sample were made in Asia. To achieve a better and more precise understanding of FDI investments, we split Asia into three geographical regions: Asia 1 (centered on China), Asia 2 (centered on India), and Asia 3 (other countries in Asia). We ultimately used the following six regions: NAFTA, Europe, Latin America, Asia 1, Asia 2, and Asia 3. These regions are not exhaustive but they contain 3,489 (93%) of the 3,751 FDIs made by the 1,076 Japanese MNEs in our sample over the period 1996-2001. In addition, they include the regions usually considered in the regionalization debate (see Rugman and Verbeke, 2003, 2007) and the main FDI activities of MNEs (UNCTAD, 2005). These regions and their countries are listed in Table 1.

Insert Table 1 around here

Model Estimation

Our dependent variable is the number of FDIs made by each firm in each country over the period 1996-2001. This measure captures FDI flows and MNEs' international strategies (Zhou et al., 2002). As explained, we consider 1,076 Japanese MNEs with a minimum of four FDIs made over the period 1986-2001. These Japanese firms made 3,489 FDIs over the period 1996-2001 in 49 countries and in 6 regions. As a result, we have a data matrix at level-1 (firm/country) of 52,724 observations (1,076 firms * 49 countries). At level-2 (firm/region), we have 6,456 observations (1,076 firms * 6 regions), and 1,076 at level-3. Descriptive statistics and correlation matrix of the variables at the different levels is provided in Table 2.

As preliminary analyses indicated an over-dispersion, we used a Negative Binomial model as it is suitable to analyze count data with such distribution. Due to the structure of the data and the hierarchical nature of our research question, we used a multi-level model (also known as mixed, random or hierarchical models): we applied a Negative Binomial model with three levels and analyzed it using the multi-level software SuperMix (Hedeker and Gibbons, 2007). Our hypotheses concern effects occurring at each level (country, region, and headquarters levels) and across levels but traditional non-multilevel methods do not allow a correct specification or test of these relations (Arregle et al., 2006; Raudenbush and Bryk, 2002; Snijders and Bosker, 1999). Multi-level models address the potential statistical problems of disaggregation, intraclass correlation, and misestimated precision inherent in such multi-level data (Barcikowksi, 1981; Bliese and Hanges, 2004; Hox 1997; Raudenbush and Bryk, 2002). Moreover, this multilevel method is also required to specify submodels expressing relationships among variables within each level, further specifying how variables at one level influence relations accruing at the other (Raudenbush and Bryk, 2002). Therefore, effects measured at the region level are not the sum of effects at

the country levels but instead are independent of country and firm effects. Importantly, the methodology we employ allows us to test the regional effects controlling for country and corporate dimensions.

RESULTS

The results of the Multilevel Negative Binomials are provided in Table 3. Model 1 estimates the effects of control variables and serves as the base model. Model 2 estimates our complete model. AIC and Schwarz Bayesian Criterion are provided for the two models and are used to choose the best model and check if our full-model is better than the base model. The statistics clearly indicate that model 2 is the best model (lower values for AIC and Schwarz Bayesian Criterion).

Insert Table 3 around here

At the country level, results of testing model 2 show that the linear term of prior existing FDI in a country is positive and significant and that the quadratic term is negative and significant supporting Hypothesis 1. The maximum value for the multiplier of the propensity of subsequent FDI for this variable is 1.9 with an inflection point at 21 FDIs (see Figure 1). The results of model 2 confirm that the ratio of exited to existing FDIs in a country has a significant nonlinear negative effect on the propensity to develop subsequent FDIs in the same country supporting Hypothesis 2. The maximum effect of this variable on the propensity of subsequent FDI in the country is 0.57 with an inflection point at 0.74 (see Figure 2).

Insert Figure 1 around here

At the regional level, results in model 2 show that prior number of established FDIs in a region has a significant positive linear term and a negative quadratic term. Therefore Hypothesis 3a is supported. For this variable, the maximum multiplier of the propensity of subsequent FDIs in a country is close to

2.8 and the inflection point of the bell-shaped curve is 31 FDIs (see Figure 1). The variable ratio of prior exited to existing FDIs at the regional level show a positive linear term and a negative quadratic term, and both are significant: thus hypothesis 4a is supported. The maximum multiplier is close to 4.3 and the inflection point is 0.61 (see Figure 2).

Insert Figure 2 around here

Now, we can compare the results at these two levels. We use the same approach as Chan et al. (2006: 657) to compute the ratio maximum value of multipliers over the inflection point for each variable at both levels. This ratio provides an indication of the extent to which subsequent FDI creation in a country is elastic to prior-created FDI and prior-exited FDIs: the higher the ratio, the more elastic the subsequent FDIs creation to prior created or exited FDIs. For the variable "number of prior existing FDIs", the country level elasticity ratio is 0.09 and the region level ratio is 0.085. For the variable "ratio of exited FDIs", the country level elasticity ratio is 0.77 and the region level ratio is 7.03. These results confirm that the region level effect is stronger than the country level effects for the ratio of exited FDIs but not for the number of prior FDIs, Hypothesis 4b is supported but not 3b.

For the control variables, all of them are significant except political hazards in model 2. The significant results for R&D, size of the firm, firms' country experience, experience of other Japanese firms' in the country, ratio of exits of other Japanese firms in the country, firm's international experience, GDP per capita, and GDP per capita growth rate, are in line with previous empirical research (e.g., Chan et al., 2006; Delios and Henisz, 2003; Guillén, 2003). We can note the large magnitude of the GDP per capita growth rate and of the firm level effect through the variable R&D intensity as obtained by Delios and Henisz (2003). The significant coefficients for the two region-level control variables provide interesting and new results: their effect is opposite to the same variables measured at the country level. The propensity of a firm's subsequent FDIs in a country is negatively related to the experience of other

Japanese firms in the region and has an inverted U-shaped relationship with the ratio of exits of other Japanese firms in the region.

DISCUSSION

This paper investigates factors influencing the localization of a firm's FDI. Consistent with our hypotheses, results suggest that a firm's prior entry and exit at the country-level and at the regional-level had a significant impact on its FDI location decision. Specifically, we observed that FDI decisions had a significant bell-shaped relationship with prior host country and region entries. The amplitude of the effect of prior regional entry was stronger than country entries: it increases the propensity of subsequent entry up to 2.8 times, compared to 1.9 times for prior country entries (see Figure 1) but their elasticity ratios are similar. Locating subsequent entries proximate to prior ones can be seen as an attempt to take advantage of attractive local conditions in terms of markets and key locally-based resources as well as existing knowledge of the host country environment. These FDIs also benefit from economies of agglomeration. Subsequent entries may also serve to replicate and legitimize prior decisions (Chan et al., 2006; Yiu and Makino, 2002), and thereby may support the argument for a parent firm isomorphism of entry decisions (Davis et al., 2000). Such effect works at both the country and regional levels.

However, the FDI agglomeration benefits may be limited by the finite availability of locally-based resources and market opportunities (Nachum and Wymbs, 2005). There are also costs associated with the significant concentration of activities in a particular country and/or region. This concentration may create intense and inefficient competition among a firm's many subsidiaries. It may also expose the firm to unnecessary economic and political risks. Moreover, it can increase the redundancies in the network of a firm's FDIs diminishing its exploration or access to new or heterogeneous resources or knowledge. Therefore, beyond a certain point, relationships between the propensity of subsequent entries and prior ones in the same country or region will change direction. This saturation effect seems stronger at the country level than at the region level which can be explained by the larger diversity and geographical area of a region compared a country.

Our findings also show that prior country and regional exits had a significant relation with subsequent entries, although in an opposite manner. The ratio of prior country exits has an inverted bell-shaped effect on the propensity for further entries in this country (see Figure 2). Initially, it has a small negative effect that can be interpreted as a signal of deteriorating local conditions which discourages further investments in the same country. Only the presence of relatively massive exits (exit ratio higher than 0.74) may lead to less negative effect on subsequent entries. The resources freed by these exits have no positive impacts on the subsequent FDIs in the same countries. In contrast, regional exits exhibit a bell-shaped relationship with subsequent entries. The relationship is strongly positive as regional exits seem to fuel further entries in the countries in this region. The resources freed up by the exits would thus be re-invested in another country from the same region. The intensity of this effect remains positive but its strength decreases only in the presence of an important regional exodus of FDIs (exit ratio higher than 0.61), likely the result of region-wide deteriorating conditions or of a major shift in strategy. Compared to the earlier case for entries, regional FDI exits were found to have a greater impact than host country ones.

Such results advocate for the regional interdependence of FDI location decisions. Obviously firms adopt a regional strategy that complements their decisions at the country and firm levels and make arbitrage decisions among countries in the same region. Therefore, our results confirm the semi-globalization or regionalization hypothesis. In this strategy, firms would account for the forces of regional integration active in several regions of the world. Entry strategies would be part of a pattern for an effective and efficient coverage of an entire region. In turn, the termination of a subsidiary in one country would not signal complete retreat from a region. It could be seen as the relocation of these activities in an adjacent country. This phenomenon of a “mobile” subsidiary could be an attempt by MNEs to maximize the advantages among different locations, as proposed by traditional FDI theory (Dunning, 1993), without losing their perspective over an entire region. Countries, like cities and regional agglomerations, compete to attract FDIs (Oxelheim and Ghauri, 2003) by providing local advantages and support. In such a case, MNEs could be seen as transferring activities to areas providing them with better conditions within the same region. In short, a firm’s prior entry and exit decisions at the regional level do matter.

This regional perspective may also reflect an attempt to reduce the complexity of locations decisions, thereby reducing the complexity of managing FDIs in more than one hundred countries into six or seven regional zones. The regional strategy can facilitate the management of the FDIs located in a geographically area reducing, or at least structuring, this complexity for the headquarters. Such a role can be formally embodied in the position of regional managers or the role of regional headquarters. Nevertheless, it must be noted that our results are about the integration and arbitrage decisions taking place among FDIs at the country and region levels; both mechanisms encompassed in the semi-globalization idea. Therefore, we do not test or study whether the role of country level managers is more or less important than regional-level managers in the choice to localize FDIs in a country; this is a different research question.

Considering our control variables, the presence of isomorphism in market entry decisions is now well documented (Chan et al., 2006; Davis et al., 2000; Kostova and Zaheer, 1999). In particular, MNEs have been found to make FDI decisions imitating other MNEs while their own country-level location history had only a weak impact on its location decision (e.g., Chan et al., 2006; Guillen, 2002;). Our study both confirms and nuances this mimetic effect. The country experience of other Japanese shares a positive relationship with the probability of subsequent entry. Furthermore, country exits by these other Japanese firms have a U-shape relationship with future country decisions. Initial country exits discourage subsequent entries up to a point where the space left by Japanese competitors incites the firm to return to that country environment. However, our results also support the existence of distinct regional dynamics. At the regional level, agglomeration logic seems to prevail. The presence of other firms with extensive regional experience reduces the likelihood of entry, likely for reasons of access to market and locally-based resources. In turn, regional exits stimulate FDI up to a point where massive exits lead the firm to join these other Japanese firms in leaving the region. Therefore, mimetic forces do not appear to have the same relevance and impact at the regional level compared to the country level.

Still, in suggesting and measuring for the first time a regional interdependence of FDI decisions, this paper argues for a perspective balancing the effects of the external and internal institutional

environment of the firm. As such, it may also serve to reconcile apparently inconsistent results. Our results put the focus back on the firm's own prior decisions as a key driver of FDI locations by assessing the relative significance of both between- and within-firm isomorphism.

Some results for other control variables are also worth addressing. The relationship observed for a firm's R&D resources, total international experience, and country experience are consistent with earlier studies. In turn, advertising intensity exhibited a negative relationship with subsequent entry and host country conditions had a mixed effect: the GDP growth rate had a positive impact while the GDP per capita showed a negative one on FDI activity. These results are consistent with Nachum and Wymbs (2005) and their argument about the varying benefits firms may appropriate from the agglomeration of FDIs. Firms with extensive product differentiation, as reflected by advertising intensity, requires more specialized resources and less opportunities to share knowledge and resources with other subsidiaries and firms and thus draw less benefits from agglomeration externalities. Similarly, developed but mature markets offer more difficult access to market and locally-based resources compared to growing ones and thereby limit the attractiveness of subsequent FDI. The interest of Japanese firms towards FDI in emerging economies – so toward growing rather than wealthy markets - is also well known (Delios and Henisz, 2000). Thus, while institutional factors do play an obvious role in FDI decisions, economic factors and particularly those related to economic geography and agglomeration externalities, cannot be ignored.

CONCLUSION

This paper investigated factors explaining the FDI location decisions of Japanese MNEs. Consistent with our hypotheses, results suggested the presence of a regional interdependence of those decisions. Indeed, country-level location decisions were found to be significantly related to a firm's prior entries and exits in this country's continental region, in addition to prior entries and exits in the country. Characteristics of the firm, such as its country experience, its size, its international experience, and its technological intensity, as well as other firms' experience in the host country stimulate market entry.

In measuring how regions matter in FDI location decision, our paper contributes empirically to the regionalization and semi-globalization debate. Our results validate such an approach and propose a regional dimension for FDI location decisions, in addition to a host country and global dimension. Firms' international strategy is not set only on a country by country basis or at the global (world) level. As intermediaries between local and global factors, regional considerations play an important role. They show that the six regions considered in this research play an important role in Japanese MNEs FDI strategy. These firms adopt a regional perspective that complement their decisions at the country-level and make arbitrage decisions among countries in the same region.

Our results have crucial implications for future IB research. First, research analyzing FDI activity should add a regional level in their models and analyses. Working only at the FDI and parent firm level ignores an important intermediate level which may bias the results and our understanding of FDI activity. Second, our results support the existence and value of a "big question" specific to IB research underlining the integration of imperfect geographic markets. Finally, they highlight with others (e.g., Arregle et al., 2006; Chan et al., 2006; Makino et al., 2004) the value of using multi-level models to develop and test new models addressing crucial questions in IB.

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Table 1: Regions and countries

Regions	Countries	Regions	Countries
Asia 1 (1,049 FDIs created in 1996-2001)	China	NAFTA (702 FDIs created in 1996-2001)	Canada
	Taiwan		USA
	Macao		Mexico
	Hong Kong	Europe (495 FDIs created in 1996-2001)	United Kingdom
	Mongolia		Netherlands
Asia 2 (85 FDIs created in 1996-2001)	India		France
	Pakistan		Germany
	Sri Lanka		Sweden
	Bangladesh		Belgium
Asia 3 (1,028 FDIs created in 1996-2001)	Thailand		Portugal
	Singapore		Spain
	Malaysia		Italy
	Philippines		Finland
	Indonesia		Austria
	South Korea		Greece
	Brunei		Norway
	Vietnam		Denmark
	Myanmar		Ireland
Latin America (130 FDIs created in 1996-2001)	Costa Rica		Switzerland
	Colombia		Luxembourg
	Venezuela		
	Ecuador		
	Peru		
	Chile		
	Brazil		
	Argentina		
	Panama		
	Bolivia		
	Paraguay		

Total: 3,489 FDIs

Table 2: Descriptive statistics and correlation matrix

Level	Variables	n	Min	Max	Mean	Std.Dev.
HQ	Ln(International experience)	1,076	0.69	8.58	4.17	1.24
	Advertising intensity	630	0	0.24	0.01	0.02
	R&D intensity	630	0	0.14	0.02	0.02
	Ln(Sales)	1,076	7.09	21.36	13.41	2.76
FR	Number of prior created FDIs in a region	6,456	0	47	0.98	2.67
	Ratio prior exited FDIs in a region	6,456	0	1	0.01	0.07
	Ln(Other Japanese firms' experience in the region)	6,456	7.22	10.91	9.89	1.27
	Ratio Other Japanese firms' prior exits in the region	6,456	0.07	0.32	0.15	0.08
FC	Number of created FDIs 1996-2001 in a country	52,724	0	25	0.07	0.44
	Number of prior created FDIs in a country	52,724	0	41	0.12	0.71
	Ratio prior exited FDIs in a country	52,724	0	1	0.01	0.09
	Ln(firm's country experience)	52,724	0	6.99	0.36	0.97
	Ln(Other Japanese firms' experience in the country)	52,724	0	10.78	6.40	1.84
	Ratio Other Japanese firms' prior exits in the country	52,724	0	1	0.14	0.11
	Ln(GDP/capita)	52,724	5.76	10.71	8.76	1.52
	GDP/capita growth rate	52,724	-0.03	0.10	0.03	0.02
	Political hazards index	52,724	0.10	1	0.37	0.26

FC: Firm / Country (level-1) – FR: Firm / Region (level-2) – HQ: Headquarters (level-3).

Table 2: Descriptive statistics and correlation matrix (ct'd)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Number of prior created FDIs in the country	1														
2	Ratio of prior exited FDIs in the country	.17**	1													
3	Ln(firm's country experience)	.47**	.31**	1												
4	Ln(Other firms' experience in the country)	-.03**	-.03**	-.07**	1											
5	Ln(GDP/capita)	.02**	.05**	.14**	.36**	1										
6	GDP/capita growth rate	.06**	.00	.01*	.06**	-.04**	1									
7	Political hazards index	.06**	-.02**	.02**	-.14**	-.43**	.32**	1								
8	Ratio Other firms' prior exits in the country	-.04**	-.01*	-.07**	-.01**	-.16**	-.13**	-.14**	1							
9	Number of prior created FDI in region	.46**	.15**	.34**	-.10**	.11**	-.00	.00	-.11**	1						
10	Ratio of prior exited FDIs in the region	.12**	.20**	.15**	-.04**	.04**	.00	.00	-.04**	.28**	1					
11	Ln(Other firms' experience in the region)	.08**	.05**	.18**	.26**	.60**	.05**	-.06**	-.41**	.19**	.07**	1				
12	Ratio Other firms' prior exits in the region	-.09**	-.04**	-.17**	-.16**	-.29**	.03**	-.08**	.47**	-.20**	-.07**	-.56**	1			
13	Ln(firm's total international experience)	.16**	.12**	.30**	-.16**	.00	.00	.00	-.00	.38**	.20**	-.00	-.00	1		
14	Advertising intensity	-.01*	-.01*	-.00	.00	.00	.00	.00	.00	-.01**	-.02**	.00	.00	.01	1	
15	R&D intensity	.02**	.00	.07**	-.04**	.00	.00	.00	.00	.06**	.04**	.00	.00	.19**	.10**	1
16	Ln(Sales)	.03**	-.00	.02**	-.01**	.00	.00	.00	.00	.05**	-.00	.00	.00	-.02**	.00	.10**

** Correlation is significant at the 0.01 level. * Correlation is significant at the 0.05 level.
n = 52,724 (except for correlations with R&D or Advertising n = 30,876)

Table 3: Results of the Negative Binomial model (3 levels) explaining the number of FDIs created by a MNE over the period 1996-2001 in a country

Level	Variables	Model 1	Model 2
	Intercept	-9.2790*** (0.5568)	-7.6533*** (0.5421)
FR	Ratio of prior exited FDIs in the region		4.7268*** (0.3844)
FR	(Ratio of prior exited FDIs in the region)²		-3.8373*** (0.6434)
FR	# of prior created FDIs in the region		0.0633*** (0.0101)
FR	(# of prior created FDIs in the region)²		-0.0010*** (0.0002)
FC	Ratio of prior exited FDIs in the country		-1.4903*** (0.3810)
FC	(Ratio of prior exited FDIs in the country)²		1.0006* (0.4780)
FC	# of prior created FDIs in the country		0.0615*** (0.0133)
FC	(# of prior created FDIs in the country)²		-0.0015*** (0.0003)
	Control variables:		
HQ	R&D	7.5723*** (0.7697)	5.6987*** (0.7273)
HQ	Advertising	-5.1258** (1.6414)	-3.0273* (1.5291)
HQ	Ln(Sales)	0.2402*** (0.0222)	0.1790*** (0.0220)
HQ	Ln(firm's total international experience)	0.1186*** (0.0294)	0.0683* (0.0291)
FC	Ln(Other Japanese firms' experience in the country)	0.7715*** (0.0269)	0.7936*** (0.0277)
FR	Ln(Other Japanese firms' experience in the region)	0.0035 (0.0467)	-0.0981* (0.0458)
FC	Ratio Other Japanese firms' prior exits in the country	-8.2382*** (0.6235)	-8.4528*** (1.3312)
FC	(Ratio Other Japanese firms' prior exits in the country)²	12.6053***(1.3612)	13.1211***(2.2890)
FR	Ratio Other Japanese firms' prior exits in the region	11.0649***(2.6402)	10.5042***(2.5618)
FR	(Ratio Other Japanese firms' prior exits in the region)²	-34.7573***(6.5829)	-31.8651***(6.3902)
FC	Political hazards index	-0.0524 (0.1086)	-0.0716 (0.1047)
FC	Ln(GDP/capita)	-0.4393*** (0.0217)	-0.4230*** (0.0210)
FC	Growth of GDP/capita	8.4691*** (1.0424)	7.9123*** (1.0050)
FC	Ln(firm's country experience)	1.0198*** (0.0239)	0.9557*** (0.0262)
	Deviance	10399.7837	9756.3422
	Akaike Information Criterion	10433.7837	9826.3422
	Schwarz Bayesian Criterion	10574.4479	10115.9449

*** p <0.001, ** p< 0.01, * p<0.05. (Standard errors).

FC: Firm / Country (level-1) – FR: Firm / Region (level-2) – HQ: Headquarters (level-3).

Figure 1: Effects of prior FDIs on the propensity of subsequent FDIs in a country

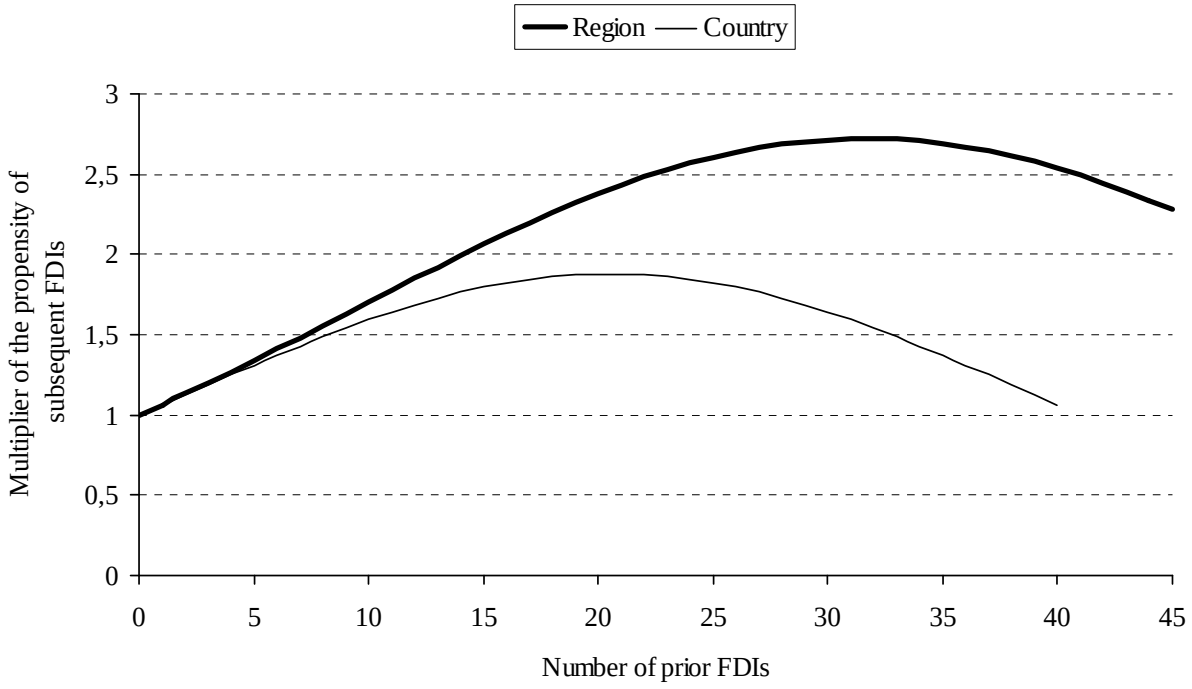


Figure 2: Effects of exited FDIs on the propensity of subsequent FDIs in a country

