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## The Development of Foreign-Owned Subsidiaries and the Supply of European Markets

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# **The Development of Foreign-Owned Subsidiaries and the Supply of European Markets**

**Manchester Metropolitan University Business School Working Paper 06-03**

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## **ABSTRACT**

The major relationships between regional economic integration and foreign direct investment (FDI) are well established, and have been extensively explored in the context of economic integration in the European Union (EU). Several studies have been conducted on the impact of FDI of intra-EU trade liberalisation and single market policies, and agglomerations and industrial clusters. However, with the exception of a few studies such as that by Pearce and Papanastassiou (1997) very little research has been done that is focused on the links between the strategic development of foreign-owned subsidiaries in Europe and their supply of European markets. This paper summarizes the literature on the implications of European economic integration for FDI; it highlights that there have been few studies that are centred on the strategic responses of MNCs to integration. The paper, then, assesses the impact of the strategic development of subsidiaries on the likelihood of them supplying Europe as the main or as a secondary market. This paper's finding support the view that strategic and operational decision-making autonomy is important for those subsidiaries that export to Europe. In the case of Europe as a secondary market it seems that only strategic decision-making autonomy is important. The evidence for embeddedness factors reveals that they are less important than autonomy factors.

Keywords: Multinational Corporations, Subsidiary Development, Supply Chains

## **1. Introduction**

The major relationships between regional economic integration and foreign direct investment (FDI) are well established (Robson, 1994) and have been extensively explored in the context of economic integration in the European Union (EU). Studies have been conducted on the impact of FDI of intra-EU trade liberalisation and single market policies (Aristotelous and Fountas, 1996; Clegg and Scott-Green, 1999; Dunning, 1997a and 1997b; Mold, 2003) exchange regimes and monetary union (Barrel and Pain, 1998; Pain and Van Welsum, 2003) and agglomerations and industrial clusters (Amiti, 1998; Barrell and Pain, 1999a; Barry *et al.*, 2003). However, with the exception of a few studies such as that by Pearce and Papanastassiou (1997) very little research has been done that is focused on the links between the strategic development of foreign-owned subsidiaries in Europe and their supply of European markets.

European economic integration reduces barriers to supplying European markets from locations in other member states leading to incentives to develop subsidiaries to enhance competencies that boost competitive advantages that, in turn, enable expansion into European markets (Dunning and Robson, 1988). These competencies are based on benefits from being embedded in host locations (including location in industrial clusters) and from the granting of autonomy to subsidiaries to develop strategically and operationally in ways that permit the evolution of competitive advantages (Birkinshaw *et al.*, 1998). Multinational Corporations (MNCs) that are not based in Europe may have greater incentives than European based MNCs to develop embeddedness and autonomy in their European subsidiaries because they often lack European based assets that enhance competitive advantage (McDonald *et al.*, 2002). This paper explores the relationships between the supply of European markets by foreign-owned subsidiaries in the UK and changes in embeddedness and autonomy factors, and the nationality of parent companies.

A summary of the literature on the implications of European economic integration for FDI is provided, which indicates that there have been few studies that are centred on the

strategic responses of MNCs to integration. An outline is then provided of the key factors that influence the strategic development of foreign-owned subsidiaries in the context of the supply of European markets. The details of the methodology used to assess the impact of the strategic development of subsidiaries on the likelihood of them supplying Europe as the main or as a secondary market are outlined in the next section of the paper. The results of the study are then presented and discussed. The final section of provides some concluding remarks on the implications of the findings for future research on the effects of European economic integration for the strategic development of the European subsidiaries of MNCs.

## **2. Regional Economic Integration and FDI**

Investigation has been made in three major areas on the effects of regional economic integration for FDI. These are the impact of reductions in intra-EU trade barriers and single market policies, the importance of location in industrial clusters, the influence of fixed exchange rate regimes and the macroeconomic conditions that accompany such regimes. Intra-EU trade liberalisation and single market policies create larger and faster growing European markets than would be the case if trade barriers had not been reduced (Buckley *et al.*, 2001). Trade liberalisation and single market policies also reduce the cost of intra-EU trade and thereby provide opportunities to take advantage of lower cost and/or higher quality products from within the EU. These changes stimulate trade-related FDI (Dunning, 1997a and 1997b). The removal of barriers to trade and reduction in the cost of intra-EU trade also make it possible to concentrate production in industrial clusters thereby reaping external economies of scale and learning effects that permit competitive advantages that allow all, or large parts, of the EU to be supplied by firms located in these industrial clusters (Amiti, 1998; Barrell and Pain, 1999a). Fixed exchange rate regimes have been considered to provide incentives for FDI because of the reduction of transaction costs of converting currencies and the lowering of risk associated with exchange rate instability. Improvements in the investment climate that may follow from improved

macroeconomic performance arising from fixed exchange regimes are also considered to stimulate FDI (Sung and Lapan, 2000).

The evidence on the importance of these factors is mixed. A study of US manufacturing FDI into the EU found that market size and growth were more important than changes to input costs. A study of US and Japanese investment by Clegg and Scott-Green (1999) found evidence that market size and growth were important determinants of FDI. Aristotelous and Fountas (1996) discovered that market size was important but that market growth was not important. Studies that have investigated the impact of labour costs have found that they have a limited impact and suggest that FDI between developed countries has tended to flow to high-wage and, hence, highly productive locations (Clegg and Scott-Green, 1999; Mold, 2003). Investigations of the impact of the single market programme find evidence that the removal of trade barriers and single market policies have stimulated intra-EU FDI by more than intra-EU FDI (Aristotelous and Fountas, 1996; Dunning, 1997 a and 1997b). Evidence has also been found that the trade policy effects of the single market programme on third countries such as Japan also stimulated FDI (Barrell and Pain 1999b). Other studies find less strong evidence of these effects (Clegg and Scott-Green, 1999; Mold, 2003) which may reflect that the impact of the major reductions in trade barriers were factored into FDI decisions taken in the early 1990s and that the perceived need by MNCs to get behind trade walls has largely worked through the system. The evidence on agglomeration effects is mixed (Mold, 2003) but a tendency has been discovered for FDI inflows to increase to locations where industries are already geographically concentrated (Barrell and Pain, 1998; Barry *et al.*, 2003; Dunning 1997a and 1997b). Fixed exchange rate regimes seem to have the most significant effect on FDI in cases where such regimes improve the macroeconomic investment climate. There is little evidence that nominal exchange rate stability has a significant impact on FDI, but real exchange rate changes do appear to affect FDI flows (Barrell and Pain, 1998; Pain and Van Delsum, 2003).

The studies on the links between regional economic integration in the EU suggest that there have been significant but limited effects on FDI. Strategic issues such as whether FDI is driven by market seeking, efficiency seeking and knowledge seeking incentives have been investigated (Dunning, 1997a and 1997b; Clegg-Scott-Green, 1999) but these studies have not explicitly explored the relationships between the strategic developments of foreign-owned subsidiaries in the context of European economic integration and exporting to European countries. This study investigates the strategic development of foreign-owned subsidiaries and the extent of European supply to increase our understanding of how changes in European integration are likely to affect the strategies of MNCs and thereby to influence the development of pan-European operations by such firms.

### **3. Multinational Corporation Strategy and European Economic Integration**

Multinational corporations (MNCs) have been identified as key players in the development of pan-European operations. European economic integration is considered to induce significant changes in the operations in certain subsidiaries to enable them to take advantage of cheaper and better quality inputs, and to develop new markets and to expand existing European markets (Balasubramanyam and Greenaway, 1992; Dunning and Robson, 1988; Young *et al.*, 1991). Therefore, European economic integration leads to a rationalisation of the operations of subsidiaries and the development of strategies to concentrate and expand activities in preferred locations to supply all or large parts of Europe from subsidiaries in these preferred locations. Increased autonomy is also likely to be granted by developing new mandates in areas such as marketing, R&D, and product development that enable effective supply to European markets. Such rationalisation leads to a contraction of the scope of operations and the withdrawal of mandates in subsidiaries not deemed to be suitable for strategic development (Birkinshaw, 1996). The overall effect of such investment and divestment is not certain and many of these strategic decisions do not lead to discernable changes in FDI flows.

Therefore, aggregate data on FDI flows may not provide a good guide to the strategic development of subsidiaries in response to European economic integration.

The strategic development process has been revealed to be an evolutionary process where the interaction between parent companies and subsidiaries leads to process of developing new mandates and operations (Delany, 2000; Schmid and Schurig, 2003; Taggart, 1998). This interaction also promotes embeddedness by building up linkages with suppliers, customers, governmental and quasi-governmental agencies in host locations (Davis and Meyer, 2004; Ivarsson, 2002). Hence to assess the links between the strategic development of subsidiaries and the supply of European markets requires consideration of *changes* in autonomy and embeddedness factors.

A study by Pearce and Papanastassiou (1997) investigated the links between the strategic development of subsidiaries and markets supplied using a survey of foreign-owned subsidiaries in the UK. This study investigated exports by type of goods (standard or technology-intensive goods) and by the major characteristics of subsidiaries, including nationality of the parent company. The findings suggested that supply to European markets from UK subsidiaries was influenced by rationalisation to enable benefits to be reaped by concentrating production in some host locations. Cost considerations were found to be important for standard goods but that in the case of technology-intensive goods the quality of assets was more important than cost. The study also found some evidence that non-European parent companies were more likely to supply European markets. However, the study did not directly investigate autonomy and embeddedness factors or the change in these factors.

#### **4. Factors influencing European Supply**

European economic integration changes business environments by changing trade and production costs and offering new opportunities and challenges to develop new markets. In the light of these changes MNCs have incentives to strategically develop their subsidiaries to take

advantage of the opportunities and to respond to the challenges. The literature on the strategic development of subsidiaries indicates that changes in autonomy and the embeddedness of the subsidiary into its host location are the main ways that MNCs respond to changes in their business environments. Country of origin effects have also been identified as exerting an influence on the strategic development of subsidiaries.

#### *4.1 Autonomy*

There have been extensive studies on the reasons for, and the effects of, granting autonomy to foreign-owned subsidiaries (Andersson *et al.*, 2002; Holm and Pedersen, 2000). Empirical studies have found evidence that the development of autonomy boosts the performance of foreign-owned subsidiaries (Hood and Taggart, 1999; Delany, 2000; Taggart and Hood, 1999).

Autonomy can be split into two main components, strategic decision-making autonomy, and operational decision-making autonomy. Strategic decision-making autonomy is concerned with the right to make major policy decisions in areas such as R&D, product developments, and marketing. Operational decision-making autonomy is the ability to make tactical decisions on the scope of operational processes connected to production, sales and distribution, and the management of human resources.

Expanding strategic decision-making autonomy by granting mandates in areas such as product development, R&D, and marketing, lowers transaction costs by creating a shorter and more effective chain of command between HQ and subsidiaries, and enhances the ability of subsidiaries to explore new and innovative arrangements. Evidence for these effects has been found in R&D and technological developments (Davis and Meyer, 2004; Manolopolos *et al.*, 2005) and in the development of markets (Schmid and Schurig, 2003; Pearce and Papanastassiou, 1997; Young *et al.*, 1991). Increasing operational decision-making autonomy creates opportunities to expand and develop the scope of operations leading to internal



economies of scale and economies of scope, and benefits associated with learning effects (Balasubramanyam and Greenaway, 1992; Buckley *et al.*, 2001). It is therefore to be expected that European subsidiaries that are granted increased autonomy will be enabled to develop competitive advantages that facilitate exports to a wide range of European countries.

#### *4.2 Embeddedness*

Embeddedness factors are linked to the use of business network connections to gain access to useful assets, information and knowledge and to extend and develop the use of host country suppliers in the supply chain of subsidiaries. Location in industrial clusters is also an important in terms of the benefits that arise from geographical proximity to firms and supporting agencies in the same or a similar industry.

Network connections involve other firms, R&D agencies such as universities and government research bodies, local authority agencies, chambers of commerce and other organisations. These linkages have been found to boost the competitiveness of subsidiaries because of external economies of scale, and increased flexibility and enhanced abilities to innovate that arise from establishing relationships with suppliers, customers, and supporting agencies (Dunning, 2000). They also enhance the ability of firms to learn collectively and to exploit locally created innovation by improving access to valuable assets, information and knowledge (Lundvall, 1999). Local networks that are composed of firms and supporting agencies in the same or similar industries are at the core of industrial clusters that deliver competitive advantages to foreign-owned subsidiaries that locate in these geographical concentrations (De Propis *et al.*, 2005; Enright, 2000). Evidence has been found that competitiveness advantages are linked to network connections that lead to the accumulation of knowledge that enhances subsidiary performance (Davis and Meyer, 2004; Holm *et al.*, 2003). Benefits have also been discovered from external economies of scale, and other proximity

benefits that boost the market performance of foreign-owned subsidiaries (Andersson *et al.*, 2002; Schmid and Schurig, 2003).

The relationship between the development of domestic supply chains by foreign-owned subsidiaries and improved performance has been extensively studied and evidence has been found on the importance of the development of host country sourcing for the performance of foreign-owned subsidiaries (Coe and Perry, 2004; Görg and Ruane, 2001). These benefits include increased flexibility, improved after sales services, and enhanced abilities to conform to the conditions for effective just-in-time and quality control systems. Some studies in the UK indicate that there are a number of problems associated with poor quality and the reliability of inputs. Low skill levels in the workforce have been identified as hindering the growth of the use of local suppliers in the UK (Crone and Watts, 2002; Phelps *et al.*, 2003; Potter *et al.*, 2003). These studies indicate that increasing the use of domestic sources for inputs may not always be beneficial. Moreover, participation in global supply chains seems to be an important requirement for attaining and maintaining competitive advantage by increasing sourcing from lower cost and/or better quality suppliers. The reduction in trade barriers, improvements in logistical systems, and the emergence of major traders such as China and India have contributed to the growth in the use of global supply chains (Gereffi and Kaplinsky, 2001; Yip, 2002). Therefore, the importance of increasing host country sourcing for attaining and maintaining competitive advantages is not clear. It seems that increasing the use of host country sourcing is likely to enhance competitive advantages (if proximity to suppliers leads to benefits) or to detract if global sourcing leads to cheaper and/or better sources for inputs.

#### *4.3 Country of Origin Effects*

Most of the literature that investigates country-of-origin effects focuses on control strategies and human resource management policies but the implications for internationalisation strategies have also been considered (Ferner, 1997; Pauly and Reich, 1997). These studies

support the view that control strategies and human resource policies have a strong country of origin effect as the nationality of parent companies significantly affects the character of these strategies. Internationalisation strategies however seem to be largely explained by industry factors connected to the competitive strategies used in different industries with no discernable influence arising from the nationality of parent companies (Harzing and Sorge, 2003). This implies that there are no significant country-of-origin effects in the internationalisation strategies of MNCs. Therefore, the development of autonomy and embeddedness in foreign-owned strategies and exporting should not be influenced by the nationality of parent companies.

Some studies however have found evidence that country of origin effects are as strong as industry effects and that firm specific factors are the main determinants of the performance of foreign-owned subsidiaries (Makion *et al.*, 2004). This research suggests that the way MNCs exploit their firm specific advantages in foreign subsidiaries is the key to the performance and that there are country of origin effects at work in this process. Rugman and Verbeke (2004) discovered that most MNCs find it difficult to capture high market share in the regions of the Triad other than in the home region of the MNC. This suggests MNCs encounter problems when they operate in other regions of the Triad. These problems stem from difficulties in transforming firm specific advantages created in the home region into firm specific advantages in subsidiaries in other parts of the Triad. The problems are associated with adjusting firm specific advantages in areas such as production and distribution systems, and added-value services connected to the products sold in host countries. In these circumstances non-EU MNCs have incentives to develop policies to help to effectively transfer firm specific advantages from the home base to their European subsidiaries (Rugman and Verbeke, 2004). The development of autonomy and embeddedness may help to alleviate these problems by facilitating the development of firm specific advantages that help to boost, among other things, European exports.

Empirical studies have discovered that the European subsidiaries of non-European MNCs are more likely than the European subsidiaries of European MNCs to develop pan-

European operations (Chesnais *et al.* 2000; Schmidt, 2000). The difference in strategic approach arises because non-EU MNCs often lack developed business networks in Europe and therefore have incentives to develop such European networks. In contrast, European MNCs normally have developed business networks in their home locations before they embark on FDI in other European countries. In these circumstances many European subsidiaries of European MNCs are often little more than sales and distribution outlets for exports from the home base (McDonald *et al.*, 2003).

Some of the literature on country of origin effects implies that subsidiaries with non-EU parent companies are unlikely to have different exporting behaviour than that of the European subsidiaries of European MNCs. However, other literature, which is based on different conceptual frameworks, suggests that there are country of origin effects that impinge on internationalisation policies. This literature implies that European subsidiaries of non-EU MNCs are more likely to export to a variety of European countries as compared to the European subsidiaries of European MNCs.

## **5. The Study**

Information on German, French and the US owned subsidiaries in the UK was obtained from the German-British Chamber of Industry and Commerce, the Chamber de Commerce Francaise de Grande-Bretagne, British-American Business Inc. and from Regional Development Agencies in the UK. In the period 1998 to 2002, direct investment by these countries accounted for 60 per cent of the book value of manufacturing FDI stock in the UK (Office for National Statistics, 2004). It was not feasible to survey all of the US subsidiaries in the UK (approximately 10000) so a stratified sample based on industry and region was used.

The construction of the questionnaire was guided by the approaches used in previous studies of the strategies of foreign-owned subsidiaries (for example, Taggart, 1997; Holm and Pedersen, 2000). However, the questions in this study did not require self-assessment on the

extent, or importance, of changes but simply asked whether there had been an increase, decrease, or no change in the factors connected to autonomy and embeddedness. This method of gathering data provided less information than data on the importance and extent of the changes, but reduced the likelihood that subsidiary managers are over optimistic, or pessimistic, in their responses about changes in these factors. The use of simple questions also improved the likelihood of a large number of returns and thereby minimised small sample bias when conducting statistical tests. The approach taken in this study sacrificed richness of data in return for improved validity of the responses, and to obtain a large number of observations. The questionnaire was piloted in twenty subsidiaries of different sizes and in a variety of industries and the feedback was used to amend the questionnaire.

The response rate from German subsidiaries was 36.6 per cent, with 21.8 per cent and 15.9 per cent respectively from French and US subsidiaries. Non-response bias was checked by a series of binary logistic regressions using late responses (as a proxy for non-response) as the dependent variable and a number of subsidiary characteristics, such as industry, entry mode and age as the independent variables (Schmitt, 2003). The results of the tests revealed that French and US subsidiaries had different responses for some industries. Therefore, following Malhorta and Birks (2003) the results for the identified industries were weighted according to their industrial distribution. Missing data were dealt with by using the mean value for the variable as this method minimises sample bias (Hair *et al.*, 1998).

The change in autonomy variables were defined as follows. A score 1 was given if a subsidiary had increased strategic decision-making autonomy in the areas of the development of products and/or R&D and/or marketing policy; or had increased strategic decision-making autonomy in policy on the development of services, and human resources policy. Operational decision-making autonomy was determined by a score 1 if a subsidiary had increased tactical control of operations in manufacturing systems and/or research and development procedures and/or sales and distribution processes; or had increased tactical control of operations in systems

for the provision of services, and human resources procedures. The change in embeddedness variables were defined as a score of 1 if the use of networks and host country sourcing had increased in the past five years. A score of 0 was given for all explanatory variables that did not fulfil these conditions. The period of change for the variables was 1997 to 2002. Subsidiaries were allocated to location in an industrial cluster if their address was in an area that had been identified as an industrial cluster in the DTI survey of UK clusters (DTI 2001) and they were also classified as belonging to the industry of the DTI identified industrial cluster. The dependent variables were defined on the basis of supply of Europe as main market, and as a secondary market, compared to no European market other than the UK. Supply to Europe as a main and a secondary market excluded supply to the UK. Control variables for the regressions were selected on the same basis as those used in similar studies (Andersson *et al.*, 2002; Holm and Pedersen, 2000; Taggart, 1997). Table 1 provides information on the variables and their definitions.

The dependent variables in this study are categorical variables with unordered categories. This type of dependent variables requires the use of multinomial models (Greene, 2003). The main models used for this type of data are multinomial logit models (MNL) and multinomial probit models (MNPM). The MNL approach has been widely used due to the computational advantages that it offers over the MNPM (Greene, 2003). However, since the MNL is based on the independence of irrelevant alternatives property (IIA), it renders the MNL vulnerable when the dependent variable contains to categories that are close substitutes (see Amemiya, 1981 for discussion of these issues). The violation of the IIA property may also arise from heteroscedasticity due to the presence of shared unobserved components associated with different categories. Since MNPM does not suffer from the problems arising from the IIA property, it is therefore preferable to the MNL. High computational costs characterising the MNPM have restrained it from being widely used (Geweke *et al.*, 1994) but advances in computational technologies have led to increasing popularity of the MNPM. Therefore, the

MNPM was selected for this study. The regressions were estimated using STATA 9.0 statistical package (Long and Freese, 2003).

**Table 1 Description of the Variables and Frequencies for Independent and Control**

**Variables**

<b>Dependent Variables</b>	<b>Categories Description and Frequencies</b>
Market supply	1 – main market in Europe (18.7%); 2 – secondary market in Europe (35.0%); 3 – no European market other than UK (46.3%)
<b>Independent Variables</b>	
Increase in strategic decision-making autonomy	0 – not increased; 1 – increased (35.0%)
Increase in operational decision-making autonomy	0 – not increased; 1 – increased (62.2%)
Increase in use of networks	0 – not increased; 1 – increased (28.9%)
Increase in host country sourcing	0 – not increased; 1 – increased (23.0%)
Located in a Cluster	0 – no; 1 – yes (57.8%)
Nationality	1 – German (49.3%); 2 – French (25.6%); 3 – USA (25.1%)
<b>Control variables</b>	
Technology/Know-how Transfer	0 – no; 1 – yes (48.8%)
Size	1 – 1-10 (19.7%); 2 – 11-50 (35.3%); 3 – 51-250 (29.9%); 4 – more than 250 (15.1%)
Main Activity	0 – sales and distribution; 1 – manufacturing and R&D (38.6%)
Entry Mode	0 – brownfield or joint venture; 1 – greenfield (42.5%)
Multi-Establishment Site	0 – no; 1 – yes (44.5%)
Age	1 – up to 4 years (15.1%); 2 – 5-10 years (21.7%); 3 – 11-20 years (30.2%); 4 – more than 20 years (33.0%)
Industry	1 – Mechanical and Electrical Engineering (39.1%); 2 – Vehicles (16.6%); 3 – Chemicals and Pharmaceutical (17.4%); 4 – IT and Telecommunications (8.2%); 5 – Other Manufacturing (18.7%)
Industry Labour Costs (Change in Labour Compensation per Employee in a given industry between 1996 and 2001)	1 – changed below or around average (47.3%); 2 – changed around average (34.0%); 3 – changed above average (18.7%)

n = 391. Figures in brackets are the frequencies.

## **6. Results and Discussion**

About 50 per cent of UK subsidiaries are involved in supplying European markets but only a small minority (18 per cent) have Europe as a main market (see Table1). The only autonomy factor that demonstrates a large change is the increase in operational decision-making autonomy (62 per cent). The embeddedness factors (use of networks and host country sourcing) have increased by less than 29 per cent. Apart from operational decision-making autonomy a third to a quarter of subsidiaries are developing strategic decision-making autonomy, use of networks and host country sourcing. Nearly 58 per cent of the subsidiaries are located in a cluster. Most of the subsidiaries are over 11 years old (63 per cent) and nearly half (45 per cent) have more than 51 employees. However, the majority of subsidiaries are small employing 50 or fewer employees with nearly 20 per cent employing 10 or less. The main focus of the subsidiaries is sales and distribution activities (61 per cent).

The large number of subsidiaries that are old (over 11 years), small and mainly engaged in sales and distribution activities may explain the low proportion of subsidiaries that are developing strategic decision-making autonomy and embeddedness in host locations. Subsidiaries that are old are likely to have developed levels of strategic decision-making autonomy and embeddedness that are compatible with the strategic objectives of parent companies. Significant change for such subsidiaries is only likely if there are major changes in business environments, and/or large scale changes in management culture or ownership of the MNC. Many small subsidiaries and those that are mainly involved in sales and distribution activities are unlikely to be mandated to undertake the type of sophisticated operations that require significant levels of strategic decision-making autonomy or embeddedness. These types of subsidiaries may be capable of developing higher level mandates but those that have settled into these categories are unlikely to be subject to significant strategic development. It appears that European economic integration would have to lead to major changes to business



environments before there would be significant strategic changes among the majority of foreign-owned subsidiaries.

Comparison of subsidiaries that have Europe as a main market compared to only the UK as a market (see outcome 1 in Table 2) reveals that those subsidiaries that increased strategic decision-making autonomy and operational decision-making autonomy were more likely to have Europe as a main market. Embeddedness factors reveal fewer associations to Europe as a main market than is the case for autonomy factors. The increase in use of networks variable is significant only at the 10 per cent level, and the increase in host country sourcing variable is not significant and has a negative sign. Location in a cluster is significantly linked to the probability of having Europe as a main market, and US subsidiaries are more likely than their French or German counterparts to have Europe as a main market.

Those subsidiaries that have Europe as a secondary market, compared to only the UK as a European market, are more likely to have increased strategic decision-making autonomy. There is however no evidence that increases in operational decision-making autonomy, host country sourcing, or use of networks (negative sign but not significant) is linked to increase the likelihood of supplying Europe as a secondary market (see outcome 2 in Table 2). Location in an industrial cluster and being a US subsidiary are significantly associated with increased probability of supplying Europe as a secondary market.

**Table2 Results of the Multinomial Probit Analysis**

<b>Dependent Variable: Market Supply</b>	<b>Coefficient</b>	<b>t-statistic</b>
<i>For outcome 1 'Main Market Europe'</i>		
<b>Explanatory Variables of Interest</b>		
Increase in strategic decision-making autonomy	0.52	1.97**
Increase in operational decision-making autonomy	1.13	3.90***
Increase in Host Country Sourcing	-0.01	-0.01
Increase in Use of Networks	0.46	1.68*
Located in a Cluster	0.92	3.11***
Nationality:		
German	-1.74	-5.20***
French	-1.41	-3.90***
<b>Control Variables</b>		
Technology/Know-how Transfer	0.58	2.29**
Main Activity	1.43	4.79***
Entry Mode	0.18	0.63
Multi-establishment Site	0.10	0.35
Age	-0.22	-1.66*
Size	0.12	0.83
Industry	0.12	0.88
Industry Labour Costs	0.03	0.11
<i>For outcome 2 'Secondary market Europe'</i>		
<b>Explanatory Variables of Interest</b>		
Increase in strategic decision-making autonomy	0.45	1.95**
Increase in operational decision-making autonomy	0.33	1.47
Increase in Host Country Sourcing	0.04	0.14
Increase in Use of Networks	-0.09	-0.36
Located in a Cluster	0.63	2.79**
Nationality		
German	-0.98	-3.26***
French	-0.69	-2.20**
<b>Control Variables</b>		
Technology/Know-how Transfer	0.10	0.49
Main Activity	1.17	4.79***
Entry Mode	0.11	0.49
Multi-establishment Site	0.09	0.39
Age	-0.19	-1.71*
Size	0.01	0.07
Industry	0.23	2.00**
Industry Labour Costs	0.37	1.59
Pseudo-R <sup>2</sup>		0.21
Prob(Chi <sup>2</sup> )		0.00

n = 391

**Notes.** The table reports results of the multinomial probit model for dependent variables with  $J$  categories (outcomes). The positive (negative) sign of a coefficient for a variable  $x$  suggests that, relative to outcome  $y_j$ , an increase in  $x$  makes it more likely to observe outcome  $y_j$ . Outcome  $y_j$  is called comparison outcome or comparison group.

Dependent variable, market supply, is a categorical variable with 1 denoting 'main market Europe', 2 denoting 'secondary market Europe' and 3 denoting 'no wider European market'. Outcome 3, 'no wider European market', is used as the comparison group. US subsidiaries are used as a comparison group. \*\*\*, \*\*, \* denotes significance at the 1, 5 and 10 % respectively. Constant is not reported. Robust standard errors are estimated.

The results reveal that increasing strategic decision-making autonomy, location in an industrial cluster, and being a US subsidiary are strongly linked to having Europe as a main or secondary market. For foreign-owned subsidiaries that have Europe as a main market, increasing operational decision-making autonomy is also important, and increasing the use of networks has a marginal impact.

The view that strategic and operational decision-making autonomy is important for those subsidiaries that export to Europe is supported by the findings. In the case of Europe as a secondary market it seems that only strategic decision-making autonomy is important. This may reflect the need to have autonomy to make strategic decisions such as developing Europe as a secondary market. Those subsidiaries that have Europe as a main market also appear to benefit from autonomy to make tactical decisions in operations to enable flexibility and innovation in delivering products to European markets.

The evidence for embeddedness factors reveals that they are less important than autonomy factors. However, a subsidiary's presence in an industrial cluster is important both for Europe as a main and as a secondary market. There is no clear link between increasing host country sourcing and supplying European markets. The failure to find links between increasing host country sourcing and European supply may indicate that the problems of securing low cost and high quality inputs in the UK (Crone and Watts, 2002; Phelps *et al.*, 2003) are contributing to foreign-owned subsidiaries developing global or European supply chains (Yip, 2002) to help them to attain and maintain their competitiveness.

Failure to find strong evidence that increasing use of networks is linked to increased probability of good export performance in Europe whilst location in an industrial cluster is consistently linked to good export performance is unexpected. This may indicate that general agglomeration benefits such as the availability of a pool of desirable inputs, together with logistical systems that are conducive to exporting may be more important than access to

information and knowledge assets that are available via local networks. This interpretation of the results contradicts much of the literature on industrial clusters that suggests that access to information and knowledge assets provide major incentives for MNCs to locate in an industrial cluster because of the competitive advantages that follow from the availability of these types of assets in such areas (Benito, 2000; Enright, 2000; Lundvall, 1999). The policies of many European countries to promote the development of information and knowledge flows within industrial clusters (European Commission, 2002) may need to be reassessed if these types of flows are not as important for international competitiveness as parts of the literature suggest. It may be that benefits other than improved and wider exporting result from the encouragement of information and knowledge flows within industrial clusters. However, much of EU policy and that of European governments assume that one of the major benefits from encouraging such developments in clusters is that it develops supply to European markets. The evidence from this study suggests that such an outcome, at least for foreign-owned subsidiaries in the UK, is not strongly linked to the development of networks connected to information and knowledge flows.

The finding that American subsidiaries are more likely to supply Europe as a main and as a subsidiary market suggests that US subsidiaries in Europe have adopted policies to develop firm specific advantages to overcome the problems they face in capturing markets in Europe. The evidence that the subsidiaries of US MNC are more likely than those of European MNCs to have Europe as a main and secondary market is also supported by other empirical studies (Chesnais and Soilleau, 2000; Schmid, 2000). This finding indicates that the European subsidiaries of non-European MNCs are likely to contribute more to the development of supply to Europe from centralised locations than is the case of the subsidiaries of European MNCs. The development of European regional specialisation where foreign-owned subsidiaries are located in geographical concentrations of firms in the same or a similar industry and that are strategically developed to enable them to supply all or large part of Europe seems to be more prominent among non-European MNCs than is the case for European MNCs.

## **7. Concluding Remarks**

The findings shed light on the responses of MNCs to European economic integration that have not been uncovered by most of the studies that have investigated FDI in the EU. The results of this study provide support for the literature that argues that the strategic development of European subsidiaries, at least partly induced by European economic integration, is associated with the development of pan-European operations by subsidiaries (Balasubramanyam and Greenaway, 1992; Pearce and Papanastassiou, 1997). This study adds to our knowledge in this area by uncovering evidence of some of the main strategic factors that influence the development of exporting to European markets. Exporting to European markets by foreign-owned subsidiaries is more likely in cases where strategic and operational decision-making autonomy has been granted, and if the parent company is from the US. The subsidiary's presence in an industrial cluster is also associated with exporting to Europe. Growth of embeddedness factors such as the use of networks is of marginal importance for Europe as the main market and is not associated with exporting to Europe as a secondary market. Increasing host country sourcing by subsidiaries is not connected to an increased likelihood of exporting to Europe. Foreign-owned subsidiaries that are most likely to be engaged in exporting to European markets are those with US parent companies, are located in industrial clusters, and are developing strategic and operational mandates.

The low proportion of subsidiaries that report changes in embeddedness factors and increases in strategic decision-making autonomy maybe because many of the subsidiaries have been established for a long time, are small, and are focused on sales and distribution. Increasing strategic decision-making autonomy and developing embeddedness are likely to be a low priority for the parent companies of such subsidiaries. Furthermore, compared to the late 1980s and early 1990s, the period covered by this study (1997 to 2002) was not an era of extensive development of European economic integration in terms of reductions in intra-EU trade barriers

and single market policies. This may mean that there were fewer incentives for strategic change resulting from changes to business environments arising from European economic integration.

This view is supported by evidence from studies that suggest that FDI in response to European integration declined in the 1990s (Clegg and Scott-Green, 1999; Mould, 2003). The period covered by the study did however include the introduction and the early days of European monetary union. However, the literature on the impact of nominal exchange rate stability and the macroeconomic effects of monetary union does not suggest that this has had a strong influence on FDI (Pain and Van Delsum, 2003). This study investigated subsidiaries in the UK, which has not adopted the euro. It is possible that there would have been more evidence of changes in strategic and operational autonomy, enhanced embeddedness in host locations, and supply of European markets among foreign-owned subsidiaries if the UK had experienced the effects of joining the euro zone. Empirical evidence from European countries that are economically similar to the UK and that are part of the euro zone is required to shed light on the implications for subsidiary development of nominal exchange rate stability and changes to macroeconomic conditions brought about by the adoption of the euro.

In a period of enhanced European economic integration that has significant effects in removing barriers to intra-EU trade, which reduces trade and production costs, there is likely to arise new opportunities for MNCs to initiate strategic changes in their European subsidiaries. In this context the recent enlargement of the EU may be inducing MNCs to embark on a period of strategic development of their subsidiaries. Single market policies to liberalise trade in services, if successful approved and implemented, are also likely to stimulate significant strategic change in foreign-owned subsidiaries that are in the services sector. Large scale changes in other parts of the world, such as the emergence of China and India as major exporters to the EU and as destinations for EU and US FDI outflows, are also probably stimulating significant strategic developments in European subsidiaries. The approach taken in this study provides a starting point to develop a framework of research for investigating some of the implications for MNCs

of European economic integration and developments in Europe's economic relationships with the rest of the world. The explicit consideration of how MNCs strategically develop their subsidiaries and of country of origin effects would complement the evidence from research based on analysis and assessment of aggregate data of FDI flows. There is a need to explore these factors in other European countries. The economic size of host countries and their economic, cultural and institutional characteristics may exercise a significant influence on the strategic response of MNCs to changes in their business environments brought about by European economic integration.

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