“Performance effects of intra- and inter-regional expansion: the moderating role of firm-specific advantages”

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SECTION 1. Macroeconomic processes and regional economies management

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Performance effects of intra- and inter-regional expansion: the moderating role of firm-specific advantages

Abstract

Recent empirical work suggests that the business operations of multinational companies are rather regional than global. The authors analyze the performance impact of intra-regional (as opposed to inter-regional) expansion among companies from six West European countries. Using multilevel modeling, the authors find that an increase in a firm's degree of regionalization leads to superior performance. The results reveal that an inter-regional strategy does not seem to be a profitable expansion option. Moreover, while examining the moderating impact of firms' FSAs on the link between intra-regional expansion and performance, the empirical findings suggest that marketing-related FSAs tend to be more regional-bound in nature and support the positive performance effect of intra-regional expansion.

Keywords: regionalization, multinationality, performance, firm-specific advantages, European firms, multilevel modelling.
JEL Classification: C33, F23, L25.

Introduction

Despite the substantial number of empirical studies which have focused their attention on the relationship between multinationality (M) and performance (P), their findings can generally be said to be rather mixed and disappointing (Hennart, 2007; Rugman and Oh, 2010). Recently, a growing number of studies have noted that firms are more regionally than globally oriented (Rugman and Verbeke, 2004, 2007; Oh, 2009). This would imply that business activities are moving toward regionalism and regional strategies, with a more regional market focus (Buckley and Ghauri, 2004). These important insights have significant implications for M-P research and any corresponding theoretical reasoning. Certainly, classical M-P studies did not sufficiently consider the regional dimension of multinationality, and ignoring this important dimension can lead to inconsistent findings regarding M-P relationship (Chen and Tan, 2012). In the meantime, several academics have recognized these shortcomings, analyzing the impact of a firm's home- and host-region orientation on its performance (e.g., Chen and Tan, 2012; Oh and Contractor, 2014; Qian, Khoury, Peng and Qian, 2010; Qian, Li, Li and Qian, 2008; Ruigrok, Georgakakis and Greve, 2013; Rugman and Oh, 2010). In this sense, the home region of a firm can be described as a closed geographic area with a "grouping of countries with physical continuity and proximity" (Arregle, Beamish and Hebert, 2009, p. 8). Consequently, an intra-regional orientation refers to business activities within the home region of a firm (Oh, Sohl and Rugman, 2015). As with M-P research generally, the findings as concerns the performance outcomes of intra-regional and inter-regional strategy are not always consistent (Banalieva and Dhanaraj, 2013). For instance, Ruigrok et al. (2013) find that an intra-regional strategy (as opposed to an inter-regional strategy) yielded superior performance for a set of 211 large European multinational companies (MNCs). Similarly, Sukpanich and Rugman (2007), Qian et al. (2010), among others, demonstrate that companies with greater home-region orientation perform better than firms that are more host-region oriented. However, there is a set of empirical findings, which shows exactly the opposite, i.e., an inter-regional strategy leads to an increase in performance (e.g., Qian, Li and Rugman, 2013; Qian et al., 2008). On the other hand, using a Triad-based sample of MNCs, Banalieva and Dhanaraj (2013) find home-region orientation not to have any significant impact on performance.

Recent meta-analytic review suggests that the performance effects of an international strategy are context dependent (Kirca, Hult, Roth, Cavusgil, Perryy, Akdeniz, Deligonul, Mena, Pollitte, Hoppner, Miller and White, 2011). Indeed, while examining the link between an intra-regional expansion and performance, several academic scholars account for certain contextual factors, e.g., the role of industry dynamism and top management team diversity (Ruigrok et al., 2013), product diversity (Oh et al., 2015), or, for instance, the role of family and non-family leaders (Banalieva and Eddleston, 2011). Firm-specific advantages (FSAs) in the field of marketing and R&D can be seen as important factors affecting the relationship between multinationality and

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performance (Kirca et al., 2011). This may also apply when investigating the link between intra-regional expansion and performance and it is certainly in line with the recent regionalization literature (Lee and Rugman, 2012; Rugman and Verbeke, 2004, 2007). FSAs as unique capabilities refer to knowledge bundles, which can usually be found in the form of intangible assets (Rugman, 2005; Rugman and Verbeke, 2003). These advantages are used to determine a firm's international success (Hennart, 1982; Verbeke and Brugman, 2009), however, not all of them can be easily transferred or exploited across regions (Kotabe, Dunlap-Hinkler, Parente and Mishra, 2007). In the context of a regional vs. global debate, their superior value might, therefore, be more or less limited to the home region of company (Rugman and Oh, 2010; Rugman and Verbeke, 2007). The performance effects of multinationality may be strongly dependent on the characteristics of these FSAs. Hence, the regional-bound characteristics of FSAs can be considered as an important factor, which influences a firm's international strategy (Lo, Mahoney and Tan, 2011) and, consequently, acts as a moderator between a company's intra-regional expansion and performance.

Empirically, we tested the hypotheses using multilevel modelling (MLM) approach based on data from companies from six West European countries between 2008 and 2012. Our findings provided evidence of the superiority of a regional over a global strategy for the analyzed MNCs. In particular, we found that an increase in a firm's degree of regionalization leads to superior performance. In addition, our empirical results showed that firms investing in marketing (i.e., downstream) activities can benefit more where they pursue a regional rather than a global strategy. This indicates that marketing-related FSAs tend to be more regional-bound.

This paper contributes to the regionalization/globalization literature in the following ways. First, we develop a theoretical framework on the performance impact of an intra-regional (as the opposite to an inter-regional) expansion strategy. Second, by introducing the concept of regional-bound and non-regional-bound FSAs we show how firm-specific advantages in the field of marketing and R&D moderate the relationship between intra-regional expansion (vs. inter-regional) and firm performance. Finally, we use the MLM approach in order to test our hypotheses. Although this method is still rarely used in international business (IB) studies, we would like to encourage future IB research to consider this analysis technique, since MLM increases "precision in quantitative international business (IB) research, and opens up new methodological and conceptual possibilities" (Peterson, Arregle and Martin, 2012, p. 451).

The structure of this paper is organized as follows. First, we provide the classical costs and benefits associated with multinationality while reasoning about its performance effects. Second, we discuss the state of the art on the M-P relationship. Then, we develop our hypotheses based on theoretical argumentation about the performance outcomes of multinationality stemming from regionalization theory, as well as from the regional-bound properties of R&D- and marketing-oriented FSAs. Thereafter, we provide information on the methodology used before presenting our empirical findings. Finally, we close the paper with a conclusion section, in which we highlight the main results, as well as key contributions of this study.

1. Theory and hypotheses

1.1. Performance outcomes of multinationality. The IB and strategic management literature point to a set of costs and benefits which firms encounter during international expansion. In particular, the core theoretical arguments can be found in internationalization and internalization theories, portfolio theories, resource-based perspectives, economies of scale and scope, in the concepts of learning organizations, location advantages, liabilities of foreignness and newness, the complexity arguments, or in the reasoning for transaction costs (Kirca et al., 2011).

When considering the negative effect of internationalization, it seems the most popular argument that can be identified relates to the concept of liabilities of foreignness (Hymer, 1976). These "costs of doing business abroad" (Zaheer, 1995, p. 342) arise mainly from the differences between the home and target market. These discrepancies manifest themselves typically in cultural, language, institutional, or economic matters (Ghemawat, 2001). Therefore, when entering new host markets, it is to be expected that the liabilities of foreignness induced by internationalization will likely result in a negative performance effect. Another argument refers to complexity problems arising from a broad network of operations which itself is a result of extended international activities on a greater scale. A consequence of these dispersed activities is that this may very well precipitate administrative, complexity, and coordination costs, which can lead to a reduction in profitability (Hitt, Hoskisson and Kim, 1997).

However, the costs resulting from being foreign (liabilities of foreignness) can be mitigated via a company's international experience gained through

previous foreign activities (Lu and Beamish, 2004). From efficiency-seeking perspective, another benefit of multinationality is the possibility of realizing economies of scale and scope through serving multiple markets (Hitt et al., 1997). Higher degrees of multinationality also make it feasible to amortize larger investment costs over a greater set of countries (Hitt et al., 1997). This is especially the case for companies which spend large amounts on R&D and marketing activities. Nevertheless, many products and marketing programs must be adapted to local conditions in order to be successful (Kotabe, Srinivasan and Aulakh, 2002), but, based on this argument, a positive performance effect should result through internationalization. Simultaneously, multinationality provides future market opportunities and, consequently, future growth possibilities (Hitt et al., 1997; Lu and Beamish, 2004). Besides these prospects, internationally operating companies benefit from the real options which the network structure of their activities provides. Since economic, social, or institutional conditions may change unfavorably, multinational firms are able to effectively respond to these changes (Lee and Makhija, 2009). Differences in input and output markets among diverse countries (e.g., labor prices, tax differences) lead to arbitrage opportunities (Hennart, 1982; Kogut, 1985). This should also result in a positive impact of multinationality. In addition, many scholars see MNCs as a set of firm specific assets (Birkinshaw, Hood and Jonsson, 1998; Kirca et al., 2011; Rugman, Verbeke and Nguyen, 2011). The idea developed by Edith Penrose in 1959 that firms in general are bundles of resources was further developed by Hymer (1976) and Kindleberger (1969), suggesting that firms are in possession of monopolistic advantages (e.g., technology or know-how) vis-à-vis other competitors. These advantages help them to overcome difficulties associated with liabilities of foreignness (Hymer, 1976; Lu and Beamish, 2004). Subsequent theoretical developments regarding these advantages concerned the specification/nature of these resources and answered the question of how to achieve a sustainable competitive advantage (e.g., Barney's resource-based view in 1991).

Unfortunately, empirical findings on the relationship between multinationality and performance have not been able to demonstrate a consensus over the last few decades. The results on the M-P relationship show linear, curvilinear, or even no performance effect of multinationality. The findings highlight linear negative and positive (detected, e.g., by Click and Harrison, 2000; Kotabe et al., 2002), U-shaped and an inverted U-shaped (e.g., Capar and Kotabe, 2003; Mathur, Singh and Gleason, 2001), or S-shaped (Contractor, Kundu and Hsu, 2003; Lu and Beamish, 2004) and inverted S-shaped (Ruigrok, Amman and Wagner, 2007) linkages between multinationality and performance. The common concepts for measuring a firm's degree of multinationality were, however, limited to overall foreign to total ratios in the main, and neglected the regional dimension of business activities to a significant extent. As argued above, this may culminate in inadequate and inappropriate reasoning about performance implications of multinationality (Qian et al., 2008) and, consequently, in different M-P relationships (Chen and Tan, 2012). Therefore, it is not surprising that attempts to find the link that best represents the M-P relation are commonly described as inconsistent (Ruigrok and Wagner, 2003), contradictory (Contractor et al., 2007), conflicting (Annavarjula and Beldona, 2000), and disappointing (Hennart, 2007).

1.2. The regional dimension of business activities. Recent developments in the IB field have shown that the activities of MNCs are regional rather than global (Rugman, 2005; Rugman and Verbeke, 2007). In their seminal work on regionalization, Rugman and Verbeke (2004) conclude that most of the Fortune Global 500 companies conduct their operations primarily at the regional level, in their own home region, and that a purely global orientation is more or less a fiction. The word "home region" can be defined as a closed geographic area with a "grouping of countries with physical continuity and proximity"[1] (Arregle et al., p. 8). A growing body of research has been able to support the regionalization hypothesis, showing that MNCs conduct their major business activities in their home regions (e.g., Collinson and Rugman, 2008; Oh and Rugman, 2012; Rugman and Oh, 2010; Rugman and Verbeke, 2004, 2007).

Rugman and Verbeke (2004) and Rugman and Oh (2010) claim that the reason for conducting a majority of business within the home region of the firm relates to liabilities of foreignness. According to these authors, the costs resulting from these liabilities are lower within (liabilities of intra-regional foreignness) than outside the home region (liabilities of inter-regional foreignness) and can be overcome more easily by firms from the same region. Besides the geographical proximity (Arregle et al., 2009; Chen and Tan, 2012), this effect also arises due to certain similarities regarding economic, political, institutional, or legal environments within the same region (Qian et al., 2008). Within these regions there is often a strong force for economic integration, giving a firm from that region the possibility to benefit from a highly integrated market (Chen and Tan, 2012; Verbeke and Kano, 2012). This is why the largest MNCs conduct

[1] The definition of "home-region" can also be based upon cultural, economic or political similarities (Banalieva and Dhanaraj, 2013). Usually, regions with low geographic proximity often share similar culture values, are economically interconnected, and are often part of a common political (and economic) union, e.g., the European Union.

the majority of their economic activities within the same region (Rugman and Verbeke, 2004; Rugman and Oh, 2010).

1.3. Intra-regional expansion and performance. The literature on the performance effects of regional strategies has become a central topic in M-P research in recent years. The empirical findings regarding the link between regionalization and performance are mixed. For instance, based on transaction cost theory, Li (2005) concludes that regional-oriented firms are able to minimize transaction costs by pursuing a home-region oriented strategy. In a similar vein, based on 123 US companies, Qian et al. (2010) found that intra-regional diversification leads to higher performance. In addition, Oh (2010) and Sukpanich and Rugman (2007) note that firms conducting their sales activities within the home region perform better than firms expanding their sales into host regions. In a more European context, based on 211 large West-European MNCs, Ruigrok et al. (2013) demonstrated that higher intra-regional sales lead to higher performance as measured by return on sales. On the other hand, there is also empirical evidence supporting the superiority of a global over a regional strategy. For example, Delios and Beamish (2005) and Elango (2004) show that firms expanding their activities beyond the home region are more successful than those which do not. Similarly, Cerrato and Piva (2015) demonstrated that the relationship between global orientation and performance is stronger than the link between regional orientation and performance for a sample of 180 New Ventures from Italy just as Qian, Li and Rugman (2013) maintain that inter-regional expansion is associated with higher performance. Furthermore, using a Triad-based sample of MNCs, Banalieva and Dhanaraj (2013) found that home-region orientation does not have any significant impact on performance. In more recent studies, building on the three-stage-paradigm of international expansion (Contractor et al., 2003), several academic scholars have also suggested that the link between regionalization and performance can also be nonlinear (e.g., Oh and Contractor, 2014; Oh et al., 2015; Qian et al., 2010; Rugman and Oh, 2010).

Conducting activities inside the firm's own region leads to a minimization of transaction costs (Lee and Rugman, 2012; Li, 2005; Rugman and Verbeke, 2004). The adaptation to similar markets is less costly compared to adapting to distant locations (Lu and Beamish, 2004). According to Grant (1987), an intra-regional strategy implies lower managerial, communication, and coordination costs, as compared to an inter-regional strategy. In addition, the similarities within the home region provide less uncertainty and complexity, leading to an overall reduction in operating and adaptation costs (Banalieva and Santoro, 2009; Oh and Rugman, 2012; Rugman and Verbeke, 2008) and, ultimately, to higher performance. As a home region includes a fairly homogeneous set of countries in terms of environmental settings, access to country-specific advantages (CSAs) should be easier (Qian et al., 2010). CSAs are usually "aggregate 'environmental' factors, such as political, cultural, economic, and financial factors" (Collinson and Rugman, 2008, p. 219). Assuming that firms are in charge of FSAs, the combination of FSAs with CSAs within the home region should be more efficient than in the case of host regions (Rugman, 2005; Verbeke and Kano, 2012). On the other hand, conducting business operations outside the home region will increase overall operating costs, since firms will be faced with a greater degree of uncertainty and complexity as a result of more distant and unfamiliar markets (Oh et al., 2015; Rugman and Verbeke, 2007). In the case of inter-regional expansion, MNCs experience higher coordination, governance, adaptation, and communication costs (Oh and Contractor, 2014; Rugman and Verbeke, 2007). This can lead to increased environmental and operational complexity, which will be higher compared to an intra-regional expansion (Oh et al., 2015; Qian et al., 2008). Furthermore, according to some authors, companies from other regions are subject to discriminating policies (e.g., higher customs or administrative difficulties), thus, rendering the administrative burden even higher (Qian et al., 2013). This could make the FSA/CSA combination very difficult and costly. In sum, based on the arguments listed above, we propose that an intra-regional expansion should be more beneficial than an inter-regional expansion, so we hypothesize that:

Hypothesis 1: Ceteris paribus, a greater extent of intra-regional (as opposed to inter-regional) expansion is positively correlated with firm performance.

1.4. The moderating role of regional-bound and non-regional-bound FSAs. FSAs related to marketing and R&D are well-established effects when analyzing the performance effect of multinationality (Kirca et al., 2011). These FSAs originate from the proprietary assets of an MNC, which can be developed by technology, production, distribution, and/or marketing activities (Rugman, 1981, 2005). They are unique capabilities in the form of knowledge bundles, which can usually be found in the form of intangible assets (Rugman, 2005; Rugman and Verbeke, 2003). Hence, they can increase a company's overall performance by greater brand recognition, new product differentiation, greater market penetration, or identification of market opportunities (Delios and Beamish, 1999; Kotabe et al., 2002, Lee and Rugman, 2012). In sum, FSAs have a particular importance in

determining a firm's international success (Hennart, 1982; Verbeke and Brugman, 2009) and can create a competitive advantage relative to other companies (Rugman, 1981; Rugman et al., 2011). Many scholars have acknowledged the distinct impact of firm-specific advantages/intangible assets in the M-P relationship. Most empirical studies analyzing the moderating effect of FSAs on the M-P relationship are based on theoretical arguments from internalization theory (Buckley and Casson, 1976) or the resource-based view (RBV) of a firm (Barney, 1991). The main argument for a certain effect of a particular FSA resource has in the main been rooted in market characteristics and the specific features of these assets (e.g., public goods or VRIN-characteristics[2]). The state of current research on the moderating effect of FSAs on the M-P relationship is mixed. The findings show either a negative (e.g., Eckert, Dittfeld, Muche and Rässler, 2010; Kotabe et al., 2002; Oh, 2010; Rugman and Oh, 2010) or positive (e.g., Kotabe et al., 2002; Lu and Beamish, 2004; Mishra and Gobeli, 1998; Morck and Yeung, 1991) moderating impacts depending on different FSAs and performance measurements. These mixed findings indicate that the characteristics of a certain FSA play a crucial role in shaping the relationship between multinationality and performance.

In the meantime, based on transaction cost reasoning, Rugman and Verbeke (1992, 2001) have proposed a new distinction between location-bound and non-location-bound FSAs. Although the concept of location-bound and non-location-bound FSAs was predominantly developed at the home-country level (Rugman and Verbeke, 1992, 2001), the extension beyond national frontiers to a specific geographic region seems to be appropriate in the recent regionalization debate. Since MNCs often pursue a regional rather than a global strategy, the "conventional framework needs to be augmented, as operating in the home triad region may be associated with new needs for the development of region-bound FSAs, imposed by regional integration" (Rugman and Verbeke, 2004, p. 13). The concept of regional-boundedness of FSAs relates to the transferability of these advantages across geographic spaces/regions. For instance, Collinson and Rugman (2008) argue that regional-bound FSAs are "difficult to transfer, requiring significant adaptation in order to be used in other locations [regions]" (p. 221). In other words, the superior value of regional-bound FSAs is limited to the geographic region in which they are exploited, and the transfer into host regions could be costly and less profitable (Rugman and Verbeke, 2001, 2005; Rugman et al., 2011). Thus, regional-bound FSAs are easy to transfer within the home region and can be optimally exploited in home region (Banalieva and Eddleston, 2011; Oh and Rugman, 2007; Rugman and Verbeke, 2007). More precisely, Collinson and Rugman (2008) point out that regional-bound FSAs are "contingent on local and regional endowments to the degree that replicating, transferring or leveraging these advantages in other contexts either proves impossible or presents a costlier or longer-term adaptation" (pp. 228-229). Typically, downstream FSAs, i.e., FSAs created through investments at the consumer-end are known for their more regional-bound character (Rugman et al., 2011). More investments in marketing-related activities (both sales and advertising activities) lead to differentiated products (Rugman et al., 2011) and/or unique marketing strategies (Kotabe et al., 2002). Accordingly, given the fact of environmental similarity in the home region, less modification and/or adaptation of marketing strategies will be needed. The adaptation to local conditions would be easier compared with an adaptation outside the home region. Due to the regional-boundedness characteristics of marketing-related FSAs, further internationalization in host regions will be associated with economic/value losses of these advantages because of adaptation problems and the corresponding costs (Rugman and Verbeke, 2001). Since the value of such FSAs depends heavily on consumer needs, behavior, subjective attitudes and preferences, the value of marketing-related advantages should depreciate with increasing extent of inter-regional expansion (Cerrato, 2009; Oh and Contractor, 2014). The resulting costs can be identified through additional coordination, control, and information costs caused by multiple marketing strategies and cultural differences (Kogut and Singh, 1988; Lee and Rugman, 2012; White, Conant and Echambadi, 2003). Thus, the largest value of exploiting marketing-related FSAs can be generated mainly in the home region of a company, in which the environmental settings are more familiar. On the other hand, extending a firm's international operations outside its home region will precipitate a decline in performance due to the regional-bound characteristics of marketing-related FSAs. Based on these arguments, we propose:

Hypothesis 2a: Marketing-related FSAs moderate the relationship between intra-regional expansion and performance in such a way that greater investments in marketing-related FSAs will foster higher performance from an intra-regional (as opposed to inter-regional) expansion.

In contrast, Tallman and Yip (2001) argue that an MNC's global strategy strongly depends on the capability of transferring the non-regional-bound FSAs. As Rugman (2005) holds, "it is possible that the 'back-end' production of the value chain is more

[2] i.e., valuable, rare, inimitable and non-substitutable (Barney, 1991).

globalized than the 'front end' of sales" (p. 7). Thus, by choosing a global strategy firms must have at their disposal certain non-regional-bound FSAs capable of being transferred and exploited worldwide (Cerrato, 2009; Tallman and Yip, 2001). In fact, recent empirical studies have shown that companies possessing FSAs in R&D, i.e., strengths in technological know-how, patents/innovations, and/or production skills (Kirca et al., 2011) operate more globally (Cerrato, 2009; Oh and Rugman, 2012; Rugman and Oh, 2010), indicating that R&D-related FSAs tend to be more non-regional-bound in their nature. This specific characteristic of the R&D-related FSA implies that its economic value is often not, as is the case with marketing based FSAs, limited to a specific location/region. Rather, R&D related advantages are more often easily transferable and exploitable in host regions and are subject to lower marginal costs (Cerrato, 2009) without causing any significant value losses. According to some authors, technology-related FSAs lead to greater scale and scope economies and do not need substantial adaptation in host regions. Hence, they can be exploited more profitably across regions (Collinson and Rugman, 2008; Rugman et al., 2011). Based on this argumentation, we hypothesize that:

Hypothesis 2b: R&D-related FSAs moderate the relationship between intra-regional expansion and performance in such a way that greater investments in R&D-related FSAs will foster lower performance from an intra-regional (as opposed to inter-regional) expansion.

2. Methodology

2.1. Data. For the purpose of this study, we analyze companies from Western European countries. The key question in this context is if and how West European firms can benefit from their international strategies, i.e., regional vs. global expansion strategies. Furthermore, companies from Europe represent a unique sample to address our research questions. The European market can be considered as a strongly integrated region in terms of economic and institutional integration. As a result, companies from these countries willing to expand intra-regionally should face lower costs stemming from liabilities of foreignness, leading to higher performance. Hence, through common administrative, economic, and political institutions (Verbeke and Kano, 2012), the bundling of CSAs and FSAs should be more efficient. In this sense, the integrated nature of the European market can be considered as a removal mechanism for market imperfections (Rugman, 1981; Verbeke and Kano, 2012). This degree of integration can have a significant impact on the intra-regional operations of companies and on the shape of the M-P relationship. Moreover, in a recent meta-analysis, Kirca et al. (2011) found that 52.3 percent of the most influential M-P research papers conducted their analyses on US samples. Samples of companies from Europe accounted for only 15.3 percent of the empirical studies analyzed.

We selected firms from six European countries. The selection was based on the relative size of the home market and the strength of the economy. The sample consists of companies from Great Britain, Germany, France, Switzerland, Belgium, and the Netherlands[3]. With the exception of Switzerland, the countries included in the sample already have a long history of EU membership. Switzerland has a special trade agreement with the EU, allowing Swiss companies unrestricted access to the common European market (Ruigrok et al., 2007). Furthermore, and, as previous research has shown, firms from these countries are well internationalized and operate in multiple foreign markets (see, e.g., Capar and Kotabe, 2003; De Jong and van Houten, 2014; Ruigrok et al., 2007, 2013). The sample consists of publicly listed firms over the 2008-2012 time period. We did not consider companies from Southern Europe (e.g., Italy, Spain), since these countries (and, ultimately, firms from these countries) were strongly affected by the Euro crisis.

Firm-level information was collected from the Datastream database, which provided financial data and the geographical distribution of a company's operations.[4] To improve the quality of the sample required conducting several editing steps. We deleted implausible values for marketing and R&D intensity, or for a firm's leverage (for the definition of the measures, see the section below). Furthermore, we excluded those companies which did not provide information about their industry sector. We also removed cases without geographical segment information, as well as those in which segment information was not sufficiently detailed. Moreover, all purely domestic firms were excluded, since we are interested in companies pursuing an intra- and inter-regional strategy. After concluding these editing steps, we had a firm-level panel data with total N = 725 firm-year observations consisting of 319 listed companies from six Western European countries.[5] Table 1 shows the country distribution of the sample (in

[3] Due to restricted data availability, the sampled firms originated from six West European countries. The sample used in this study is similar to that adopted in Ruigrok et al. (2013). We selected different countries in terms of size and economic strength to control for possible country level differences (see Ruigrok et al., 2013).

[4] Datastream provides sales and assets data in up to 10 different geographical segments. However, different companies have their own definitions for particular segments. As a consequence, countries from the home and host region can be reported within one geographical segment.

[5] For several companies, Datastream did not provide complete data for the period of analysis. Thus, our sample does not contain a constant number of observations over time for each of the companies analyzed.

terms of a percentage), as well as the number of companies considered from a particular country.

Table 1. Distribution of companies in relation to country of origin

Country	as % of *N*	No. of companies
Germany	37.80	106
Great Britain	31.60	112
Switzerland	14.30	47
Netherlands	5.80	19
France	8.30	28
Belgium	2.20	7

Notes: $N = 725$.

2.2. Measures. *2.2.1. Performance.* The aim of this study is to analyze the impact of an intra-regional expansion on firm performance. To do so, we measured our dependent variable using a common accounting-based proxy for a firm's profitability – return on assets (ROA) (e.g., Banalieva and Dhanaraj, 2013; Lu and Beamish, 2004; Ruigrok et al., 2007; Rugman and Oh, 2010). Return on assets was measured by earnings before interest and taxes divided by the book value of total assets. To account for causal inference (Banalieva and Dhanaraj, 2013), ROA was lagged by one year ($t+1$). For example, to consider the time lag for the dependent variable in the year 2012, we gathered data for ROA from 2013. In a similar way, the corresponding ROA-value for the data year 2011 was taken from 2012, and so on. The lagged dependent variable had already been collected during the sampling procedure. Therefore, no observations were removed while applying statistical techniques.

2.2.2. Degree of regionalization. In order to measure the intra-regional expansion, i.e., the degree of regionalization (DOR), we collected data on firms' assets/sales from the geographical segment coverage. Each segment provided information about the asset/sales distribution and corresponding region/country. According to the segment description, we divided the geographic segments into either home or host region. All reported segments belonging to the European area were labelled "*home-region*". All other data referring to non-European countries were labelled "*host-region*". The measure for the degree of regionalization of a particular firm *i* represents the proportion of intra-regional assets/sales to total assets/sales and has been already adopted in several empirical studies (e.g., in Chen and Tan, 2012; Oh and Rugman, 2012; Rugman and Oh, 2010; Sukpanich and Rugman, 2007):

DORi = total asset (sales) in the home region / firms' total assets (sales).

DOR takes a value between 0 and 1, where 1 indicates a pure intra-regional orientation.

2.2.3. Firm-specific advantages. In order to capture the non-regional-bound FSAs, we adopted the ratio of R&D expenditures to sales (RDS) as a common measure for technology-related FSAs (e.g., Banalieva and Dhanaraj, 2013; Kirca et al., 2011; Lee and Rugman, 2012). For the regional-bound FSAs, we used selling, general and administrative expenses to sales (SAS). This measure is adequate to capture the marketing-related FSAs, since SAS account for investments in promotion, marketing, service activities, and distribution (Lee and Rugman, 2012). Hence, these investments reflect the regional-bound nature of FSAs related to marketing (Anand and Delios, 2002; Banalieva and Dhanaraj, 2013).

2.2.4. Control variables. Additionally, we also control for several effects including the control variables shown in Table 2 below.

Table 2. Overview of the control variables

Measure	Operationalization	Note
Firm leverage (TDTA)	Total debt/total asset	Control for the capital structure (Lu and Beamish, 2004)
Firm size (Emp)	Ln (number of employees)	Control for the size effects/economies of scale (Contractor et al., 2003; Ruigrok et al., 2007)
Industrial diversification (ID)	Number of SIC-sectors, in which companies had their business activities	Control for the effects of industrial diversification (Eckert et al., 2010)
Industry effect	Dummy = 1, if was active in manufacturing industry, zero otherwise	Control for industry-specific effects (Contractor et al., 2003)
Country effect	Dummy 0-1 for each country	Control for the home-country effect (Asmussen, 2009; Elango and Sethi, 2007)
Year effect	Dummy 0-1 for each year	Control for the time effect

2.3. Method. Given the panel structure of our data, as well as its repeated measure nature, we used MLM analysis technique. Although MLM approaches are rarely used in IB studies (Peterson et al., 2012), they increase "precision in quantitative international business (IB) research, and open up new methodological and conceptual possibilities" (Peterson et al., 2012, p. 451). MLM is an appropriate technique to analyze nested data (Hauff, Richter and Tressin, 2015; Peterson et al., 2012) and, compared to the classical repeated measures analysis of variance (*RE-ANOVA*), offers a number of advantages (see Quene and van den Bergh, 2004) and produces robust standard errors for parameter estimates (Maas and Hox, 2004). In this study, a two-level growth model was introduced to account for nesting of the repeated measures (Level 1) within respective/individual firms (Level 2).

Furthermore, multilevel approaches can be also applied for unbalanced data, i.e., with diverse Level 1 observations for Level 2 units (Hox, 2010; Peterson et al., 2012). In order to determine whether or not the MLM is required, we computed the intraclass correlation coefficient (*ICC*), as proposed by Peterson et al. (2012)[6]. Following Hox (2010), we, first, estimated the null model with a random intercept, in which no explanatory variables are included[7]. To test our hypotheses, we, then, added the explanatory variables and interaction terms, and compared the models based on both the Aikake Information Criterion (AIC) and the Bayesian Information Criterion (BIC) (Arregle, Miller, Hitt and Beamish, 2013). The aim of the comparison was to identify the "best" model fit with the lowest AIC and/or BIC value (Arregle et al., 2013; Burnham and Anderson, 2004). After estimating the random intercept model (null model), we received an ICC value of 0.524. In other words, more than 52 per cent of variance in performance (ROA) is due to differences among firms. Furthermore, the ICC indicated that for our data a multilevel approach (with repeated measure design) is required, since the value is higher than the relevant cut-off value of 0.05 (Hox, 2010; Peterson et al., 2012). In addition, the null model also showed that the intercept varied significantly across different companies (Wald $Z = 7.197$, $p < 0.001$). Hence, we included random intercepts in all models.

3. Results

Table 3 shows descriptive statistics and a correlation matrix among metrically scaled variables. On average, the companies in the sample held 65.70 percent of their total assets in the home region. Only 34.30 percent of their total assets were located in host regions. As regards the sales activities of these firms, on average, more than 55 percent were conducted within the home region. These results indicate that, during the analysis period, sampled firms operated mainly in their own home region, which is consistent with prior findings (e.g., Collinson and Rugman, 2008; Oh and Rugman, 2012; Rugman and Oh, 2010; Rugman and Verbeke, 2004).

Table 3. Descriptive statistics and correlations matrix

Variables	Mean	s. d.	1	2	3	4	5	6	7
1. *ROA*	0.059	0.034	1						
2. *DOR*[a]	0.657	0.268	0.148***	1					
3. *DOR*[b]	0.554	0.243	0.065†	0.709***	1				
4. *TDTA*	0.211	0.129	-0.096*	-0.037	0.082*	1			
5. *EMP*[c]	8.467	1.910	-0.013	-0.217***	-0.067†	0.212***	1		
6. *RDS*	0.034	0.040	0.089*	0.120**	-0.111**	-0.213***	-0.109**	1	
7. *SAS*	0.178	0.092	-0.023	-0.011	-0.028	-0.073*	-0.217***	0.274***	1

Notes: $N = 725$, no. of companies = 319, [a] degree of Regionalization (DOR) computed based on firms' assets, [b] degree of Regionalization (DOR) computed based on firms' sales, [c] logarithm; † $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

The results of MLM are depicted in Table 4[8]. The degree of regionalization was calculated on the basis of a firm's assets. Dummy variables were not reported. Model 1 was defined as the basic model, in which all control variables, as well as the two indicators for FSAs (i.e., RDS and SAS), were included. Hypothesis 1 was tested in Model 2, in which we added the DOR-variable. Again, this hypothesis predicts that a higher level of intra-regional (as opposed to inter-regional) expansion will be positively correlated with performance. Through the inclusion of the DOR-Variable in Model 2 we gained an overall improvement in model fit as measured by AIC and BIC, compared to the basic Model 1 ($\Delta AIC_{2-1} = -11.64$, $\Delta BIC_{2-1} = -7.06$).

Considering the parameter estimation of the DOR-Variable in the second model, we were able to support Hypothesis 1. DOR had a positive and significant impact on firm performance ($\gamma = 0.024$, $p < 0.001$). Simultaneously, the findings indicated that an increased inter-regional (as opposed to an intra-regional) expansion would have a negative effect on a company's profitability ratio. In order to test Hypotheses 2a and 2b, we built several models in which we included the interactions terms of DOR with RDS and/or SAS. The aim was to compare the models based on their respective AIC and/or BIC.

[6] For the MLM, we used the "*MIXED*" procedure in SPSS 22 and estimated the parameters with the maximum likelihood (*ML*) method. Since we deal with repeated measurements design and, thus, possible autocorrelation problem, the covariance matrix was set to AR(1): heterogeneous, i.e., first-order autoregressive structure with heterogeneous variances.

[7] This step is necessary in order to calculate the ICCs, as well as to find out whether the observations on the first level differ between the Level Two groups (Peterson et al., 2012).

[8] In an additional modelling we also included the variable foreign assets (sales)/total assets (sales) (FATA/FSTS) in order to control for the overall level of internationalization/foreign activities. The results concerning our hypotheses remained unchanged. Moreover, since we based the model selection on the AIC and BIC criterion, models with the control for the level of internationalization gained worse outcomes regarding the goodness of fit.

Table 4. Results of multilevel analysis[a] for testing Hypotheses 1 and 2a, b

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Intercept[b]	0.066*** (0.010)	0.043*** (0.012)	0.053*** (0.014)	0.060*** (0.010)	0.045*** (0.012)	0.060*** (0.010)	0.053*** (0.014)	0.059*** (0.010)
TDTA	-0.021† (0.012)	-0.021† (0.012)	-0.021† (0.012)	-0.021† (0.012)	-0.021† (0.012)	-0.019 (0.012)	-0.021† (0.012)	-0.021† (0.012)
EMP[c]	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
RDS	0.040 (0.043)	0.037 (0.042)	0.036 (0.042)	0.035 (0.042)	-0.117 (0.112)	-0.035* (0.100)	-0.091 (0.114)	-0.100 (0.113)
SAS	-0.018 (0.018)	-0.015 (0.017)	-0.008 (0.041)	-0.092*** (0.026)	-0.015 (0.017)	-0.015 (0.017)	-0.056 (0.042)	-0.075* (0.029)
ID	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
DOR[a]		0.024*** (0.006)	0.001 (0.012)		0.019** (0.007)		0.001 (0.012)	
*DOR[a]*SAS*			0.079 (0.057)	0.116*** (0.029)			0.063 (0.059)	0.091* (0.035)
*DOR[a]*RDS*					0.226 (0.151)	0.421** (0.129)	0.187 (0.155)	0.200 (0.154)
AIC	-2943.96	-2955.60	-2955.47	-2956.88	-2955.73	-2952.05	-2954.86	-2956.47
BIC	-2856.82	-2863.88	-2859.16	-2865.16	-2859.42	-2860.32	-2853.96	-2860.18

Notes: N = 725, *AIC* = Aikake Information Criterion, *BIC* = Bayesian Information Criterion, dependent variable: return on asset (*ROA*), standard errors are shown in the parentheses, [a] DOR based on firms' assets,[b] random intercept, [c] logarithm; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

In particular, Hypothesis 2a was tested in Models 3, 4, 7, and 8. In general, Model 4 demonstrated the "best" fit based on AIC and on BIC. Compared to the basic and the second Model, we obtained a general improvement of in model fit ($\Delta AIC_{4\text{-}1}$ = -12.92, $\Delta BIC_{4\text{-}1}$ = -8.34, and $\Delta AIC_{4\text{-}2}$ = -1.28, $\Delta BIC_{4\text{-}2}$ = -1.28). As a result, Model 4 was used to test Hypothesis 2a. In this estimation, the interaction effect of DOR with SAS was positive and statistically different from zero (γ = 0.116, $p < 0.001$). Hence, we can support Hypothesis 2a. Finally, Models 5, 6, 7, 8 were introduced in order to test Hypotheses 2b, i.e., the moderating effect of R&D-related FSAs. We identified two models, which showed the "best" values for AIC or BIC. Where our model selection was based on the BIC, we would choose Model 6 in order to evaluate Hypothesis 2b ($\Delta BIC_{6\text{-}5}$ = -0.90). In this case, we would reject Hypothesis 2b due to the positive and significant parameter estimate for the interaction term of DOR and RDS (γ = 0.421, $p < 0.01$). However, where our model selection was based on the AIC, we would, then, select Model 5 over Estimation 6 ($\Delta AIC_{5\text{-}6}$ = -3.23). In this model, the join effect of DOR with ROA was positive, but not significant. Consequently, choosing Model 6 as the "better" estimation means that we cannot support Hypothesis 2b. In general, it is desirable to find a model favored by both criteria, i.e., AIC and BIC simultaneously (Arregle et al., 2013)[9]. Unfortunately, this is not the case as concerns Hypothesis 2b, hence, on the whole, it is not possible to support Hypothesis 2b.

To check for the robustness of our results, we conducted an additional analysis, in which the DOR-variable was based on firms' sales. The results are presented in Table 5. The BIC and AIC scores are lower than the respective values in Table 4, indicating that DOR-models based on firms' assets generated an overall better fit. Besides a lower significance level in Models 9 and 11, the results obtained from the additional analysis are in line with those presented in Table 4. Hence, the results seem to be robust.

Conclusion

Since the seminal work of Rugman and Verbeke (2004), a growing body of research on regional strategy/regionalization has emerged (Elango and Wieland, 2014). This study investigated the effect of intra-regional expansion on firms' performance among companies from six Western European countries. Naturally, we are aware of the fact that not including firms from Central and Eastern Europe limits the generalizability of our result. Based on a conceptual framework, we developed and empirically tested hypotheses regarding the performance effect of an intra-regional (as opposed to an inter-regional) expansion. Using a multilevel approach to analyze the data, we found that a greater intra-regional expansion leads to performance enhancement. In contrast, higher levels of inter-regional expansion induce a performance decrease.

[9] While AIC optimizes predictive efficiency, BIC criteria attempt to find the "true" model (Aho, Derryberry and Peterson, 2014; Burnham and Anderson, 2004). Moreover, AIC seems to be more "liberal" than BIC, since BIC penalizes additionally considered parameters. In addition, AIC is independent from the sample size, whereas the BIC score strongly depends on the size of the adopted sample (Aho et al., 2014; Burnham and Anderson, 2004).

Table 5. Results of additional multilevel analysis[a] for testing Hypotheses 1 and 2a, b

Variables	Model 1	Model 9	Model 10	Model 11	Model 12	Model 13	Model 14	Model 15
Intercept[b]	0.066*** (0.010)	0.060*** (0.011)	0.061*** (0.013)	0.065*** (0.010)	0.059*** (0.012)	0.065*** (0.010)	0.062*** (0.013)	0.065*** (0.010)
TDTA	-0.021† (0.012)	-0.022† (0.012)	-0.022† (0.012)	-0.021† (0.012)	-0.022† (0.012)	-0.020 (0.012)	-0.021† (0.012)	-0.021† (0.012)
EMP[c]	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
RDS	0.040 (0.043)	0.055 (0.043)	0.056 (0.044)	0.054 (0.043)	-0.003 (0.100)	-0.073 (0.084)	0.002 (0.100)	-0.007 (0.097)
SAS	-0.018 (0.018)	-0.019 (0.017)	-0.040 (0.040)	-0.056* (0.026)	-0.019 (0.018)	-0.019 (0.018)	-0.038 (0.040)	-0.048† (0.028)
ID	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)	-0.000 (0.001)
DOR[a]		0.013† (0.006)	0.001 (0.013)		0.010 (0.008)		0.005 (0.013)	
DOR[a]**SAS*			0.038 (0.064)	0.066† (0.033)			0.034 (0.064)	0.052 (0.039)
DOR[a]**RDS*					0.112 (0.174)	0.232 (0.146)	0.103 (0.175)	0.119 (0.169)
AIC	-2943.96	-2945.63	-2943.97	-2945.70	-2944.03	-2944.43	-2942.32	-2944.19
BIC	-2856.82	-2853.91	-2847.66	-2853.98	-2847.73	-2852.71	-2841.42	-2847.88

Notes: $N = 725$, *AIC* = Aikake Information Criterion, *BIC* = Bayesian Information Criterion, dependent variable: return on asset (*ROA*), standard errors are shown in the parentheses, [a] DOR based on firms' sales, [b] random intercept, [c] logarithm; † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

These results are in line with those found in previous studies (e.g., Qian, et al., 2010; Ruigrok et al., 2013; Sukpanich and Rugman, 2007). In particular, the findings indicate that the European market can create a favorable environment, which helps to minimize the costs resulting from liabilities of foreignness and difficulties arising from market imperfections (Rugman and Kano, 2012). Thus, we can say that the integrated nature of the European market and the similarity of European countries represent a region-specific advantage (RSA). The concentration of business activities of the respective companies within their home region leads to a decrease in transaction costs and, consequently, to higher performance (Lee and Rugman, 2012). In contrast, firms which shift their operational focus towards foreign markets outside their home region, i.e., pursue a more inter-regional-oriented strategy, experience higher uncertainty, complexity, and coordination problems. Ultimately, we found that an inter-regional expansion does not seem to be a profitable option. Moreover, we assumed that the impact of FSAs on the link between intra-regional expansion and performance would depend on the regional-bound characteristics of these assets. Based on the insights from the regionalization literature, we introduced the concept of regional-bound and non-regional-bound FSAs. Thus, we developed hypotheses regarding the moderating impact of R&D- and marketing-related FSAs on the relationship between intra-regional expansion (vs. inter-regional) and firm performance. With regard to Hypothesis 2b, we were not able to provide empirical evidence on the non-regional-boundedness nature of R&D-related FSAs. However, our results revealed that marketing-related FSAs tend to be more regional-bound and support the positive performance effect of intra-regional expansion. Hence, the superior value of these FSAs tends to be limited to the home region, and an intra-regional strategy can be seen as an efficient mechanism to transfer, deploy and exploit marketing-related FSAs.

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