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Effects of Geographic, Institutional and Linguistic Regions on FDI Performance

Stephen Chen

Introduction

Whether or not internationalisation benefits firms has been a key question in international business for at least the last 30 or so years (Gomes and Ramaswamy, 1999; Hitt et al., 1997). However, despite the extensive research and attempts to develop a general model explaining the link between internationalisation and performance (e.g. Contractor et al., 2003; Lu and Beamish, 2004), findings between studies are often conflicting. One reason that has been suggested for the conflicting findings is that the performance benefits of internationalisation vary according to the region where the firm internationalises. In several studies, Rugman et al. (Rugman and Oh, 2013; Rugman, 2007; Rugman and Verbeke, 2004; Rugman and Collinson, 2004; Oh and Rugman, 2006; Collinson and Rugman, 2008) have extensively documented how the world's leading MNEs have strong home-regional preferences in their internationalisation strategies. Other researchers (e.g. Oh and Contractor, 2014; Nguyen, 2014; Chen and Tan, 2012; Qian et al., 2008) have shown how the host countries and regions into which firms internationalise may affect the performance benefits firms obtain from internationalising.

However, there are a number of limitations with previous studies. First, some researchers have suggested that the findings of home-region preference are an artefact of how regions have been defined in the study. Different researchers have used different definitions of regions and different ways of classifying firms according to their regional preferences.

Another reason for the conflicting findings is that different studies have used different performance measures. These include a ratio of profits to total assets, to give return on total assets (ROA), or a ratio of profit to total sales, to give return on sales (ROS). Other studies have used market-based measures such as return on equity (Rugman et al., 1985) or Tobin's Q (Lu and Beamish, 2004). A problem with these measures is that they only measure performance at the aggregate firm

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level. They do not measure performance at the subsidiary level, so it is difficult to distinguish the impact on performance of a particular subsidiary. The aims of this chapter are to address the limitations above. First, it tests the effects of different regions defined according to different criteria. Second, it examines the effects of profitability at subsidiary level rather than firm level.

The remainder of the chapter is organised as follows: first, I provide a review of the theoretical background and literature on FDI and firm performance; second, I describe the data collection, analysis and results of the study; third, I discuss the implications of the results, limitations of the study and possible future directions for research.

Theoretical background

The relationship between internationalisation of firms and firm performance has long been a topic of interest to international business researchers (e.g. Hymer, 1976; Rugman, 1979; Caves, 1982; Gomes and Ramaswamy, 1999). However, despite many years of research, there is no clear consensus about the relationship between internationalisation and performance. Two of the problems that have been highlighted in previous studies are the measures used and the possible effect of additional contingency factors such as the economic, institutional and cultural characteristics of the host country and region.

Host region factors

There are good reasons to believe that subsidiary performance may vary with the regions that the firm enters when internationalising. As shown by Rugman (2000), even among the world's most internationalised companies, most still derive the bulk of their sales in their home region. Other studies have since confirmed the preference of firms to internationalise to countries in their home region (Rugman, 2007; Rugman and Verbeke, 2004; Rugman and Collinson, 2004; Oh and Rugman, 2006; Qian et al., 2008). By definition, home regional markets are geographically closer. This reduces transportation costs. As they are in the same time zone, it is also easier to coordinate activities. Rugman and Verbeke (2004: 13) assert that 'adaptation costs are simply higher in host-region markets than in home-region markets'. Another explanation is suggested by the internationalisation process model (Johanson and Vahlne, 1977) which indicates that firms seek regional markets that are proximate to their current markets because the degree of learning to operate in such markets is lower. Elango and Sethi (2007) proposed that firms face lower risks and incur reduced operational and coordination costs when operations are conducted regionally.

A number of studies have also examined the relationship between regionalisation strategies and performance (Rugman and Oh, 2010; Qian, Peng and Qian, 2008; Banalieva et al., 2012), but results are inconsistent. One criticism

that has been levelled against previous studies by some researchers is that there is no consensus on how a region is defined and so the results could simply be an artefact of how different researchers have chosen to define regions and how they classified firms' regional strategies. For instance, in commenting on Rugman's (2000) classification of firms as home-regional, host-regional, bi-regional or global, Oswegowitsch and Sammartino (2008) commented that the classification was very sensitive to the threshold criteria set for different categories and that a minor shift in sales distribution would pull some firms into a different category. Furthermore, they noted that home-regional sales in Rugman's (2000) classification include domestic sales so the results may be distorted by firms that are primarily domestic. Consequently, they suggested that studies of firm-specific internationalisation advantages should exclude domestic sales in order to exclude the effect of advantages in the home country. This was confirmed by Asmussen (2009) who found that much of the regional effect reported by Rugman and Verbeke (2004) is due to a home country effect. There is, therefore, some question in the extant literature about both the most appropriate way to measure regional effect in strategies of firms and the size of the region effect on firm performance. The next section discusses three ways that have been suggested to define regions and the following section explains how the effects due to different definitions of regions were compared in this study.

Geographically defined region

The most common method of defining regions is according to geography. Geographic distance has been long regarded as a barrier of international trade (Deardorff, 1998; Harrigan, 2005). Anderson and Van Wincoop (2004) have comprehensively reviewed trade costs estimated in the literature, and, according to them, the total transport cost for the United States, for example, is estimated to be 21 per cent of the free-on-board (f.o.b) price. In US–Canada trade, the trade cost due to geographic distance is estimated to be 16 per cent of the f.o.b. price. Korinek and Sourdin (2009), using a newly available dataset on maritime transport rates, estimated that trade declines by 6 to 8 per cent with every 10 per cent increase in maritime transport costs (Korinek and Sourdin, 2009). While evidence for effects of geographic distance on internationalisation performance of individual firms is limited (Ellis, 2007), it seems likely that investments in geographically close regions incur the least costs and so, all else being equal, would be expected to generate the greatest profits. Therefore, the first hypothesis tested was as follows:

> *Hypothesis 1:* Internationalisation by UK firms within the geographic region of Europe should lead to greater performance compared with internationalisation outside Europe.

Institutionally defined region

Other researchers have argued in favour of regions based on trading blocs on the basis that firms in the same trading bloc benefit from reduced market entry barriers. Banalieva et al.'s (2012) findings indicate the need for alignment of firm regionalisation strategies with the degree of market integration to explain performance. In the case of the United Kingdom, by virtue of the United Kingdom being a Member State of the European Union (EU), firms from the United Kingdom have access to the world's largest single market of 500 million people. In addition to the benefits from the single market, UK firms benefit more directly in other ways, such as reduced costs of employment, communications, energy, transport and trade. The right of free movement for EU citizens enables UK firms to recruit from a far wider pool. EU competition rules have also kept costs of telecommunications and energy down. A significant benefit for UK exporters is that businesses only have to deal with one set of rules rather than 27 different sets of rules when exporting to or operating in more than one EU Member State. For all the above reasons, membership in the EU should reduce the costs of doing business in the EU for UK firms and make internationalisation within the EU more profitable compared with internationalisation to countries outside the EU. Therefore, the second hypothesis tested was as follows:

> *Hypothesis 2:* Internationalisation by UK firms within the European Union should lead to greater performance compared with internationalisation outside the EU.

Linguistically defined region

In addition to the geographic and institutional factors above, a third factor that has been examined in the literature on firm internationalisation is cultural similarity between the home and host countries. The Uppsala model of internationalisation (Johanson and Vahlne, 1977) proposed that firms internationalise incrementally from 'psychically close' countries to 'psychically distant' countries. This would predict a pattern of internationalisation in which one would find more internationalisation in familiar countries in the first stage and more internationalisation in less familiar countries in the latter stages. There are many dimensions of culture that may influence the ease of internationalisation of firms. However, one dimension that has been highlighted by a number of international business researchers is linguistic similarity. West and Graham (2004) showed that linguistic distance is highly correlated with values-based measures of cultural distance, while Hutchinson (2006) showed that linguistic distance affects trade flows at the country level. For example, Ghemawat (2001: 3) has found that '[all] other things being equal, trade between countries that share a language ... will be 3 times greater than between countries without a common language'. Ashkanasy et al. (2002) found that countries in the 'Anglo Cluster' comprising Australia, Canada, England, Ireland, New Zealand, South

Africa, and the United States share many cultural characteristics, such as an individualistic performance orientation, a preference for charismatic inspiration, a participative leadership style and predominantly male orientation, although valuing gender equality. Therefore, based on these studies, the third hypothesis tested was the following:

> *Hypothesis 3:* Internationalisation by UK firms within the English-speaking countries (USA, Canada, Australia and New Zealand) should lead to greater performance compared with internationalisation outside these countries.

Methodology

Sample and data collection

The hypotheses were tested with a sample of UK companies drawn from the Annual Foreign Direct Investment (AFDI) Survey from the UK Office of National Statistics (ONS). The purpose of the annual foreign direct investment (FDI) surveys is to collect financial information on the relationship between UK companies and foreign parents and associates (inward FDI) and between UK companies and foreign subsidiaries, affiliates and branches (outward FDI). The information is primarily required for measuring the UK's balance of payments and international investment position. It covers the investment flows into and out of the direct investment enterprises, the earnings attributable to investors, current remittances (dividends and interest) to and from investors and the overall stock of direct investment at the end of the inquiry period. Data for the banking sector are collected by the Bank of England; data for other sectors are collected by the Office of National Statistics via sample surveys (Gilhooley, 2009).

The AFDI is conducted in two parts: an inward inquiry and an outward inquiry. The inward inquiry concerns the subsidiaries/associates of foreign firms operating in the United Kingdom, while the outward inquiry covers the investment made by UK firms in their overseas operations. This study only examined outward FDI by UK firms. UK firms are asked to provide information on a variety of aspects of their subsidiaries and branches in foreign countries. Notable areas include: country of ownership/investment, profit and loss, earnings, tax credits, sales/purchases of shares/loans, and gains/losses resulting from movements in exchange rates.

The outward AFDI survey includes observations on between 2,388 and 3,302 enterprise groups and between 11,168 and 13,393 subsidiaries per year over the period 1996–2005. However, many firms had to be excluded owing to incomplete information on some items. The final sample amounted to a total of 39,126 subsidiaries and 55,726 subsidiary-year observations over the period 1996–2005. Table 1.1 shows the breakdown of firms and observations in the sample by region and Table 1.2 shows the breakdown by industry.

Table 1.1 Sample by region

Region	No. of firms
Western Europe	17,506
Asia	6,884
North America	4,570
Africa	2,221
Pacific	2,110
South America	1,707
Eastern Europe	1,657
Central America	1,317
Middle East	1,189
Total	39,161

Table 1.2 Sample by industry

Industry	No. of firms	Industry	No. of firms
1 Agriculture	5,118	5 Wholesale	5,531
2 Mining	9,371	6 Transport	5,913
3 Manufacturing	3,946	7 Business Services	6,591
4 Utilities	1,873	8 Other	818
		Total	39,161

Multilevel model

A multilevel, crossed random effects model (Rabe-Hesketh and Skrondal, 2008) was used to test the hypotheses. Multilevel or hierarchical linear models have found widespread application when the data have a nested structure. In our case the subsidiaries are nested both within enterprise groups and host regions/countries; however, an enterprise group can be present in many host countries/regions and subsidiaries within a host region/country can belong to multiple firms. In such a case, a crossed random effects model is required in order to distinguish the region, firm and subsidiary effects (Zaccarin and Rivellini, 2002).

This is represented by the following regression equation:

$$y = \beta_1 + \beta_2 X_1 + \beta_3 X_2 + \beta_4 X_{3\ldots} + \beta_n X_{n-1} + \zeta_{1i} + \zeta_{2j} + \zeta_{3k} + \varepsilon_{ijk}$$

where y is subsidiary/branch performance, β_1 is the intercept, $\beta_{2..n} X_{1\ldots n-1}$ represent the effect of the variables X_1-X_{n-1}, ζ_{1i} is the region effect, ζ_{2j} is the firm effect, ζ_{3k} is the subsidiary effect and ε is the residual.

Variables and measures

Dependent variable

Subsidiary/branch performance was measured by subsidiary/branch profit divided by net book value of the subsidiary/branch. As mentioned above, a common problem in many studies of FDI performance is that they measure performance at the aggregate firm level and they do not measure performance at the subsidiary/branch level so it is difficult to distinguish the specific impacts of foreign investments. As shown by Rugman, Yip and Jayaratne (2008), return on foreign assets (ROFA) provides a much better measure of the strategic performance of foreign subsidiaries in comparison to the traditional metrics of return on total assets (ROA) and the ratio of foreign to total sales or assets (F/T), as it directly measures the return a firm obtains from international investments. This paper makes use of performance data from individual subsidiaries/branches and so enables a more direct measure of returns on a particular foreign investment.

Independent variables

Since the definition of geographic region can vary, the effect of a number of different host regions was tested by including a number of dummy variables, coded as follows:

EU: 1 if the subsidiary located in the European Union; 0 otherwise
EU_NA: 1 if the subsidiary located in Europe or North America; 0 otherwise
EU_NA_PA: 1 if the subsidiary located in Europe, North America or Pacific (Australia or New Zealand); 0 otherwise.
Geographic-Europe: 1 if the subsidiary/branch is located in a country within the geographic continent of Europe; 0 otherwise.
English-speaking: 1 if the subsidiary/branch is located in a country where English is an official language; 0 otherwise.

Control variables

I also controlled for the following factors:

SIZE OF INVESTMENT (LNINVEST): This was measured by the natural logarithm of the net book value of the subsidiary and was used to control for the potential effect of scale economy differences. Logarithmic transformation not only makes the results easy to interpret, because the changes in the logarithm domain represent relative (percentage) changes in the original metric and also makes the distribution of data closer to normality.

INDUSTRY: To control for differences in profitability across industry sectors, I used dummy variables coded according to the industry of the subsidiary.

YEAR: To control for differences in profitability across years, I used dummy variables coded for the year of the observation.

BRANCH: The AFDI survey distinguishes between subsidiaries and branches. This was coded as 1 if it was branch, 0 otherwise.

DIVERSIFICATION: Some subsidiaries operate in a different industry sector from the parent company and this might lead to performance differences, so to control for this I included a dummy variable coded as follows: 1 if the first digit SIC of the industry of the parent company is different from that of the subsidiary; 0 otherwise.

Results

The results show clearly that the performance gains from FDI vary significantly depending on whether internationalisation takes place within the home region or outside the region.

Table 1.3 shows the effect of subsidiary/branch location in the European Union. This confirms that subsidiaries and branches of UK firms which are located in the EU earned significantly higher earnings on investment compared to subsidiaries and branches outside the EU, after controlling for the size of the investment, industry, year, diversification and branch. Earnings in industry seven (business services) and year one (1996) also showed up as significantly higher compared to the rest. Diversification and branch were not significant.

Table 1.4 shows the effect of subsidiary/branch location in Europe or North America. This confirms that subsidiaries that are located in the combined EU–North America region earned significantly higher earnings on investment after controlling for the size of the investment, industry, year, diversification and branch/subsidiary. Earnings in industry seven (business services) and

Table 1.3 Cross effect multilevel regression of return on foreign investment: Europe

	Coef.	**Sig.**		**Coef.**	**Sig.**
EU	0.27318	*	year_1	−0.527	**
lninvestment	−0.1804	****	year_2	−0.3384	
Industry_1	−0.1295		year_3	−0.1387	
Industry_2	−0.6153		year_4	−0.1672	
Industry_3	−0.9141		year_5	−0.1836	
industry_4	−0.9645		Branch	−0.102	
industry_5	−0.8091		Random-effects	Estimate	S.E.
industry_6	−0.502		Geographic Region	.0000386	.0000853
industry_7	−1.0486	*	Firm	.6155782	.1075213
industry_8	−0.8504		Subsidiary	1.873956	.259548
Diversify	−0.0476		Residual	10.65904	.0690627

Notes: * indicates < 0.1, ** indicates < 0.05, *** indicates < 0.01, **** indicates < 0.005.

Table 1.4 Cross effect multilevel regression of return on foreign investment: Europe and North America

	Coef.	Sig.		Coef.	Sig.
EU_NA	0.33573	**	year_1	−0.5294	**
Lninvestment	−0.1889	****	year_2	−0.3383	
industry_1	−0.1		year_3	−0.1378	
industry_2	−0.6105		year_4	−0.166	
industry_3	−0.9149		year_5	−0.1806	
industry_4	−0.9573		Branch	−0.0882	
industry_5	−0.802		Constant	1.67695	***
industry_6	−0.4823		Random-effects	Estimate	S.E.
industry_7	−1.0489	*	Geographic Region	9.35e-07	.0000802
industry_8	−0.8557		Firm	.6234491	.1068631
Diversify	−0.0556		Subsidiary	1.869732	.2601175
			Residual	10.65903	.0690649

Notes: * indicates < 0.1, ** indicates < 0.05, *** indicates < 0.01, **** indicates < 0.005.

Table 1.5 Cross effect multilevel regression of return on foreign investment: Europe, North America, Pacific

	Coef.	Sig.		Coef.	Sig.
EU_NA_PA	0.40725	**	year_1	−0.5311	**
lninvestment	−0.1911	****	year_2	−0.3398	
industry_1	−0.0728		year_3	−0.1388	
industry_2	−0.5965		year_4	−0.1691	
industry_3	−0.9033		year_5	−0.1829	
industry_4	−0.9388		branch	−0.0766	
industry_5	−0.7929		constant	1.60017	**
industry_6	−0.4666		Random-effects	Estimate	S.E.
industry_7	−1.0408	*	Geographic Region	4.12e-06	9.86e-06
industry_8	−0.8303		Firm	.627233	.1064929
diversify	−0.0563		Subsidiary	1.866511	.2604928
			Residual	10.65893	.0690607

Notes: * indicates < 0.1, ** indicates < 0.05, *** indicates < 0.01, **** indicates < 0.005.

year one (1996) also showed up as significantly higher compared to the rest. Diversification and branch/subsidiary were not significant.

Table 1.5 shows the effect of subsidiary/branch location in Europe, North America or the Pacific (Australia and New Zealand). This confirms that subsidiaries that are located in the combined Europe, North America and Pacific region earned significantly higher earnings on investment after controlling for the size of the investment, industry, year, diversification and branch/subsidiary. Earnings in industry seven (business services) and year one (1996) also

showed up as significantly higher compared to the rest. Diversification and branch/subsidiary were not significant.

The above results confirm that geographic distance, EU membership and English language are all significant factors which affect the profitability of UK FDI. However, in order to more directly compare the relative contributions of regions defined according to each of these factors, a further analysis was conducted using industry and regions as random factors. This showed that the industry effect was much larger than the region effect. However, there were also significant differences in the size of the region effect depending on how the region is defined. Tables 1.6 and 1.7 show the relative effects of geographically

Table 1.6 Relative impacts of EU membership versus geographic region

	Coef.	**Sig.**
lninvest	–0.13798	***
diversification	–0.13589	
year_1	0.16915	
year_2	0.367619	
year_3	0.354308	
year_4	0.326287	
year_5	0.531316	*
constant	0.781659	***
Random-effects Parameters	Estimate	Std. Err.
EU member country	1.11E-12	5.12E-10
Geographic region	2.90E-14	1.41E-13
Industry	0.080111	0.074542
Residual	117.6847	1.187961

Notes: * indicates < 0.1, ** indicates < 0.05, *** indicates < 0.01, **** indicates < 0.005.

Table 1.7 Relative impacts of English-language versus geographic region

	Coef.	**Sig.**
Lninvest	–0.13889	***
diversification	–0.13562	
year_1	0.168429	
year_2	0.367219	
year_3	0.350493	
year_4	0.319004	
year_5	0.527512	*
constant	0.784281	***
Random-effects Parameters	Estimate	Std. Err.
English-speaking country	1.05E-13	3.66E-12
Geographic region	1.81E-08	7.28E-08
Industry	0.098304	0.092644
Residual	117.6744	1.207235

Notes: * indicates < 0.1, ** indicates < 0.05, *** indicates < 0.01, **** indicates < 0.005.

defined region versus EU membership and English-language country respectively (shown as random effects in the table). Table 1.6 shows that EU membership explains a much larger proportion of the variance in profitability compared with just taking geographic region into account (approximately 50 times). Table 1.7 shows that the English language of the country explains only a small proportion of the variance in comparison with the geographic region (by a factor of approximately 100,000 times).

Discussion and conclusions

The findings from this study confirm the findings of Rugman and others (Rugman, 2007; Rugman and Verbeke, 2004; Rugman and Collinson, 2004; Oh and Rugman, 2006; Qian et al., 2008) who found a strong preference for the home region in the internationalisation of MNEs based on foreign sales at the corporate level. However, our results show that there are regional effects on profitability of foreign subsidiaries as well as sales.

Foreign subsidiaries and branches in Europe are shown to be significantly more profitable compared with foreign subsidiaries in other regions whether the region is defined according to geography or EU membership. However, EU membership is shown to be a much more significant factor than the region defined according to geographic criteria. This confirms the importance of institutional arrangements such as the European Union on the profitability of foreign investments compared with simple geography. The results from the variance decomposition show that the effect of EU membership is estimated to be some 50 times greater compared with the geographically defined Europe region.

The results also show that in the case of UK firms, FDI into English-speaking countries such as the United States, Canada, Australia and New Zealand also contributes positively to profitability of investments compared with investments in other countries. This can be attributed to the long cultural associations between the UK and these former colonies. This is also reflected in the relatively large number of investments in these countries. After Europe, North America is the most popular destination for FDI by UK firms (Table 1.1).

Implications for management/policy

The findings have a number of implications for research on the relationship between internationalisation and firm performance. First, the results show that it is not just total foreign investment that matters but, more importantly, in which region the foreign investments are made. Second, the results show that how a region is defined makes a significant difference when assessing the effect on profitability. The study shows clearly that the effect of region defined

according to trading blocs far outweighs the effect of region defined geographically and shows that even within a geographically defined region the institutional trading arrangements have a significant effect.

The study also shows that the effect of linguistic similarity may extend beyond the geographically defined region. In the case of UK firms the effects on profitability extend beyond the home geographic region to include the Anglophone countries in North America (United States and Canada) and Asia Pacific (Australia and New Zealand). This is consistent with research by Dow and Karuratna (2006), among others, who have highlighted the importance of linguistic similarity between home and host countries on the performance of internationalising firms.

The findings also have some implications for managers of firms considering FDI. The findings suggest that, for UK firms, FDI into EU member countries is likely to be more profitable compared to FDI into other countries. This is perhaps not surprising but it highlights the importance of trade agreements and trading blocs compared with geographic distance of countries. Even where countries are geographically close, trade agreements such as the European Union treaty play a much more significant role in determining profitability of FDI. The findings also show that in the case of UK firms, FDI into English-language-speaking countries is more profitable compared to FDI in non-English-speaking countries, although the difference is less compared with the effect of EU membership.

Limitations and further research

Clearly this study has limitations and there are several opportunities for further research. First, the sample may be biased as it only includes firms that provided the required financial data. Results may be different for firms that were excluded because they did not provide the necessary data. Secondly, although the results strongly suggest that geographic distance, trading blocs and cultural factors play a role in determining the choice of country and resulting performance of subsidiaries, there is no data on what actually motivated these firms to internationalise in the first place and what factors contributed to their choice of location. Further research might attempt to examine this question.

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This chapter is dedicated to the memory of the late Professor Alan Rugman whose work on regional strategies inspired this research and who facilitated my gaining access to the ONS data. Sadly Professor Rugman passed away before he could see the results. Any errors in the chapter are entirely my own.

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