Explaining the performance of divested overseas subsidiaries

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Abstract. We examine the post-divestment performance of subsidiaries that have been divested by their foreign owners and have subsequently been acquired by domestic owners. Drawing on Hymer's classic explanation of firm internationalization and on the resource-based view dimension of internalization theory, we suggest that the differences in terms of the degree to which FSAs are independent from the linkages to the parent firm will be reflected in the variation in the performance effect of a foreign-to-domestic sale of the business. We argue that the negative performance effect of a foreign-to-domestic sale of a subsidiary is lower (1) for older subsidiaries, (2) for subsidiaries oriented toward the domestic, and (3) when the foreign parent firm is located outside the subsidiary's geographic region. By using propensity score matching and difference-in-differences estimations, we examine the proposed effects and provide novel insights on the performance implications of the foreign-to-local ownership changes.

Keywords**:** *Foreign divestment, Post-divestment performance, internalization theory, subsidiary-level FSAs, foreign sell-offs, subsidiary performance*

1 INTRODUCTION

Recent research has begun to pay increasing attention to the issue of foreign divestment, putting particular emphasis on the factors that drives the divestment or the survival of foreign subsidiaries (Berry, 2010, 2013; Burt, Coe, & Davies, 2019; Fisch & Zschoche, 2012; Kolev, 2016; A. T. Mohr, Batsakis, & Stone, 2018; Procher & Engel, 2018). This rapidly growing line of research has argued that a better understanding of international business not only requires the study of drivers of FDI and internationalization, but also of the factors that drive foreign divestment (Berry, 2010, 2013; McDermott, 2010; Soule, Swaminathan, & Tihanyi, 2014). Soule et al. (2014), for instance find that certain characteristics of a firm's home country affect the firm's divestment of overseas subsidiaries. More recently, Mohr et al. (2018) find that rapid internationalization in the face of resource constraints may lead firms to subsequently divest overseas operations, whereas Burt et al. (2019) suggest that the relevance of different firm-specific and environmental drivers for foreign divestment among international retailers varies with the firm's stage in the internationalization process.

While there has thus been renewed interest in the drivers of foreign divestment, the post-divestment stage remains neglected and there remains a gap with regard to our understanding of the post divestment performance of subsidiaries that are divested by their foreign owners. Although research has examined the performance effects of divestitures in general (Brauer, 2006; Lee & Madhavan, 2010), there has to date been very little research that investigates the performance effects of *foreign* divestment (for exceptions, see Gleason, Mathur, & Singh, 2000; Zschoche, 2016). Additionally, there has been no research into the role of foreign parent linkages and the loss of such linkages for overseas subsidiaries' performance. Filling this gap is important given the need for a better understanding of divestment behavior and its consequences following the recent bout of actual or likely foreign divestments in the context of the United Kingdom's potential exit from the European Union (Brexit) (Cumming & Zahra, 2016) and the general anti-globalization and anti-free trade movements in the United States and other countries (Rodrik, 2018).

Against this background, our study thus takes a much-needed first step towards enhancing our understanding of the performance implications of foreign divestment. The sale of an overseas

subsidiary to a domestic buyer removes the foreign parent linkage that allows the subsidiary to enjoy superior performance against domestic firms. Prior research has highlighted that this linkage allows subsidiaries to draw on the parent's advantages that are embodied in intangible or tangible resources (Dunning & Lundan, 2008; Hymer, 1960; Y. Luo, 2003). The former includes intangible assets (e.g. proprietary technology, licenses, reputation) and capabilities, i.e. a firm's ability to increase the productivity of its assets (Kafouros & Aliyev, 2016). A foreign parent allows a subsidiary to access these intangible assets and capabilities to enhance its performance. A foreign parent link also provides a subsidiary with access to tangible resources, including financial and human capital or raw material, through which a subsidiary's performance can be enhanced (Chung, Park, Lee, & Kim, 2015; Y. Luo, 2003; Schleimer & Pedersen, 2014). After being sold by its foreign parent, a subsidiary will no longer have this foreign parent linkage and the associated benefits and is thus likely to see a decrease in performance. Our first research question is thus *(1) how does a foreign-to-local sale affect a subsidiary's performance?*

We further suggest that the degree to which the negative effects of cutting the foreign parent linkage will vary with the level of specific capabilities at the subsidiary and the extent of the (lost) foreign parent linkage. Specifically, we suggest that the negative effects of losing the foreign parent linkage will vary with a subsidiary's age, its domestic market orientation, and with the geographic location of the foreign parent. Accordingly, these factors should affect the performance effect of a foreign-to-local sale. *First*, because subsidiaries develop capabilities over time (Birkinshaw & Hood, 1998; Rugman & Verbeke, 2001), their dependence on their foreign parent's FSA is likely to decline over time. The business' performance should thus be less affected by its sale to a domestic owner. *Second*, when compared to the FSAs of subsidiaries oriented toward international markets, those of subsidiaries oriented toward the domestic market relate more to specific abilities to respond to the domestic market's idiosyncrasies. Because these capabilities are less dependent on the FSAs of the foreign parent, the performance effect of a foreign-to-domestic sale of such a subsidiary is less pronounced for domestic market oriented subsidiaries. *Third*, inter-regional distance affects the process of FSA development at the subsidiary level by limiting the inter-regional fungibility of these

FSAs thereby increasing the need to create new FSAs at subsidiaries. The resulting lower dependence of subsidiaries' FSAs on foreign parent firms that are located outside the geographic region of the subsidiary weakens the negative performance effect of a foreign-to-local sale. Our second research question is thus *(2) How do (a) subsidiary age, (b) domestic market orientation, and (c) location of foreign parent, affect the performance effect of a foreign-to-domestic sale of a business?*

By drawing on Hymer's classic explanation of firm internationalization (Hymer, 1960) and the resource-based view (RBV) dimension of internalization theory (Verbeke & Asmussen, 2016) to answer the questions put forward in this study, we are able to provide insight into the dependence of subsidiary-level FSAs and its drivers and extend its logic to explain the performance effect of a foreign-to-local sale. We investigate our hypotheses using propensity score matching and difference-in-differences (DID) estimations for a panel dataset of firms in Spain that are foreign-owned or were foreign-owned but have been sold to a domestic buyer. Further, we make an empirical contribution by controlling for the endogeneity issue that can arise when investigating post divestment performance as in some cases poor pre-divestment performance can be one of the factors that motivates a subsidiary's divestment (Decker & Mellewigt, 2012; Hayward & Shimizu, 2006). We are able to address this issue by adopting two recently developed and innovative econometric methods: propensity matching and the difference-in-differences approach. Overall, our study contributes to the divestment literature by providing first findings on the effect that divestment by a foreign parent has on the post-divestment performance of the sold business and how this effect varies with the characteristics of the sold business and its foreign parent linkage.

2 THEORY AND HYPOTHESES

2.1 The performance effect of a foreign-to-local sale of a subsidiary

Hymer's classic explanation of firm internationalization and the RBV-element of internalization theory suggest that in order to internationalize firms have to possess certain firm-specific advantages (FSA) that allow them to "outweigh the disadvantages they face[.] in competing with indigenous firms" and obtain "superior efficiency" in overseas markets (Dunning & Lundan, 2008: 84; Hymer,

1960). These disadvantages making up a foreign firm's liability of foreignness (LOF) relate to the greater costs experienced by foreign firms as a result of difficulties. The superior efficiency of a foreign-owned subsidiary vis-à-vis domestic competitors rests on the subsidiary's access to the foreign owner's firm-specific advantages, mainly intangible (e.g., proprietary knowledge, licenses, brands) and tangible resources (e.g., financial and human capital, raw material), that the foreign owner transfers to and can be exploited by the subsidiary (e.g., Chung, et al., 2015; Dunning & Lundan, 2008; Hymer, 1960; Kafouros & Aliyev, 2016; Y. Luo, 2003; Schleimer & Pedersen, 2014). This basic logic thus implies that a subsidiary's loss of access to the foreign owner's firm-specific advantage resulting from the subsidiary's sale to a new, domestic owner should result in a decline in efficiency.

Although local ownership of a business also means that it no longer faces a LOF, Hymer's classic explanation of firm internationalization (Hymer, 1960) and the resource-based view (RBV) dimension of internalization theory (Verbeke & Asmussen, 2016) suggest that the benefits associated with the possession of a FSAs are not only equal, but *exceed* the costs associated with the LOF. Thus, because FSAs allow firms to "over-compensate" for the existence of the LOF and to successfully compete with domestic firms, the net effect of a loss of FSA through the foreign-to-local sale will be negative. Additionally, some of the costs associated with the LOF may have already been progressively reduced given that a foreign subsidiary has been in operation in the host country for some time. For example, the extra costs that foreign units have to incur when entering a foreign country related to collecting information on domestic conditions and gaining familiarity with the domestic environment may have already being incurred at the time of the divestment. Indeed, scholars have argued that foreign units' unfamiliarity costs decrease over time and that firms' liability of foreignness thus diminishes with host country experience (Lu & Beamish, 2004; Yadong Luo & Peng, 1999; Vermeulen & Barkema, 2002). These arguments may indicate that the potential advantages that domestic ownership can bring might not add a substantial value and hence not lead to significant positive changes in performance.

However, if exit of foreign firms can be linked to their LOF (Zaheer, 1995), the new domestic ownership will be beneficial as it allows the divested unit to eliminate this LOF. However if foreign

units' exit is caused by factors not related to LOF (Hennart, Roehl, & Zeng, 2002), i.e., factors that equally apply to domestic and foreign firms (for example, declining growth in the industry and adverse environmental conditions), the new domestic ownership may not be able to do much to overcome such issues. In general it has been found that foreign firms are more volatile and footloose than domestic firms (Jose Mata & Freitas, 2012), and it is likely that they might exit irrespective of the subsidiary's performance, but because of other, strategic reasons (Berry, 2010; José Mata & Portugal, 2000). This, together with the fact that LOF diminishes over time might limit the added benefits that foreign-divested subsidiaries gain from domestic ownership. Based on these arguments and given that there is a general consensus that the benefits lost from not being able to access the foreign parent's capabilities are greater than those gained from being able to deal with the LOF (as FSAs allow firms to "over-compensate" for the existence of the LOF and outperform domestic firms in Hymer's classic argument), on average, we expect a drop in the performance of a locally divested subsidiary.

Hypothesis 1: A subsidiary's foreign-to-local sale will negatively affect the subsidiary's performance.

2.2 The contingent nature of the performance effect of a foreign-to-local sale

The logic underlying the negative performance effect hypothesized in our first hypothesis assumes that the foreign owner can eliminate or remove a subsidiary's FSAs during the sale. However, at least some of the subsidiary's FSAs cannot simply be eliminated or removed by the foreign owner, which would lead to an attenuation of the decline in the sold firm's performance. Drawing on recent developments of internalization theory, we suggest that these differences in terms of the degree to which FSAs are independent from the linkages to the parent firm will be reflected in the variation in the performance effect of a foreign-to-domestic sale of the business.

Research has begun to distinguish FSAs with important consequences for FDI theory. Specifically, Rugman and Verbeke (1992; 2001) have stressed that FSAs can be developed not only at the parent level but also at the subsidiary level and have highlighted FSAs' potentially limited fungibility by distinguishing between location-bound and non-location-bound FSAs (and the potential

resulting need to combine FSAs with other advantages). We complement this differentiation of FSAs and suggest that a subsidiary's FSAs will also vary in terms of the degree to which they depend on access to complementary advantages controlled by the foreign parent.

On the one hand, subsidiary-level FSAs may require combination with advantages available through the foreign parent, which may include FSAs that were created by the foreign parent and/or its network of international operations and were previously combined with location-bound advantages at the subsidiary level (Rugman, 2005). Such subsidiary-level FSAs will require combination with complementary advantages at the headquarters or its network of operations and will thus disappear after a sell-off and will thus not be available to the new, domestic owner. On the other hand, subsidiary-level FSAs may not depend on a combination or bundling with the parent's FSAs. Rugman and Verbeke (2001: 241), for example, highlight the development of subsidiary-level FSAs that are location-bound and whose "exploitation is confined to the specific host country" of the subsidiary. Similarly, an overseas subsidiary may have reduced its dependence on the foreign parent after having absorbed its knowledge and capabilities (e.g., Schleimer & Pedersen, 2013).

The resulting variation in the degree to which a subsidiary depends on the FSAs of its foreign parent will be reflected in smaller or larger performance effects of a foreign-to-domestic change in a business' ownership, thus moderating the relationship suggested in our first hypothesis. A subsidiary with FSAs that only work in conjunction with FSAs accessed through the foreign owner will experience a large performance decline. In contrast, a subsidiary with a large share of FSAs that do not depend on close links with the foreign parent's network will experience a comparatively smaller performance drop. Therefore, as the share of FSAs that do not need to be linked to headquarters FSAs in a subsidiary's bundle of FSAs decreases, the decline in performance after selling the subsidiary to a domestic firm should decrease.

We expect the "parent-dependence" of subsidiary level FSAs – and thus the performance effect of a foreign-to-local sale – to vary with three factors: the foreign subsidiary's age, its domestic market orientation, and whether the foreign owner is based outside the subsidiary's region.

2.2.1 The moderating effect of foreign subsidiary age

We argue that increasing subsidiary age in the host country will increase the share of subsidiary-level FSAs that are independent from parent firm FSAs. As such, the negative performance effect that a foreign-to-local sale has on the subsidiary should be lower for older subsidiaries. Prior research on the development of capabilities in overseas subsidiaries has emphasized that this development takes time (Rugman & Verbeke, 2001). In a similar vein, Birkinshaw and Fry (1998: 58) suggest that subsidiaries undergo a development process "in which they gradually build up resources" and "take on more and more responsibilities".

Young firms have not yet had the time to undergo the incremental, evolutionary process of developing their own capabilities and thus rely on FSAs that are transferred from the parent firm and on the recombination of these FSAs with country-specific advantages available in the host country. At this stage, subsidiaries fall into the pattern suggested by internalization theory by using, for example, proprietary knowledge and assets, including patents, licenses and brands owned by the investing firm.

Young subsidiaries develop FSAs through the combination of parent FSAs and particular subsidiary-level resources (Rugman, Verbeke, & Nguyen, 2011). The subsidiary-level advantages of a young subsidiary thus depend on the FSAs transferred from the parent firm to a significant extent. Although such FSAs may not be as easily removed from the subsidiary due to their local elements, they depend on the parent firm's complementary assets. Thus, while the sale of a subsidiary may not lead to the removal of these FSAs, losing the necessary access to the foreign seller's complementary FSAs, however, largely eliminates them. Furthermore, young subsidiaries will not yet have created the assets and skills that would provide them with FSAs that exist independent of the parent firm's advantages because the development of independent subsidiary-level advantages requires time (Birkinshaw & Hood, 1998; Rugman & Verbeke, 2001). Overall, their relatively greater share of FSAs that depend on parent firm FSAs – which will be lost during a foreign-to-local sale – will be reflected in a larger drop in performance associated with such a sale. As they age, however, subsidiaries will develop FSAs that do not need to be combined with the foreign parent's FSAs in one of two ways: (1) the (fuller) absorption of FSAs developed by the parent firm or its network of

operations or (2) the creation of FSAs at the subsidiary level through either the novel recombination of parent firms' FSAs with locally developed capacities or the development of novel subsidiary-specific advantages. Over time, a local subsidiary's embeddedness into the local context increases, which opens new sources of information and assets and stimulates the subsidiary's search and desire for developing FSAs that are specific to the particular local context. This process results in a decline in the subsidiary's dependence on the parent firm's FSAs. In contrast, such subsidiaries will increasingly rely on the FSAs developed at the subsidiary level, whose exploitation does not require their combination with the foreign parent's FSAs.

This shift in the nature of a subsidiary's FSA bundle allows older subsidiaries to maintain relatively more FSAs after a sale than younger subsidiaries. This difference in the nature of subsidiary-level FSAs should lead older subsidiaries to suffer a smaller decline in performance after being sold to a domestic firm than younger subsidiaries.

> *Hypothesis 2: The negative performance effect of a foreign-to-local sale will be lower for older than for younger subsidiaries.*

2.2.2 The moderating effect of domestic market orientation

We suggest that subsidiaries with a domestic market orientation will have a greater share of subsidiary-level FSAs that are independent from parent firm FSAs than foreign subsidiaries with foreign market orientation. Thus, this difference in the nature of FSAs should be reflected in a smaller performance drop following a foreign-to-local sale if the subsidiary is geared toward the domestic market as opposed to the foreign market.

First, subsidiaries oriented toward serving international markets depend on their foreign parent for information and resources related to international markets and managerial and financial resources for the development of international activities (Wang, Liu, & Wei, 2007; Yi & Wang, 2012). Therefore, the FSAs of these subsidiaries depend a great deal on the market intelligence obtained from the foreign parent and its network of operations. In contrast, the foreign parent firm's information and resources are less relevant and thus less important for subsidiaries that focus on

serving the domestic market because these subsidiaries require greater levels of understanding of the local market environment than international market intelligence.

Prior research has stressed the lower cross-border fungibility of downstream capabilities, such as, for example, advertising, when compared to upstream capabilities (Anand & Delios, 1997; Verbeke & Yuan, 2013). Verbeke and Yuan (2013: 239), for instance, suggest that "downstream capabilities (e.g., marketing skills) at the subsidiary level tend to be location-bound and if truly effective in allowing national responsiveness, typically do reflect relative resource superiority vis-à-vis other affiliates in the firm, at least in the location at hand." Subsidiaries geared toward the local market will have to thus develop specific capabilities to deal with additional difficulties and discrimination when they serve domestic markets. Thus, there is greater pressure for domestic-market-oriented foreign subsidiaries to adapt the parent's FSAs and develop new subsidiary-level FSAs. Domestic-market-oriented subsidiaries' FSAs are geared toward the local market and thus depend less on parent-level FSAs.

Second, the advantages of subsidiaries oriented toward international markets arise in conjunction with FSAs that depend on internal ties to other parts of the foreign parent's network of operations and external ties established by the foreign parent (e.g., Filatotchev, Stephan, & Jindra, 2008). While these ties may also remain with the subsidiary after its sale, they are less likely to be a source of FSAs because with the sale of the business, they are either cut or of decreased use to the new, domestic owner. In contrast, when compared to subsidiaries oriented toward international markets, subsidiaries oriented toward the domestic market will be more integrated in domestic networks than in international networks. Specifically, subsidiaries oriented toward the domestic market also create more local ties and embed themselves more into the local market. These ties are more pervasive than those established by foreign subsidiaries oriented toward international markets. Because a subsidiary's external networks are an important source of subsidiary-specific advantages (Rugman and Verbeke, 2001), the FSAs of domestic-market-oriented subsidiaries thus build on and are associated with such ties. Such a subsidiary is more likely to drive the creation and management of domestic ties than of international ties. Additionally, because these domestic networks are more

specific to the subsidiary, the FSAs of subsidiaries geared toward the domestic market will also be more specific than those of subsidiaries geared toward international markets. Thus, the subsidiary-level FSAs that arise from these domestic ties will depend less on input from the foreign parent.

Overall, subsidiaries with a greater orientation toward the domestic market will have a higher share of FSAs that originate at the subsidiary and rely to a lesser extent on combination with the foreign parent's complementary advantages. This difference in the nature of FSAs will be reflected in a smaller drop in performance associated with a foreign-to-local sale of domestic-market-oriented subsidiaries.

> *Hypothesis 3: The negative performance effect of a foreign-to-domestic sale of a subsidiary will be lower for subsidiaries oriented toward the domestic market than for subsidiaries oriented toward the international markets.*

2.2.3 Moderating effect of inter-regional ownership

We suggest that foreign subsidiaries located outside their owners' geographic region will have a greater share of subsidiary-level FSAs that depend less on parent firm FSAs than foreign subsidiaries whose owners are located in the same geographic region. This difference means that the foreign-to-domestic sale of a subsidiary whose parent firm is located outside the subsidiary's geographic region will result in a smaller performance drop than that of a subsidiary whose parent firm is located in the same geographic region.

Existing research has highlighted the differences between the location of the parent firm and foreign subsidiaries as a central factor in the development of subsidiary-level FSAs (Rugman & Verbeke, 2001). A growing distance between the headquarters and an overseas subsidiary increases headquarters' difficulties in understanding the subsidiaries' host country context and the transfer of FSAs to the subsidiary (A. Mohr, Fastoso, Wang, & Shirodkar, 2013; Verbeke & Yuan, 2007, 2016). Similarly, greater differences also require subsidiaries to exert more effort in creating legitimacy, which further increases subsidiaries' local embeddedness. Thus, as the distance between headquarters

and the subsidiary increases, the headquarters' role in developing subsidiary-level FSAs declines while subsidiaries' role in developing such FSAs increases (Verbeke & Yuan, 2016).

Recent developments of internalization theory have highlighted the pronounced "discontinuity" of different types of distance at regional borders and underlined the comparatively greater inter-regional liability of foreignness as a key explanation of most MNEs' regional rather than global nature (Verbeke & Asmussen, 2016: 1055). Subsidiaries outside the foreign owner's home region are thus less able to rely on the foreign parent for FSA transfer and are more compelled to create FSAs (Rugman & Verbeke, 2001). Rugman (2005) suggests that firms that expand outside their home region face greater pressures to link their FSAs to local country-specific advantages and to increase the asset specificity of their investments and the local embeddedness of the firm's FSAs in the host country.

Thus, parent firms with subsidiaries outside the home region are required to commit greater resources and develop "location-bound FSAs or even new, non-location-bound FSAs in foreign markets (Rugman, 2005: 229). The greater asset specificity associated with this linking of investments – particularly the development of subsidiary-level FSAs – makes subsidiary-level FSAs less dependent on combination with the foreign parent's complementary advantages. We thus suggest that the negative performance effect of a foreign-to-local change in business ownership will be lower if the subsidiary's owner is based outside the subsidiary's region.

> *Hypothesis 4: The negative performance effect of a foreign-to-domestic sale of a subsidiary will be lower if the foreign parent firm is located outside as opposed to within the subsidiary's geographic region.*

3 DATA AND METHODS

3.1 Data and sample

We investigate our hypotheses using data from the Spanish Technological Innovation Panel (PITEC), an annual survey based on the Community Innovation Survey (CIS) framework. PITEC is a panel dataset that contains information from successive waves of the Spanish innovation survey. Data are

gathered using a consistent collection methodology, and the unit of analysis is the single business, whether independent or part of a larger group. PITEC contains information on firms from all industries in the CNAE classification (National Classification of Economic Activities), which corresponds with the statistical classification of economic activities in the European community (NACE). The dataset covers the period from 2003 to 2011 (based on nine waves of the survey) and allows us to identify cases in which a business's ownership changed from foreign-to-domestic, i.e., Spanish. We measure foreign-to-domestic change in business ownership based on changes in the location of the central office of the group or the parent enterprise. If the location changes from a foreign country to Spain, we treat it as a foreign-to-domestic sale of the business.

Following prior research that has studied the effect of foreign investment on firm performance, we use labor productivity to measure firm performance (Brauer, Mammen, & Luger, 2017; Dimelis & Louri, 2002). Labor productivity is the ratio of a firm's output of goods and services to the labor input to create this output.

We measure the three factors that we hypothesize to moderate the effect of a foreign-to-domestic sale on performance as follows. We measure *subsidiaries' age* by splitting the age of subsidiaries based on the median time since a foreign subsidiary's establishment. This split into a binary variable is necessary because of the particular method we use. We measure *domestic market orientation* using a dummy that takes the value of "1" for firms that serve the domestic market only and "0" for firms that serve the export market only and firms that serve both domestic and export markets. This information was taken directly from the PITEC survey which asked the firms 'In which geographic markets did the business sell goods or services during the last three years'. We measure our third moderator, i.e., whether the subsidiary's foreign owner is located outside the region of the subsidiary (*inter-regional foreign parent*), using Rugman and Verbeke's (2004) broad triad and split the sample into subsidiaries with a foreign owner outside Europe and those with a foreign owner located within Europe.

3.2 Method

Subsidiaries sold by foreign owners may exhibit low post-sell-off performance not because of a loss of FSAs but rather because foreign owners might offload subsidiaries that perform poorly in the first place. The effect of a foreign-to-domestic transfer of ownership on firm performance can be assessed only by comparing the performance of a sold firm (actual outcome) with the performance of the same firm if it had not been sold (counterfactual outcome). Because the counterfactual cannot be observed, we approximate it by comparing the performance of a sold firm with the performance of a similar firm that was not sold using propensity score matching and a DID approach. Using these two methods allows us to control for the selection issue inherent to foreign firms' decision to sell off their overseas businesses. In addition, the DID approach allows us to eliminate the effect of all other observable and unobservable non-random elements of the divestment decision that are constant or strongly persistent over time (Matthias Arnold & Javorcik, 2009).

In the first step, we use propensity score matching to match each firm that was sold by a foreign firm to a local owner (treatment group) with a foreign-owned firm that was not sold based on the ex-ante likelihood of being sold (i.e., propensity score). We calculate the propensity score based on a probit model, i.e., the predicted probability of a foreign-owned firm being sold to a local buyer, based on a number of variables identified in the existing research on the determinants of foreign divestments.

To calculate the propensity scores, we include labor productivity (Brauer, et al., 2017) and labor productivity growth (Duhaime & Grant, 1984) as measures of firm performance and the change in firm performance, respectively. We include these measures because prior research on foreign divestment considers poor performance to be a key motive for divestment (Duhaime & Grant, 1984; Hamilton & Chow, 1993; Hayward & Shimizu, 2006). We include the logarithm of turnover to serve as a proxy for firm size because firm size may affect (foreign) divestment (Hayward & Shimizu, 2006; Shimizu & Hitt, 2005). We lag all three variables by one year to ensure that we match sold and non-sold businesses based on their performance and size in the year *prior* to their sale to a domestic buyer. We also include a dummy variable that captures the firm's *export activity* (one if the firm has an export market and zero otherwise) to account for whether a subsidiary is used as an export platform

either by selling directly to foreign-based customers or by being part of an MNE's global production network, which would increase a subsidiary's value and reduce the likelihood of being sold off (S.-J. Chang, Chung, & Moon, 2013a; Filatotchev, et al., 2008). Prior research suggests that subsidiaries that possess *intangible resources* are less likely to be sold due to greater appropriability hazards (Villalonga & McGahan, 2005). Therefore, we include a dummy variable to capture whether the subsidiary applied for patents over the last three years and the percentage of sales derived from innovative products and services introduced over the last three years. Because of indications that the risk of foreign divestment varies with a subsidiary's age (e.g., S. J. Chang & Singh, 1999), we control for the age of the subsidiary when matching sold businesses with non-sold businesses. Because of the potential effects of adverse economic changes on divestments (Hamilton & Chow, 1993; Johnson, 1996), we include a dummy variable that takes the value of 1 for years 2007, 2008 and 2009 to reflect the peak of the financial crisis. Finally, the literature highlights industry characteristics that affect (foreign) divestments, and we include a series of industry dummy variables in our matching to capture industry growth, concentration, technological change, and changes in an industry's institutional setting (Brauer, 2006; Hamilton & Chow, 1993). Table 1 presents the summary statistics and correlation coefficients.

Insert Table 1 about here

We calculate the propensity score and perform matching for the main sample and sub-samples, i.e., those created to test the moderating effects. We follow Austin (2009) and use standardized differences to ensure that the covariates are balanced across treatment and comparison groups (balancing test). Across all models and all covariates, the difference was less than 0.1 standard deviations, thus meeting the balancing requirement (table 2). Firms sold by their foreign owners to domestic buyers (treatment group) and the matched foreign-owned firms that are not sold (comparison group) are thus not significantly different from each other prior to the sale of the former. Table 3

reports the results of the propensity score estimations for the foreign-owned firms sold to domestic buyers.

Insert Tables 2 & 3 about here

Based on the propensity scores, we use one-to-one nearest-neighbor matching to match each foreign-owned firm that was sold to the most similar foreign-owned firm that was not sold. To ensure that we compare foreign-owned firms that are similar in their characteristics and operate in similar environments, we not only match businesses on their propensity score but also ensure that each foreign-owned firm sold is matched with a foreign-owned firm in the same industry and in the same year. In this process, we minimize the effects of any ex ante differences that might exist between sold and non-sold businesses that could affect post-sale performance.

We carry out our estimations using the psmatch2 function in STATA and impose the common support condition in the matching algorithm. This method involves dropping observations for foreign-owned businesses that were sold if their propensity score is higher than the maximum or less than the minimum propensity score of the non-sold businesses (control group). We carried out all estimations with bootstrapped standard errors with 100 replications.

There are several necessary conditions that have to hold when conducting Matching. First is the ‘strong ignorability’ assumption (Rosenbaum & Rubin, 1983), which demands that for each firm in the dataset, the propensity of treatment needs to be strictly positive, i.e. similar firms (firms with the same values in the covariates) have the same chance of being both divested or non-divested. 'Strong ignorability is met if treatment assignment (i.e. divestment) and the outcome (performance under the non-divested and divested conditions) are conditionally independent given the observed covariates. The treatment is strongly ignorable when both the conditions of ‘unconfoudedness’ and ‘strict overlap’ are valid

(Caliendo & Kopeinig, 2008; Rosenbaum & Rubin, 1983). In order to overcome the hidden bias arising from the existence of unobserved variables that simultaneously affect assignment to treatment and the outcome variable, the 'unconfoundedness condition' needs to be satisfied, i.e. all variables that influence treatment assignment (divestment) and the outcome (firm performance) simultaneously, need to be included (Caliendo & Kopeinig, 2008; DiPrete & Gangl, 2004). We included the key determinants of divestments that could potentially also affect firm performance, thereby reducing the chances of such unmeasured confounders. One strategy for addressing this problem is to conduct Rosenbaum bounds sensitivity analysis (DiPrete & Gangl, 2004), which we have also carried out as a robustness test. The 'strict overlap' condition requires that -- conditioning on the set of covariates -- each unit in the population may potentially enjoy treatment (Schminke & Van Biesebroeck, 2013). Thus, for each treated (divested) firm in the sample, we observe some non-treated (non-divested) firms with similar covariates. Meeting this condition is not problematic in our context given that the number of divested (treated) cases are much lower than the number of non-divested (non-treated) cases.

A further important condition for conducting propensity score matching is that the matching variables should either be fixed over time or measured before the divestment to make sure that only variables that are unaffected by divestment are included in the model (Caliendo & Kopeinig, 2008). It is unlikely that our matching variables are affected by the divestment decision because our matching variables relate to the periods prior to the divestments or fixed over time (such as industry affiliation).

Based on the matching in this first step, which allows us to control for the selection issue inherent to foreign owners' decision to sell off their overseas subsidiaries, we use the DID approach in our *second step* to test our hypotheses. Beginning with the pre-sale year (T-1), we analyze the (cumulative) change in performance in sale year (T) and the following five years (year T+1 through

year T+5). To capture the performance decrease attributable to the foreign-to-domestic change of a business's ownership, we compare the incremental change in firm performance between year T+t (t = years after a business's sale, t = 0, 1, 2, 3, 4, 5) and the year prior to the business's sale (T-1) with the performance difference for foreign-owned firms that were not sold (DID approach).

4 RESULTS

Table 4 reports the DID estimates of foreign-to-domestic ownership change for business performance. The estimated average treatment effect on the treated (ATT) measures the difference between subsidiaries that were sold by their foreign owners to domestic buyers and subsidiaries that were not sold in terms of the cumulative change in performance since the year prior to the divestment.

The ATT is negative for all time periods, and its magnitude is large, providing support for *hypothesis 1*. These estimates are significant except for the divestment year (T) and four years after divestment (T+4).

Insert Table 4 about here

In Figure 1 we plot the ATT with its lower and upper bounds of the 95% confidence interval. Figure 1 shows the negative performance effects of subsidiaries' foreign-to-local ownership change.

Insert Figure 1 about here

To test *hypothesis 2* on the moderating effect of a foreign subsidiary's age, we split our sample into young and old subsidiaries based on the median age of the subsidiaries in our sample (19 years). Table 5 shows the estimated DID for the young subsidiaries (Panel 5.1) compared to the old subsidiaries (Panel 5.2).

Insert Table 5 about here

Table 5 shows that whereas the estimated ATT is negative for both groups over all periods, its magnitude is larger – and the estimated results are considerably more significant – in Panel 5.1 than in Panel 5.2. Figure 2 shows that for the young subsidiaries, most of the 95% confidence interval lies below the x axis. In contrast, for the old subsidiaries, the 95% confidence interval spreads both above and below the x axis, and the ATT is close to the x axis. The negative performance effect of foreign-to-domestic sales is thus weaker for old subsidiaries than for young subsidiaries. Therefore, our results provide support for hypothesis 2. To test the robustness of our results, we also repeated our estimations with different cut-off points (i.e., 15 years and 10 years) to distinguish young and old subsidiaries. The results became stronger when we reduced the cut-off point.

Insert Figure 2 about here

With regard to *hypothesis 3*, Table 6 reports the estimated DID for the firms that serve the domestic market (Panel 6.1) in comparison to the firms that serve export markets (Panel 6.2).

Insert Table 6 about here

Table 6 shows that for both groups, the estimated ATT is negative for all periods and the results are significant in Panel 6.2, except for the divestment year and T+4. In contrast, the estimated results are not significant in Panel 6.1. Additionally, Figure 3 shows that for firms oriented toward foreign markets, most of the 95% confidence interval lies below the x axis. In contrast, for firms oriented toward the domestic market, the 95% confidence interval spreads above and below the x axis. The negative performance effect of foreign-to-domestic sales is thus weaker for firms oriented toward the domestic market than for firms oriented toward foreign markets, providing support for *hypothesis 3*.

Insert Figure 3 about here

With regard to *hypothesis 4*, Table 7 shows the estimated DID for firms with a foreign owner outside the region (Panel 7.1) compared to that for firms with a foreign owner inside the region (Panel 7.2).

Insert Table 7 about here

Table 7 shows that for both types of firms, the estimated ATT is negative for all periods. The estimated results are not significant in Panel 7.1 but are significant in Panel 7.2 for most of the time periods. Figure 4 shows that for firms with a foreign owner inside the region, most of the 95% confidence interval lies below the x axis. In contrast, for firms with a foreign owner outside the subsidiary's geographic region, the 95% confidence interval covers areas both above and below the x axis. The negative performance effect of foreign-to-domestic sales is thus weaker for firms with a foreign owner outside the region than for firms with a foreign owner inside the region, providing support for *hypothesis 4*.

Insert Figure 4 about here

As discussed earlier, one of the key assumptions that needs to hold when matching is conducted is the unconfoundness assumption (i.e. there are no unmeasured confounders). Although there is no way to test whether this assumption holds or not, one strategy that has been developed to address this issue is the Rosenbaum bounds sensitivity analysis, which allows us to determine how strongly an unmeasured confounding variable must affect selection into treatment in order to undermine the implications of a matching analysis (DiPrete & Gangl, 2004). This approach will essentially calculate the ATT while setting the level of hidden bias to a certain value Γ expressed in terms of the odds ratio of differential treatment assignment due to an unobserved covariate (DiPrete & Gangl, 2004). When we conducted Rosenbaum bounds sensitivity analysis, all our results remained intact when Γ was set

to 1.2[1]. This means that our inferences would be valid even if an unobserved variable caused the odds ratio of treatment assignment to differ between the treatment and comparison groups by 1.2 times. When Γ was set to 1.5, all our results also remained largely intact..

We also carried out a number of additional sensitivity and robustness tests. In the previous estimates, the number of observations (matched pairs) is different for each time period because we have more observations for the earlier years after divestment than for later years after divestment. The precision of corresponding estimates is thus better for earlier years after divestment. Importantly, the estimates are not comparable across different time periods because different numbers of foreign subsidiaries are used in each time period. For example, in Table 4, the ATT estimate for T is based on 446 matched pairs, while the estimate for T+5 is based on only 66 matched pairs. In order to more precisely observe how a subsidiary's performance develops after the sell-off in the same set of subsidiaries, we restricted the sample to those subsidiaries for which we have at least five consecutive years of observations: from year T-1 to year T+3. Although this process reduced our sample size to 225 cases of foreign-to-domestic sell-offs, the results for this balanced panel were not qualitatively different from the previously estimated results. As a further test of the robustness of our results, we re-estimate our model with nearest neighbor matching by considering the five closest neighbors instead of the closest neighbor. Our results remain robust. We also checked the robustness by carrying out caliper matching based on different calipers of 0.5 and 0.2, and the results remain intact. Similarly, the results based on kernel matching also remain intact. Finally, we checked the robustness by carrying out Mahalanobis matching and the results remain largely intact as well.

5 DISCUSSION AND CONCLUSION

5.1 Discussion of main results

Despite the increasing interest in the area of foreign divestment, our understanding of the implication of foreign-to-local sale on the divested subsidiaries' performance remains very limited. Based on Hymer's classic explanation of firm internationalization and the RBV-element of

[1] These results are available from the authors.

internalization theory, we hypothesize that a foreign-to-domestic sale of a business has negative performance consequences because such a sale would remove from the subsidiary the FSAs that the MNE transferred to it so it could outperform domestic competitors despite its liability of foreignness. Our findings support this hypothesis. To explore the validity of this effect further, we compared (a) the performance effects for foreign-owned subsidiaries sold to foreign buyers to (b) the change in performance of foreign-owned subsidiaries that are not sold, and to (c) the performance effect for foreign-owned subsidiaries that are sold to domestic buyers. If our hypothesis based on internalization theory is correct, there should be a statistically significant difference between (b) and (c) but not between (a) and (b). This is because the theory would assume that the new foreign owner possesses FSAs to compensate for the loss of previous owners FSAs. The findings of these additional analyses support this expectation, which implies that what matters is not whether a subsidiary changes ownership but rather whether the ownership changes from foreign-to-domestic, as implied by internalization theory.

We theorize how three factors shape the nature of subsidiary-level FSA bundles and thus moderate the negative performance effect of foreign-to-domestic sales. Specifically, we argue that a foreign subsidiary's age and domestic market orientation and having an owner based outside its geographic region would increase the share of subsidiary-level FSAs that do not depend on the foreign seller's FSAs. We argued that these factors affect the local buyer's ability to (at least) maintain the performance of the bought subsidiary and thus influence the magnitude of the performance effect of a foreign-to-domestic ownership change.

With regard to the suggested moderating effect of foreign subsidiary's age, we draw on research on subsidiaries' capability development that suggests that such development takes time (Birkinshaw & Hood, 1998; Rugman & Verbeke, 2001). Although time may not be a sufficient condition for the development of FSAs that are independent of the parent firm, existing research agrees that it is a necessary condition for this development (e.g., Birkinshaw & Fry, 1998; Birkinshaw & Hood, 1998; Rugman & Verbeke, 2001). We argue that over time, subsidiaries' FSA bundles will increasingly contain FSAs that do not depend on parent FSAs as manifested in a weaker negative performance

effect of foreign-to-local change in ownership. The empirical support for this second hypothesis underlines the need to not only provide more detailed differentiation of (subsidiary-level) FSAs but also account for the dynamic dimension of FSA generation highlighted by Rugman and Verbeke (2001).

Our second hypothesis and its empirical support contrast with organizational learning-based suggestions of a decline in liability of foreignness over time (e.g., Petersen & Pedersen, 2002; Zaheer & Mosakowski, 1997). Viewed in isolation, this decline would imply that the performance decline associated with a foreign-to-domestic sale would be lowest for young subsidiaries that still face a high level of liability of foreignness. As incoming domestic ownership would allow the business to overcome the problems associated with the liability of foreignness, the drop in the liability of foreignness associated with a foreign-to-local sale would be greater for a young subsidiary as opposed to an older subsidiary that has learned to overcome its liability of foreignness over time. Based on this learning perspective, the decrease in performance should thus – in contrast to our second hypothesis and findings – be smaller for younger subsidiaries than for older subsidiaries. While organizational learning may play a role, our findings suggest that the particular nature of subsidiary-level FSAs plays a comparatively greater role than a possible decline in a subsidiary's liability of foreignness in determining the performance effect of a change in subsidiaries' ownership from foreign-to-domestic.

Furthermore, our results provide no evidence of the long-term potential atrophy or depletion of subsidiary-level capabilities raised by Birkinshaw and Hood (1998). Although the argument underlying our second hypothesis relates not to changes in the absolute level of subsidiary-level FSAs over time but rather to the degree to which subsidiary-level FSAs become independent from a subsidiary's foreign parent, our findings suggest that subsidiary-level capabilities that are independent from parent FSAs increase over time. We thus believe that future research on the evolution of foreign subsidiaries' capabilities and FSAs would benefit from a more differentiated view of these capabilities.

Our third hypothesis proposes that a subsidiary's *domestic market orientation* increases the likelihood of subsidiaries developing subsidiary-level FSAs that depend less on the foreign parent's

information, resources and ties. As a result, subsidiaries oriented toward the domestic market will experience a smaller drop in performance after being sold to a domestic firm than subsidiaries geared toward international markets. Although we do not focus on particular subsidiaries' roles (e.g., centers of excellence), our findings are in line with prior research that has underlined the importance of distinct subsidiary roles and their particular environment for their capacity development in general (Birkinshaw & Hood, 1998). Cantwell and Mudambi (2005), for instance, find that overseas subsidiaries with high export orientation are less likely to be competence-creating subsidiaries when compared to subsidiaries with low export orientation. Prior research also shows that the export vs. domestic market orientation of firms in general and foreign subsidiaries in particular (Cadogan, Diamantopoulos, & Siguaw, 2002; Wu, Sinkovics, Cavusgil, & Roath, 2007) is associated with the development of distinct capabilities. We complement this research by suggesting that in the case of foreign subsidiaries, these capabilities and the associated FSAs are characterized by different degrees of interdependence with the parent firm's assets. Thus, based on our findings, we suggest that research on the relationship between subsidiary roles and subsidiary-level advantages should account for FSAs' interdependence across the various levels of an MNE.

Finally, we expect a subsidiary with a foreign parent located outside its geographic region to develop FSAs that depend less on the foreign parent. As a result, such subsidiaries will experience a lower drop in performance associated with a foreign-to-domestic ownership change than subsidiaries whose parent firm is located in the same geographic region. Our focus on FSAs' interdependence at the subsidiary level with FSAs elsewhere in the MNE complement research on the strength of FSAs in subsidiaries located either within or outside the parent firm's home country (Verbeke & Yuan, 2016). This research shows that geographically proximate subsidiaries benefit from the easier transfer of FSAs from the parent firm. In general, our argument and findings for hypothesis 4 complement research on the effect of inter-regional differences on FSAs' (inter-regional) transferability (Rugman & Verbeke, 2005, 2007).

Our study enhances our theoretical understanding of the nature and development of subsidiary-level FSAs in a number of ways. First, we extend the basic logic underlying Hymer's explanation of

firm internationalization and the RBV-element of internationalization theory, i.e. the existence of FSA to compensate for LOF, to explain the performance consequences of a foreign-to-local sale of a business. In so doing, we provide insights into how the performance of foreign-to-local divested subsidiaries varies according to the dependence of subsidiary-level FSAs and by explaining what determines this dependence. Second, by highlighting the level to which subsidiary-level FSAs depend on (combination with) parent firm FSAs, we respond to calls for more detailed analyses of subsidiary-level FSA bundles (Rugman & Verbeke, 2001).

5.2 Managerial and policy relevance

Our study has various *practical implications*. Managers at both the headquarters and at foreign subsidiaries are interested in the degree to which a subsidiary's FSAs must be combined with assets and resources controlled by other parts of the MNE. Better knowledge on the interdependence of FSAs across disperse operations can inform headquarters managers' decisions regarding the development and allocation of resources in and across subsidiaries. Prior research has, for example, highlighted how specific resources of subsidiaries enhances their power within an MNE's network of operations (Mudambi & Puck, 2016). This knowledge would also be useful when considering selling an overseas business because the sale of a subsidiary with independent FSAs may turn the buying firm into a competitor or strengthen an existing competitor. Our findings imply that this danger might be lower for subsidiaries that are young, that are oriented toward international markets and that are based inside the foreign seller's home region. For domestic firms considering the acquisition of a foreign firm's local subsidiary, our findings suggest that when buying subsidiaries that are older, oriented toward the domestic market and with owners based outside the subsidiary's geographic region, domestic buyers can acquire businesses with greater FSAs.

The findings of our study also have important *policy implications*. Our finding that a foreign-to-domestic change in a business' ownership decreases the business' performance implies that host countries benefit from keeping foreign-owned businesses in foreign hands. Our findings indicate that this is specifically the case for younger firms, firms that are oriented toward international markets and firms owned by parents from within the same geographic region because these businesses suffer from

a greater performance penalty than older firms, firms geared toward domestic markets and firms owned by parents in culturally distant countries. For the latter, the relative disadvantage of "losing" foreign ownership is comparatively smaller because these businesses are comparatively less dependent on access to their foreign owners' FSAs and resources.

5.3 Limitations and directions for future research

Our study has a number of *limitations*. A central one stems from our reliance on secondary data from a single source (PITEC), which restricts the number of potentially important variables that we can account for in our model. For instance, we have no further detailed information on the foreign vendor or the domestic buyer. Future research might be able to use such information to ascertain, for example, the degree to which the purchase of a business constitutes diversification for the domestic buyer and/or the type of advantages the domestic buyer can offer to the acquired business.[2]

Similarly, due to the limitations of our data, we could not trace instances where foreign owners retained a minority stake when the ownership changes from foreign to local ownership. In cases, where there was no complete, but only a partial divestment of the overseas subsidiary, the foreign parent link may not be completely severed and the (partial) divestment's performance effect may thus be weaker. While prior research has investigated the conversion of international joint ventures into wholly-owned subsidiaries (e.g., Puck, Holtbrügge, & Mohr, 2009), future research should examine the performance effects of the conversion of wholly-owned subsidiaries into entities that are owned by multiple parties.[3]

Finally, while our theory presupposes that the shift in the types of subsidiary-level FSAs to explain the variation in the performance effect of foreign-to-domestic sales; these changes in subsidiary level FSAs are not captured or measured in our empirical analysis. Prior research has highlighted the difficulties of measuring general firm-level FSAs using secondary data, and estimating finer-grained conceptualizations of FSAs using secondary data is thus even more difficult. For example, despite the crucial role that the distinction between location-bound and non-location bound FSAs has played in

[2] We like to thank one of the anonymous reviewers for pointing out this limitation.
[3] We like to thank the two anonymous reviewers for raising this issue.

recent developments of internalization theory, the location-boundedness of firms' FSAs is usually inferred from the theorized outcomes of this location-boundedness. Therefore, future research should attempt to capture different types of subsidiary level FSAs and their development at a micro level using primary data collected through surveys and/or case studies.

REFERENCES

Anand, J., & Delios, A. (1997). Location Specificity and the Transferability of Downstream Assets to Foreign Subsidiaries. *Journal of International Business Studies, 28*, 579-603.

Austin, P. C. (2009). Balance diagnostics for comparing the distribution of baseline covariates between treatment groups in propensity-score matched samples. *Statistics in Medicine, 28*, 3083-3107.

Berry, H. (2010). Why Do Firms Divest? *Organization Science, 21*, 380-396.

Berry, H. (2013). When Do Firms Divest Foreign Operations? *Organization Science, 24*, 246-261.

Birkinshaw, J., & Fry, N. (1998). Subsidiary Initiatives to Develop New Markets. *Sloan Management Review, 39*, 51-61.

Birkinshaw, J., & Hood, N. (1998). Multinational subsidiary evolution: Capability and charter change in foreign-owned subsidiary companies. *Academy of Management. The Academy of Management Review, 23*, 773-795.

Brauer, M. (2006). What Have We Acquired and What Should We Acquire in Divestiture Research? A Review and Research Agenda. *Journal of Management, 32*, 751-785.

Brauer, M., Mammen, J., & Luger, J. (2017). Sell-Offs and Firm Performance: A Matter of Experience? *Journal of Management, 43*, 1359-1387.

Burt, S., Coe, N. M., & Davies, K. (2019). A tactical retreat? Conceptualising the dynamics of European grocery retail divestment from East Asia. *International Business Review, 28*, 177-189.

Cadogan, J. W., Diamantopoulos, A., & Siguaw, J. A. (2002). Export market-oriented activities: Their antecedents and performance consequences. *Journal of International Business Studies, 33*, 615-626.

Caliendo, M., & Kopeinig, S. (2008). SOME PRACTICAL GUIDANCE FOR THE IMPLEMENTATION OF PROPENSITY SCORE MATCHING. *Journal of Economic Surveys, 22*, 31-72.

Cantwell, J., & Mudambi, R. (2005). MNE competence-creating subsidiary mandates. *Strategic Management Journal, 26*, 1109-1128.

Chang, S.-J., Chung, J., & Moon, J. J. (2013a). When do foreign subsidiaries outperform local firms? *Journal of International Business Studies, 44*, 853–860.

Chang, S. J., & Singh, H. (1999). The impact of modes of entry and resource fit on modes of exit by multibusiness firms. *Strategic Management Journal, 20*, 1019-1035.

Chung, C. C., Park, H. Y., Lee, J. Y., & Kim, K. (2015). Human capital in multinational enterprises: Does strategic alignment matter? *Journal of International Business Studies, 46*, 806-829.

Cumming, D. J., & Zahra, S. A. (2016). International Business and Entrepreneurship Implications of Brexit. *British Journal of Management, 27*, 687-692.

Decker, C., & Mellewigt, T. (2012). Business Exit and Strategic Change: Sticking to the Knitting or Striking a New Path? *British Journal of Management, 23*, 165-178.

Dimelis, S., & Louri, H. (2002). Foreign Ownership and Production Efficiency: A Quantile Regression Analysis. *Oxford Economic Papers, 54*, 449-469.

DiPrete, T. A., & Gangl, M. (2004). Assessing Bias in the Estimation of Causal Effects: Rosenbaum Bounds on Matching Estimators and Instrumental Variables Estimation with Imperfect Instruments. *Sociological Methodology, 34*, 271-310.

Duhaime, I. M., & Grant, J. H. (1984). Factors Influencing Divestment Decision-Making: Evidence from a Field Study. *Strategic Management Journal, 5*, 301-318.

Dunning, J. H., & Lundan, S. M. (2008). *Multinational Enteprises and the Global Economy*. Cheltenham, UK: Edward Elgar.

Filatotchev, I., Stephan, J., & Jindra, B. (2008). Ownership structure, strategic controls and export intensity of foreign-invested firms in transition economies. *Journal of International Business Studies, 39*, 1133-1148.

Fisch, J. H., & Zschoche, M. (2012). The effect of operational flexibility on decisions to withdraw from foreign production locations. *International Business Review, 21*, 806-816.

Gleason, K. C., Mathur, I., & Singh, M. (2000). Wealth effects for acquirers and divestors related to foreign divested assets. *International Review of Financial Analysis, 9*, 5-20.

Hamilton, R. T., & Chow, Y. K. (1993). Why managers divest. evidence from New Zealand largest companies. *Strategic Management Journal, 14*, 479-484.

Hayward, M. L. A., & Shimizu, K. (2006). De-commitment to losing strategic action: evidence from the divestiture of poorly performing acquisitions. *Strategic Management Journal, 27*, 541-557.

Hennart, J.-F., Roehl, T., & Zeng, M. (2002). Do exits proxy a liability of foreignness?: The case of Japanese exits from the US. *Journal of International Management, 8*, 241-264.

Hymer, S. (1960). *The international operations of national firms*. Cambridge, Mass: MIT Press.

Johnson, R. A. (1996). Antecedents and Outcomes of Corporate Refocusing. *Journal of Management, 22*, 439.

Kafouros, M., & Aliyev, M. (2016). Institutions and Foreign Subsidiary Growth in Transition Economies: The Role of Intangible Assets and Capabilities. *Journal of Management Studies, 53*, 580-607.

Kolev, K. D. (2016). To Divest or not to Divest: A Meta-Analysis of the Antecedents of Corporate Divestitures. *British Journal of Management, 27*, 179-196.

Lee, D., & Madhavan, R. (2010). Divestiture and Firm Performance: A Meta-Analysis. *Journal of Management, 36*, 1345-1371.

Lu, J. W., & Beamish, P. W. (2004). International Diversification and Firm Performance: The S-Curve Hypothesis. *The Academy of Management Journal, 47*, 598-609.

Luo, Y. (2003). Market-seeking MNEs in an emerging market: How parent subsidiary links shape overseas success. *Journal of International Business Studies, 34*, 290-310.

Luo, Y., & Peng, M. W. (1999). Learning to Compete in a Transition Economy: Experience, Environment, and Performance. *Journal of International Business Studies, 30*, 269-295.

Mata, J., & Freitas, E. (2012). Foreignness and exit over the life cycle of firms. *Journal of International Business Studies, 43*, 615-630.

Mata, J., & Portugal, P. (2000). Closure and Divestiture by Foreign Entrants: The Impact of Entry and Post-Entry Strategies. *Strategic Management Journal, 21*, 549-562.

Matthias Arnold, J., & Javorcik, B. S. (2009). Gifted kids or pushy parents? Foreign direct investment and plant productivity in Indonesia. *Journal of International Economics, 79*, 42-53.

McDermott, M. C. (2010). Foreign Divestment. *International Studies of Management & Organization, 40*, 37-53.

Mohr, A., Fastoso, F., Wang, C., & Shirodkar, V. (2013). Testing the Regional Performance of Multinational Enterprises in the Retail Sector: The Moderating Effects of Timing, Speed and Experience. *British Journal of Management, 25*, S100-S115.

Mohr, A. T., Batsakis, G., & Stone, Z. (2018). Explaining the effect of rapid internationalization on horizontal foreign divestment in the retail sector. An extended Penrosean perspective. *Journal of International Business Studies, 49*, 779-808.

Mudambi, R., & Puck, J. (2016). A Global Value Chain Analysis of the 'Regional Strategy' Perspective. *Journal of Management Studies, 53*, 1076-1093.

Petersen, B., & Pedersen, T. (2002). Coping with liability of foreignness. *Journal of International Management, 8*, 339-350.

Procher, V. D., & Engel, D. (2018). The investment-divestment relationship: Resource shifts and intersubsidiary competition within MNEs. *International Business Review, 27*, 528-542.

Puck, J. F., Holtbrügge, D., & Mohr, A. T. (2009). Beyond entry mode choice: Explaining the conversion of joint ventures into wholly owned subsidiaries in the People's Republic of China. *Journal of International Business Studies, 40*, 388-404.

Rodrik, D. (2018). Populism and the economics of globalization. *Journal of International Business Policy, forthcoming*.

Rosenbaum, P. R., & Rubin, D. B. (1983). The Central Role of the Propensity Score in Observational Studies for Causal Effects. *Biometrika, 70*, 41-55.

Rugman, A. M. (2005). *The Regional Multinationals. MNEs and "Global" Strategic Management*. Cambridge: Cambridge University Press.

Rugman, A. M., & Verbeke, A. (1992). A note on the transnational solution and the transaction cost theory of multinational strategic management. *Journal of International Business Studies, 23*, 761-771.

Rugman, A. M., & Verbeke, A. (2001). Subsidiary-specific advantages in multinational enterprises. *Strategic Management Journal, 22*, 237.

Rugman, A. M., & Verbeke, A. (2004). A perspective on regional and global strategies of multinational enterprises. *Journal of International Business Studies, 35*, 3-18.

Rugman, A. M., & Verbeke, A. (2005). Towards a theory of regional multinationals: A transaction cost economics approach. *Management International Review, 45*, 5-17.

Rugman, A. M., & Verbeke, A. (2007). Liabilities of regional foreignness and the use of firm-level versus country-level data: a response to Dunning et al. (2007). *Journal of International Business Studies, 38*, 200-205.

Rugman, A. M., Verbeke, A., & Nguyen, Q. T. K. (2011). Fifty Years of International Business Theory and Beyond. *Management International Review, 51*, 755-786.

Schleimer, S. C., & Pedersen, T. (2013). The Driving Forces of Subsidiary Absorptive Capacity. *Journal of Management Studies, 50*, 646-672.

Schleimer, S. C., & Pedersen, T. (2014). The effects of MNC parent effort and social structure on subsidiary absorptive capacity. *Journal of International Business Studies, 45*, 303-320.

Schminke, A., & Van Biesebroeck, J. (2013). Using export market performance to evaluate regional preferential policies in China. *Review of World Economics / Weltwirtschaftliches Archiv, 149*, 343-367.

Shimizu, K., & Hitt, M. A. (2005). What Constrains or Facilitates Divestitures of Formerly Acquired Firms? The Effects of Organizational Inertia. *Journal of Management, 31*, 50-72.

Soule, S. A., Swaminathan, A., & Tihanyi, L. (2014). The diffusion of foreign divestment from Burma. *Strategic Management Journal, 35*, 1032-1052.

Verbeke, A., & Asmussen, C. G. (2016). Global, Local, or Regional? The Locus of MNE Strategies. *The Journal of Management Studies, 53*, 1051.

Verbeke, A., & Yuan, W. (2007). Entrepreneurship in Multinational Enterprises. A Penrosean Perspective. *Management International Review, 47*, 241-258.
Verbeke, A., & Yuan, W. (2013). The Drivers of Multinational Enterprise Subsidiary Entrepreneurship in China: A New Resource-Based View Perspective. *Journal of Management Studies, 50*, 236-258.
Verbeke, A., & Yuan, W. (2016). The impact of "distance" on multinational enterprise subsidiary capabilities. *Multinational Business Review, 24*, 168-190.
Vermeulen, F., & Barkema, H. (2002). Pace, Rhythm, and Scope: Process Dependence in Building a Profitable Multinational Corporation. *Strategic Management Journal, 23*, 637-653.
Villalonga, B., & McGahan, A. M. (2005). The Choice among Acquisitions, Alliances, and Divestitures. *Strategic Management Journal, 26*, 1183-1208.
Wang, C., Liu, X., & Wei, Y. (2007). Does China rival its neighbouring economies for inward FDI? *Transnational Corporations, 16*, 61-82.
Wu, F., Sinkovics, R. R., Cavusgil, S. T., & Roath, A. S. (2007). Overcoming export manufacturers' dilemma in international expansion. *Journal of International Business Studies, 38*, 283-302.
Yi, J., & Wang, C. (2012). The decision to export: Firm heterogeneity, sunk costs, and spatial concentration. *International Business Review, 21*, 766-781.
Zaheer, S. (1995). Overcoming the liability of foreignness. *Academy of Management Journal, 38*, 341-363.
Zaheer, S., & Mosakowski, E. (1997). The Dynamics of the Liability of Foreignness: A Global Study of Survival in Financial Services. *Strategic Management Journal, 18*, 439-463.
Zschoche, M. (2016). Performance Effects of Divesting Foreign Production Affiliates: A Network Perspective. *Long Range Planning, 49*, 196-206.

TABLES

Table 1. Descriptive statistics and correlation matrix

	Variable	N	Mean	Std. Dev.	Min	Max	Correlation coefficients							
							1	2	3	4	5	6	7	8
1	Foreign-to-domestic sale	8025	0.06	0.23	0	1								
2	Firm performance	8025	0.42	1.9	0	112.7	0.04							
3	Firm performance [growth]	8025	58.69	2143.34	-99.97	112977.27	0	0.01						
4	Firm size	8025	17.82	1.63	9.41	23.23	-0.02	0.18	0					
5	Firm age	8025	29.97	21.63	0	176	-0.04	0.02	0	0.24				
6	Exporting firm	8025	0.78	0.41	0	1	-0.08	-0.04	-0.03	0.01	0.11			
7	Innovating firm	8025	0.09	0.29	0	1	-0.01	-0.02	0.01	0.07	0.07	0.14		
8	Sales from innovative products	8025	18.57	32.17	0	100	-0.02	-0.01	0.01	0.01	-0.02	0.13	0.14	
9	Financial crisis	8025	0.44	0.5	0	1	0.09	0.02	0	0.02	-0.03	-0.02	-0.01	0

Table 2: Balancing test (based on Stata pbalchk command) for the baseline model

Variable	Standardized difference	F-statistic	p-value
Firm performance	-0.003	0.000	0.838
Firm performance [growth]	-0.011	0.000	0.869
Firm size	-0.010	0.000	0.849
Firm age	-0.025	0.300	0.575
Exporting firm	-0.019	0.300	0.603
Innovating firm	0.014	0.100	0.787
Sales from innovative products	-0.005	0.000	0.920
Financial crisis	0.010	0.100	0.747

Table 3. Results of the propensity score estimations

	Foreign-to-domestic ownership change
Firm performance	0.02*
	(0.01)
Firm performance (growth)	-0.00
	(0.00)
Firm size	-0.00
	(0.02)
Firm age	-0.00**
	(0.00)
Exporting firm	-0.26***
	(0.06)
Innovating firm	0.05
	(0.09)
Sales from innovative products	-0.00
	(0.00)
Financial crisis	0.38***
	(0.05)
Constant	-6.08***
	(0.46)
Observations	8,025
Pseudo R2	0.05
Chi2	167.30**

Standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 4. Firm performance after foreign-to-domestic ownership change

Year	T	T+1	T+2	T+3	T+4	T+5
Treated	-0.04	-0.12	-0.10	-0.10	-0.08	-0.06
Controls	-0.03	0.01	0.08	0.11	0.15	0.18
ATT	**-0.01**	**-0.12****	**-0.15*****	**-0.18****	**-0.14**	**-0.23***
s.e.	0.04	0.06	0.06	0.08	0.11	0.12
N	446	384	327	226	87	66

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 5. The moderating role of subsidiary age

Year	T	T+1	T+2	T+3	T+4	T+5
Panel 5.1: Firms 19 years or younger						
Treated	-0.02	-0.14	-0.09	-0.15	-0.14	-0.11
Controls	-0.07	0.04	0.08	0.16	0.17	0.21
ATT	**0.06**	**-0.16****	**-0.12**	**-0.25****	**-0.17**	**-0.31***
s.e.	0.06	0.08	0.07	0.10	0.14	0.18
N	222	188	165	125	55	40
Panel 5.2: Firms older than 19 years						
Treated	-0.07	-0.10	-0.10	-0.04	0.02	0.02
Controls	-0.01	-0.06	0.05	0.00	0.09	0.10
ATT	**-0.06**	**-0.04**	**-0.15***	**-0.04**	**-0.07**	**-0.08**
s.e.	0.04	0.06	0.09	0.11	0.13	0.20
N	224	196	162	101	32	26

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 6. The moderating role of domestic market orientation

Year	T	T+1	T+2	T+3	T+4	T+5
Panel 6.1: Firms catering to the domestic market only						
Treated	-0.09	-0.15	-0.15	-0.16	-0.24	-0.27
Controls	-0.08	-0.01	0.14	0.10	0.13	0.08
ATT	**-0.01**	**-0.10**	**-0.21**	**-0.16**	**-0.18**	**-0.39**
s.e.	0.08	0.12	0.14	0.18	0.21	0.26
N	146	120	100	73	30	20
Panel 6.2: Firms catering to foreign markets						
Treated	-0.02	-0.11	-0.07	-0.06	0.00	0.03
Controls	0.04	0.08	0.09	0.20	0.15	0.26
ATT	**-0.06**	**-0.19*****	**-0.16****	**-0.25****	**-0.11**	**-0.23***
s.e.	0.06	0.06	0.07	0.10	0.12	0.14
N	300	265	229	156	58	46

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 7. The moderating role of inter-regional ownership

Year	T	T+1	T+2	T+3	T+4	T+5
Panel 7.1: Foreign owner outside the region						
Treated	-0.04	-0.16	-0.10	-0.14	-0.23	0.14
Controls	0.03	0.08	0.07	0.25	0.24	0.21
ATT	**-0.06**	**-0.19**	**-0.07**	**-0.26**	**-0.17**	**-0.03**
s.e.	0.09	0.14	0.12	0.16	0.18	0.18
N	100	89	75	58	26	19
Panel 7.2: Foreign owner inside the region						
Treated	-0.05	-0.11	-0.10	-0.08	0.00	-0.11
Controls	-0.02	0.00	0.04	0.05	0.12	0.24
ATT	**-0.02**	**-0.11***	**-0.14***	**-0.13***	**-0.11**	**-0.34****
s.e.	0.04	0.06	0.07	0.07	0.12	0.16
N	367	316	271	186	71	55

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Figure 1. Firm performance after foreign-to-domestic ownership change (graph)

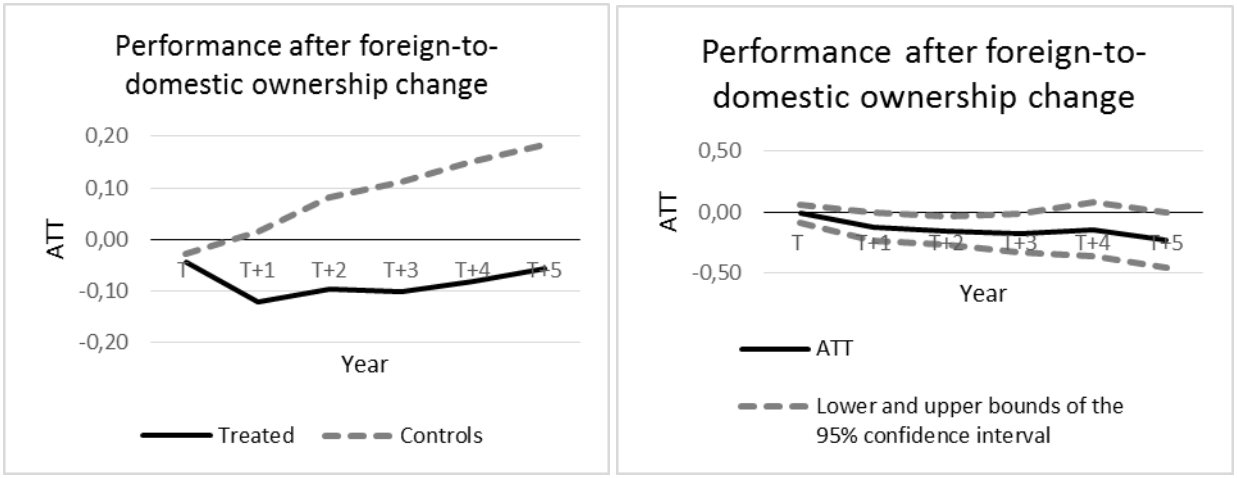

Figure 2. The moderating role of subsidiary age (graph)

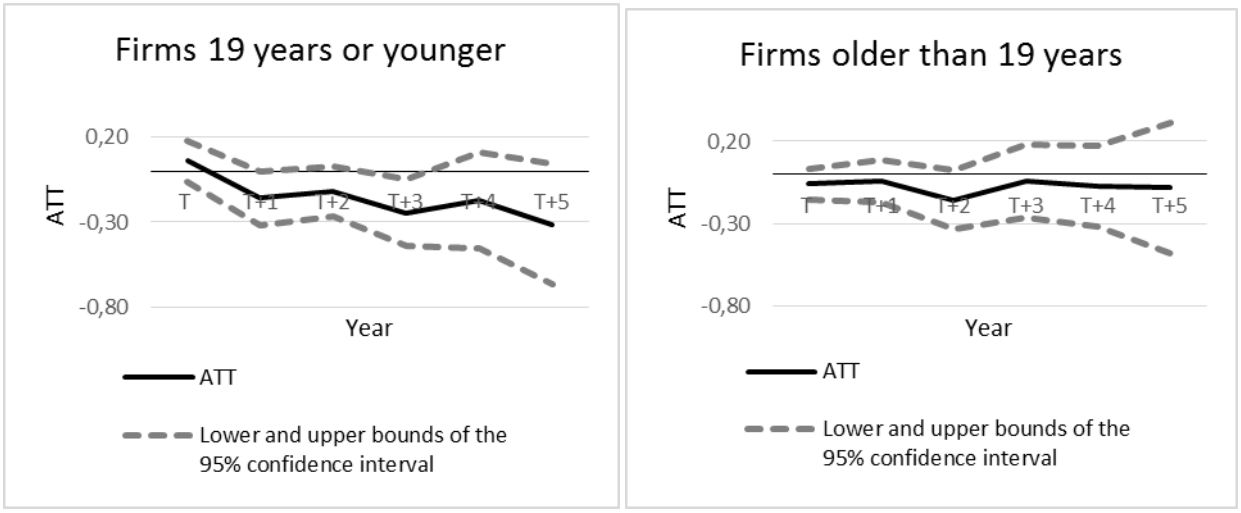

Figure 3. The moderating role of domestic market orientation (graph)

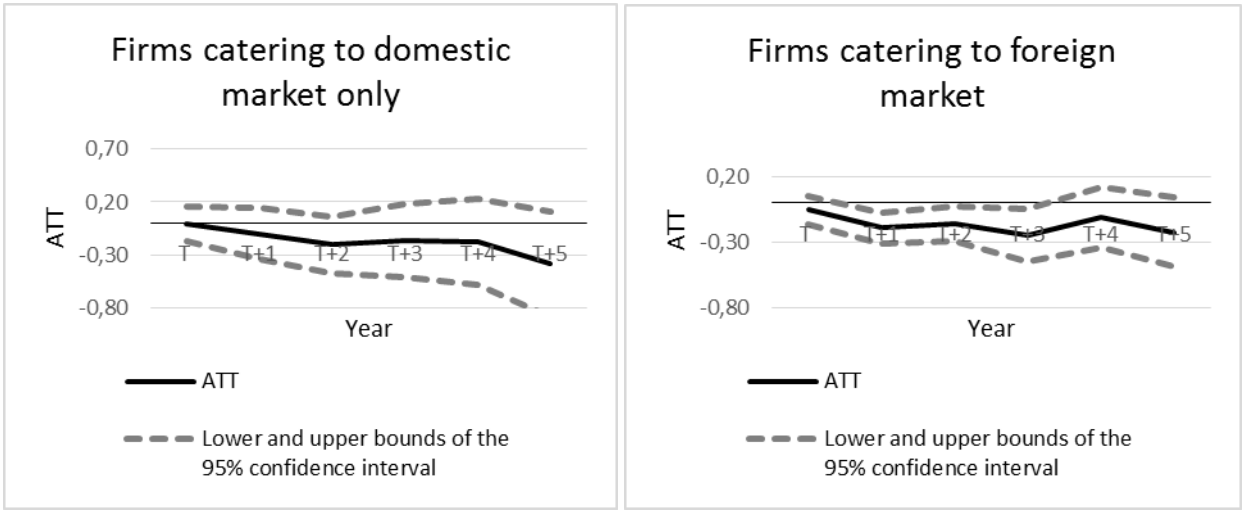

Figure 4. The moderating role of inter-regional ownership