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**Multinational Firms' Motivations and Foreign Direct Investment Decisions:
An Analysis of the Software & IT and Financial Services Sectors in the Irish Context**

Executive Summary

The paper focuses on the way greenfield foreign direct investment in different sectors is influenced by locational characteristics and explores the role of policy in attracting and retaining foreign investment. We contribute to the literature by empirically investigating the investment motivations of multinational companies in the Software & IT and Financial Services sectors in Ireland and those locational factors that contribute to the retention of foreign direct investment. The methodology used in this research is of a qualitative nature and an exploratory deductive approach is adopted in order to gain an understanding of firms' internationalisation decisions and motivations. The data demonstrates that companies in the two sectors follow different investment motivations. Firms in the Software & IT sector entered Ireland primarily because of the availability of a high quality workforce. Whereas firms in the Financial Services sector entered Ireland following the deregulation of markets and the subsequent ease of doing business. The paper builds on these findings to develop policy recommendations.

1. Introduction

Ireland's economic transformation is an interesting case of macroeconomic stabilisation and adjustment of a small open economy at the periphery of the European Union (EU). Rapid growth of exports, output and employment have led market analysts to describe Ireland as the 'Celtic Tiger'. This success would not have been possible without the Irish government gearing its education and industrial policy towards attracting knowledge-based industries. Thus far a number of studies (Barry and Kearney, 2006; Barry 2007; Barry and Bergin, 2010; Monaghan, 2012; Brennan and Verma, 2013) on Ireland demonstrated how a small country can attract Foreign Direct Investment (FDI) because of an educational system that is tightly integrated with the country's FDI-orientated development strategy, a low standard corporate tax rate, excellent regulatory, economic and people infrastructure, its EU membership, the skills and experience of the country's Industrial Development Agency (IDA) and the quality of the telecommunications infrastructure. The creation and effective evolution of government policies designed to develop skilled labour and enhance the quantity and quality of physical and social infrastructure, combined with the ability of subsidiary managers to effectively access these resources due to the flexibility in the labour markets (Gunnigle and McGuire, 2001) has also been found to be important for attracting FDI in small countries (Barclay and Gray, 2001; Hood and Taggart, 1997).

Ireland attracted a high proportion of US investment in Europe, particularly in Software & IT and Financial Services (Buckley and Ruane, 2006). FDI investment complemented by the structure of the Irish economy enabled the country to be the first economy from the EU peripheral countries which has managed to overcome the effects of the global financial crisis. During the early years of the crisis, i.e. 2008/2009, Ireland's FDI was restructured, especially in sectors such as computer assembly where a transition has been

made towards computer services. Similarly in other sectors, such as the pharmaceutical sector, competitiveness remains high with exports growing significantly over the last few years. The industry is currently generating 44% of Ireland's exports (IPHA, 2015). To overcome the effects of the financial crisis multinational enterprises (MNEs) located in Ireland have also restructured their HR practices. In parallel, the drop in unit labour costs has helped the Irish economy to restore investors' belief and reverse the trend of FDI by attracting substantial investments (Gunnigle et al., 2013). Despite the initial drop in 2007, FDI projects peaked in 2011 with a total of 16,000 jobs and USD 7.06 billion in capital invested (FDIMarkets, 2015; Aliouch, 2015).

Within this context, the location factors that attract FDI in Ireland as well as the investment motivations of MNEs in knowledge and capital intensive sectors is worth investigation. This paper focuses on how two different sectors are influenced by locational characteristics, namely, Software & IT, a knowledge intensive sector that was restructured significantly over the financial crisis, and Financial Services, a capital intensive sector that proved to be very vulnerable during the same period. The following two research questions will be addressed: 1) *“What are the main motivations for firms locating and remaining in Ireland?”* and 2) *“How can policy influence not only the attraction, but the retention of FDI?”* We provide an empirical analysis of data collected for FDI into Ireland for 22 Software & IT projects and 16 Financial Services projects. Our analysis follows a deductive qualitative approach.

In summary, the paper contributes to the literature in two key ways. Firstly, we contribute to the academic literature by developing propositions, based on a thorough literature review of greenfield FDI, that advance our understanding of the different investment motivations exhibited by firms in different sectors. Secondly, on the basis of our conceptual

argumentation and empirical evidence we make a contribution to policy-making by specific recommendations on policy design for attraction and retention of FDI.

The paper is structured as follows: we review the Irish case to provide a background to this study. We will then conduct a literature review to develop a set of propositions explaining FDI behaviour in the two sectors under investigation. The methodology used to select the sources of data and our analysis is then discussed, followed by a presentation of the empirical analysis and a discussion of the findings. Finally, we conclude the paper by providing implications for policy makers.

2. The Irish case

The first seeds of Ireland's success in attracting FDI were planted in the 1960s when the country experienced a strong increase in living standards. This strong economic growth continued until 1973 and was a direct result of industrial policy combined with strong fiscal and financial incentives to both inward investment and indigenous enterprises. Ireland was also seen to recover well from the recession of 1974-75 through increased public spending and borrowing.

In contrast, the period from 1980 to 1987 was one of prolonged recession, with falling living standards, a dramatic increase in unemployment and the real prospect of emigration as the best option for the young educated workforce. The length and depth of this depression reflected 1) Ireland's balance of payments deficit and 2) public finance adjustment and adherence to the European Rate Mechanism (O'Donnell, 1998). By 1987, Ireland had the second highest rate of unemployment in the EU, at 17%, and the second highest government debt to Gross Domestic Product (GDP) ratio, at 114% (the debt/GNP ratio was approaching 130%) (Barry, 2000). The doubling of the European Union Structural Funds in 1989 coupled with the beginnings of Ireland's economic recovery, through fiscal stabilization, ensured that

the economy would continue to converge in terms of public infrastructure even in the face of dramatic public spending cutbacks.

Since the mid-1980s Ireland engaged in an export-led strategy based on the attraction of FDI. A very friendly FDI policy and the targeting of FDI towards high-technology industries have been the two pillars of Irish FDI policy for three decades (further details in OECD 1999, Ruane 2003, Barry 2004, Acs et al. 2005). A common debate on Ireland's success in attracting FDI has been the impact of preferential lower tax rates for international investors and the sustainability of such policy. In the Irish case though, the competitive advantages are based on labour productivity and not lower tax regimes or subsidies from the EU (Kalotay, 2006).

The economic growth in Ireland was driven by two sectors. Firstly, the Software & IT sector witnessed substantial growth in indigenous entrepreneurial activities - comprised of over 700 firms, employing in excess of 14,000 people and generating annual revenues of €1.4 billion (Enterprise Ireland, 2000). Secondly, the Irish banking and insurance sector, which had consolidated, exhibited strong growth. Evidence to support the above is provided by Murphy and Ruane (2004) who argue that success in Ireland is due to the emergence of self-sustaining clusters in areas such as software, electronics, pharmaceuticals and financial services. The spill-over effect of this clustering has had a positive impact on Ireland's economic growth (World Investment Report, 2001; Acs *et al.*, 2007). Despite the potential impact of the recent global financial crisis on those two sectors, Ireland's FDI has been restructured to address the competitive pressures.

3. Literature Review

From a strategic management perspective, Resource Based View argues that firms are characterized as a collection of unique skills and capabilities that influence the firm's

evolution and strategic growth alternatives (Barney, 1991; Dosi, 1988). The resource-based approach suggests that differences in internal firm characteristics, especially idiosyncratic patterns of learning and asset (tangible and intangible) accumulation, have important effects on the firm's ability to develop new products and processes across disparate markets. Similarly, within International Business literature, several researchers have described the importance of the capability-exploiting motive as one of the main drivers of FDI (Ghoshal and Bartlett, 1990). The firm's FDI motives may reflect a firm's need to augment and exploit its knowledge base (Florida, 1997; Kogut and Chang, 1991). Furthermore, firms often invest overseas in response to competitive pressures as a reaction to competitors' actions (oligopolistic reaction), or to advance the firm's competitive position (Knickerbocker, 1973; Flowers, 1976). Two groups of wider motivations can be identified. External market factors such as human resources, market size, political climate, and capital markets and internal company reasons that include need for growth, need for profit, need for technology, and the desire for a global orientation (Zitta and Powers, 2003).

This leads to the identification of three key foreign direct investment motivations, i.e. strategic asset, market and efficiency seeking motives¹. Strategic Asset Seeking (knowledge-seeking) relates to ways in which firms pursue the medium and long-term regeneration of their competitive scope (Dunning and Pitelis, 2008). Recent developments in literature suggest that firms internationalise for non-marketable asset seeking motives captured in agglomeration economies, learning aspects and organisational development and access to local infrastructure especially for high tech infrastructure like the high quality telecommunication system that exists in Ireland (Franco et al, 2008). Strategic asset seeking is also geared towards protecting and augmenting an existing ownership-specific advantage of

¹ Given the nature of the two sectors analysed in this paper, the resource seeking motivation was not considered important as this is usually exhibited by either companies coming from physically resource constraint economies or less mature multinationals. Neither of these conditions apply to the profile of companies included in the two sectors under investigation.

an investing firm by the acquisition of new assets, or by a partnering arrangement with a foreign firm.

Market Seeking refers to production within a country with the objective of supplying the local market and/or a broader region as economies of scale come from regional markets (Ghoshal, 1987; Dunning and Pitelis, 2008). Exploitation of the potential for serving regional/peripheral economies is one of the main motivations for market seeking multinationals. This is usually driven by either the size of the host market, which can potentially provide the necessary volumes of demand that can lead to higher scale of sales and production, or by product-specific characteristics that make local production necessary. This latter argument usually refers to a certain degree of product adaptation either with regard its production, sales/distribution or after-sales service. However, many standard products are increasingly being developed on a global rather than a local basis (Christensen *et al.*, 1998), thereby eliminating the need for local adaptation in order to serve particular groups of customers.

Finally, Efficiency Seeking involves the relocation of production of specific existing goods to a particular country aiming at sharpening the cost-efficiency and enhance (or defend) multinationals' competitiveness in those (usually higher-income) markets where they are already well established (Dunning and Pitelis, 2008). Efficiency seeking is a motive leading to FDI but it is also a motive that can result in *footloose* MNEs. Footloose multinationals are those companies that in response to changes in the external environment disinvest from a location with the aim to invest in other, more cost-efficient, locations. Analysing this particular motivation is important in order to understand the process not only for attracting but also retaining foreign direct investment. In the remainder of this section we discuss the implications each of the three motives has, for the two sectors under investigation and we develop our propositions.

3.1 Software & IT Sector

The rise of the software industry in the 1990s was a global phenomenon. New technologies together with the shift towards global production contributed to the development of many peripheral economies such as Ireland. Although government policy is important, the Software & IT sector is primarily driven by internal resource seeking considerations. This is presented by the dynamic interaction between R&D, product innovation and customers. There is evidence to suggest that in certain industries high knowledge intensity is associated with high levels of internationalisation. Markusen (1998) highlights that multinationals emerge from industries in which knowledge capital and knowledge-intensive production are important. An asset augmenting approach to FDI is emerging as firms accumulate knowledge and learning. The increased level of intangible assets indicates an increased mobility of assets across borders in comparison to fixed tangible assets (Brennan and Garvey, 2009). Dunning (1998) describes key features of a new world economy that impacts international locational factors; among them are the rising significance of knowledge or information-intensive industries and advances in transport and information and communications technology.

The Software & IT sector is characterised by high technological opportunities, low entry and exit barriers, limited economies of scale and frequent product innovations (Schmalensee, 2000; Fosfuri and Giarratana, 2007). In such dynamic environments, knowledge-based resources provide a fundamental competitive factor (Miller and Shamsie, 1996). In this context, this study explores the importance of international linkages (Gorg and Ruane, 2001; Buckley and Ruane, 2006), technological capabilities (Fahy and Hooley, 2002; Carmel, 2003), and firms' experience as potential determinants of market entry (Acs *et al.*, 2007). Competitive pressures are likely to influence firms in high technology industries more than those operating in traditional industries, because imitating competitors as a driver for international expansion is more likely in environments subject to rapid change and

modification of the ‘rules of the game’. Rapid innovation and technological change introduce a high degree of uncertainty and risk (Knickerbocker, 1973; Flowers, 1976).

Since the early 1970s, Ireland’s policy towards FDI became increasingly selective, encouraging a pattern of investment in the production of modern high-technology (high-tech) goods. This selectivity was achieved by proactively seeking out investors in high-tech sectors, namely electronics and pharmaceuticals, and by providing higher rates of financial assistance to enterprises in the ‘promoted sectors’. Despite having no tradition in these high-tech sectors, the Irish policy makers believed that with its relatively well-qualified population, Ireland could be a competitive production base for MNEs as their low per-unit-value transportation costs made them readily suited to exporting. This is achieved by a number of factors that primarily capture a strategic asset seeking motivation and are discussed below.

Government, Development Authority and Industrial Government Policy: the government can influence and facilitate the progress of a sector through developing of telecommunications infrastructure, the availability of capital, including risk capital, the vibrancy of the industry, human capital (through investment in education), quality of life, and wage levels (Heeks and Nicholson, 2002; O’Higgins 2002; Carmel, 2003). In Ireland’s case it is also worth highlighting the significant role of the IDA. The skills and experience of the Agency in identifying, targeting and attracting potential investors have been instrumental for the country’s success.

Agglomeration Clusters and Infrastructure: A cluster represents a critical mass of firms in geographic proximity (Krugman, 1991). The best-known high-tech cluster is Silicon Valley. Technology clusters are often deliberate government policy initiatives such as the Science Park in western Singapore near the major universities (Carmel, 2003). A study by Heeks and Nicholson (2002) found that national industry success is driven by the coherence of the industry’s (and to some extent the government’s) vision and strategy in defining the

industry's focus. In order to succeed as an industry, firms need to specialise in the same domain/niche in specific services or products. This specialisation enhances the cluster effects of information diffusion and facilitates national branding efforts. To this end Ireland has specialised into services projects and into niche product markets.

Technological infrastructure refers to the sophistication and reliability of communication technology. Software firms require abundant, reliable, and cheap telephone and broadband data communication connections (Carmel, 2003). Research and development is significant for software and IT sector as firms in this asset-seeking stream of FDI primarily focused empirical attention on upstream capabilities like R&D activities (Caves, 1996). A considerable part of the existing FDI literature argues that FDI occurs when firms seek to exploit firm-specific capabilities in foreign environments. Several researchers have described the importance of FDI in R&D for exploiting firm-specific capabilities in foreign environments (Bartlett and Ghoshal, 1989). They argue that as local demand grows increasingly sophisticated, local R&D facilities are useful in helping a firm to adapt existing products better to local needs. As firms establish manufacturing facilities abroad and assign increasingly complex products to them, R&D sites in close proximity to factories are necessary (Kuemmerle, 1999).

Skilled Workforce and Human Capital: A critical mass of educated human capital is vital to the software industry (Barr and Tessler, 1998). Workers in the software and IT sectors generally have professional characteristics and abilities including language and managerial skills. The strength of a nation's human capital stems from a multi-generational tradition of science and engineering that has its roots in strong universities, polytechnics, and vocational schools. Ireland benefited from a strong national emphasis on advanced technical education that dates back at least one or two generations. English language ability has been critical to this point in national software success. English skills appear on consultants' checklists as a

key criterion used to decide on the capabilities of software firms and software nations (Carmel, 2003; Collins, 2007; Barry 2007). This is achieved by a high literacy rate which is sustained in Ireland by an education system compulsory from ages six to 15. Almost 60% of Ireland's youth proceed to universities, technical colleges, and colleges of education. It is the combination of low tax rates, labour market conditions together with language capability and position within the EU that are the key attractiveness factors, whilst labour cost is not as important especially in high tech sophistication industries (Gunnigle and McGuire, 2001).

The above factors are driven by the country's industrial strategy, which focused on attracting foreign direct investment in certain high-tech sectors, and the orientation of the third-level educational system that had been developed in Ireland over recent decades (Honohan and Walsh, 2002; Barry, 2000). On the basis of the above the following proposition can be put forward:

P1: The Software & IT sector, in Ireland, exhibits more strategic-asset seeking than market or efficiency seeking investment motivations.

3.2 Financial Services Sector

Beginning in the 1980s, financial deepening and financial innovations led to a more market-oriented structure with firms increasingly relying on financial markets to fund their investments, an evolution observed both in Canada and the United States (Calmès, 2004). Financial conglomerates have emerged through national and international mergers and acquisitions and deregulation that permit interpenetration and diversification in product and geographic markets (Agnes, 2000). At the same time, information systems and technology had a crucial role in the development of the financial sector given the suitability of computerisation for all types of financial transactions (Barras, 1986). Technologies are intimately tied to financial innovation and the creation of efficiency in operations. Electronic

technologies have facilitated the global growth of electronic funds transfer and the financial market integration whereby banks pass trading positions to offices in subsequent time zones (Thrift and Leyshon, 1988).

Ireland has a very well developed and sophisticated banking and financial services infrastructure with established experience in handling the requirements of overseas companies. The sector is regulated by the Financial Regulator which was established in 2003 and has taken on the financial services supervisory functions from the Central Bank of Ireland to promote the best interests of users of financial services. From a historical perspective, the Irish financial services industry saw a turning point in 1987 when the Irish government established the International Financial Services Centre (IFSC) in an attempt to broaden the financial services industry in Ireland. Existing institutions qualifying for IFSC status (a key criterion being that activities are carried out with non-residents and in non-Irish currencies) were offered a preferential 10% corporate tax rate, though the government, under pressure from the European Commission (which saw the special rate as a state aid to industry), agreed to phase out IFSC corporate tax incentives. Due to this pressure from the European Commission, new institutions at the IFSC were not eligible for the 10% rate; they paid the standard corporate tax rate, though this was reduced in stages so that by 2003 the trading profits of all companies in Ireland were taxed at 12.5%. However, institutions that were already paying the special 10% rate continued to do so until 2005. At the end of 1999 there were 388 active projects based in the IFSC creating direct employment for 8,500 people (The Economist Intelligence Unit Limited, 2001).

From a global perspective, the Financial Services sector, although internally driven by profits, relationships with other industry players and customers, is also externally driven, by other countries' laws and regulation/deregulation policies, as well as business associates and customers that have located in Ireland. Technological innovations and the development of

information systems have helped the sector to focus on achieving efficiencies. The sector is influenced by a set of factors discussed below.

Government Policy, Development Authority and Regulations: Until the mid-1980s, the Irish financial services sector was characterised by significant governmental involvement and by numerous institutional and regulatory limitations on the domestic, cross-border and cross-sector activities of financial service firms. The process of deregulation and harmonisation in the financial services sector has been a gradual one for Ireland. Numerous regulatory changes have taken place aimed at eliminating restrictions on domestic competition and the removal of limitations to the use of competitive tools such as interest rate controls and the loosening of controls on capital flows that limit foreign competition (Gual, 1999).

Infrastructure, Technological Developments and Innovations: There has been a number of technological developments within the global financial services sector that enable the strategic renewal of activities and the emergence of new entrants by having a major impact on the interface between clients and financial services providers. Flier *et al.* (2001) build several contributions, and categorise the diffusion of technological developments within the sector in Europe.

Innovation for financial services firms has often been identified more in process and organisational changes than in new product development in a traditional sense (Frei *et al.*, 1997). Innovations in financial services firms raised fundamental questions concerning competition among, for example, banks and non-banks, interaction with the consumer and the delivery of innovative products, organisational issues within the firms and the industry, including vertical integration (Harker and Zenios, 1998).

Among the most important conditions that encourage innovation within financial services firms is the nature of technology and its diffusion within the industry (Akhavein *et al.*, 2005). Information technology is increasingly used as an important strategic tool to achieve

cost efficiency, improve their profitability and retain or increase their competitive advantages. Furthermore, Tether *et al.* (2001) in a comprehensive EU-wide report found that in the EU as a whole, financial services are less likely to conduct R&D than all other services.

Human Capital and Knowledge creation: In this context of major environmental and structural changes for the financial services industry, multi-nationality and internal knowledge flows can interact in the production of innovation activities. There may be a potential advantage from multi-nationality due to the transfer of intangible assets; this could be achieved even in the face of observable institutional diversities that might pose difficulties to the transfer of resources. Examples include new services (e.g. on-line security trading) and new processes (e.g. credit scoring) associated with major global banks (Frenz *et al.*, 2005).

The arguments presented above demonstrate a clear trend in the Financial Services sector to take advantage of innovation in order to achieve global efficiency. Ireland with the deregulated environment, the skilled force and its ability to innovate presented an excellent location to Financial Services MNEs. Based on the above arguments the following proposition can be put forward:

P2: The Financial Services sector, in Ireland, exhibits more efficiency seeking than market or strategic-asset seeking investment motivations.

3.3 Footloose Multinationals (Retention of FDI)

As part of their efficiency seeking motivation, multinational companies are continuously looking to restructure their network of operations. This leads to footloose activities through moving from less to more cost effective locations. Pearce (2001) argues that the initial locational characteristics that attract MNEs cannot consequently guarantee the sustainability of the MNE's operations. Inward investment policies should address not only the issue of attracting FDI but also securing the multinationals' presence in the country for the

long term. Two policy dimensions can guarantee the sustainability of investment. The first one is related to the continuous development of infrastructure and the second one to the building of linkages between multinationals and local companies (UNCTAD, 2001). To achieve these two conditions, the Irish policy towards attracting FDI has moved from a national to sub-national level in order to address the financial and competitive constraints posed from the recent financial crisis. This would also allow further embeddedness of the MNEs' subsidiaries and the development of stronger links with local institutions and providers. (Monaghan, 2012; Monaghan et al., 2014)

In the case of Ireland, multinationals' footloose behaviour is not a new phenomenon. Kelly and Brannick (1983, 1988) investigated the impact of strikes on companies located in Ireland during the period 1960-1984. They found that the impact is different between Irish companies, MNEs coming from Britain and MNEs coming from the rest of the world with the local companies and MNEs coming from the rest of the world being less strike prone than British MNEs. This has led to a significant disinvestment from British MNEs over that period. This impact is magnified in the manufacturing sector, especially during the 70's with both British and non-British MNEs suffering significantly from strikes in comparison to their local competitors. Ireland is a good example showing that trade profitability or low labour costs are not the only reasons for staying in an economy. Developing satisfactory relationships with the labour force is a key factor also reflected in the lower proportion of strikes in local companies and non-British MNCs.

Localisation and distribution dominate the activities of foreign-owned Software & IT operations in Ireland (Coe, 1997; O'Malley and O'Gorman, 2001). These low-end activities can be seen as part of a wider international packaged software production chain in which, until recently, higher value added functions such as development and marketing were usually carried out closer to the corporate headquarters (Coe, 1997; O'Riain, 1997). Localisation

activities evolved from being largely Irish owned to being dominated by world leaders in software in less than 10 years, with Irish companies focusing more on sub-supply networks such as software manual printing and turnkey services (Coe, 1997; O’Riain, 1997). Software development operations undertake work of varying degrees of sophistication but typically employ a much higher percentage of third level graduates. Work varies from the customisation of software for clients of MNEs involved in software services or IT consulting (e.g. IBM), to the development of embedded software and software applications for hardware (e.g. Ericsson). Some of the larger organisations carry out both lower and higher value activities, in some cases the presence of software development can be seen as an explicit move up the value chain away from low-end activities, such as manufacturing, which for many was their initial activity when establishing in Ireland (O’Riain, 2004).

The process of internationalisation has affected the Financial Services sector to a considerable degree (Miozzo and Miles, 2002). A study of the world’s largest 664 companies found that the sector exhibits indices of internationalisation higher than the same indices for the whole of the service sector (Ietto-Gillies, 2001). These global institutions know how to use the most advanced technology to reduce significantly the costs of information management (i.e. collection, storage, processing and transmission) and increase the range of products and services they offer to a diverse range of customers (Frenz et al., 2005).

We can therefore argue that Software & IT related FDI is associated with companies seeking a higher proportion of advanced labour force, keeping up with competitors for learning and clustering proposes through relating its activities in supporting industries and R&D activities. This is a reflection of this sector’s constant re-evaluation of its competitive advantage, of its resources and the way these resources are used (Fahy and Hooley, 2002; Carmel, 2003; Buckley and Ruane, 2006). De Propris, Driffield and Menghinello (2005)

argue that the intangible nature of learning processes and innovation are key factors contributing to the creation and sustainability of competitive advantages that would keep high technology MNEs in a specific location and thus public policy should facilitate those factors. In contrast the financial services sector is more global and is by default influenced by markets, the external environment, by regulations and deregulation (Flier *et al.*, 2001). Based on the above arguments the following proposition can be put forward:

P3: The Software & IT sector exhibits more footloose behaviour than the Financial Services sector because it performs a constant re-evaluation of its competitive advantage.

4. Methodology

This study is part of a wider project that covers a total of 98 multinational companies that invested in Ireland during the period of 2003-2009. A number of methodological problems emerge when investigating MNEs activity in Ireland. The two most important ones are the identification of MNEs that invest without receiving any government aid and the second one is the inclusion of Irish MNEs that engage in significant outward FDI activity. The most comprehensive study on MNEs active in Ireland by McDonnell *et al.* (2014) identifies 532 MNEs with the vast majority being US-owned firms. There is an equal split between services and manufacturing with only a very small proportion in the primary sector. Recent evidence (Irish Times, 2015) suggests that the number of US companies operating in Ireland is closer to 1,000 providing around 100,000 jobs. This data is also supported by the American Chamber of Commerce in Ireland (Guardian, 2015) stating that there are currently over 700 US companies employing approximately 130,000 people. In this study the data collection was conducted as part of a larger project by FDI Markets (a database provided by Financial Times), which explored the multinational decision-making process and their

locational motivations. The FDI Markets database tracks greenfield FDI² globally across all sectors in real time. The company was launched in 2003 and it has since tracked over 70,000 projects globally making it the leading database for foreign direct investment.

The sample consists of all new inward greenfield investments by multinationals into Ireland between 2003 and 2009. Both our start and end dates are governed by data availability, since the FDI Markets database was launched in 2003 and our access to data generated ceased in 2010. For this study all 22 companies from the Software & IT sector and all 16 companies from the Financial Services sector were included. The names of companies included in our analysis can be seen in tables 1 and 2 representing the Software & IT and Financial Services respectively.

The data collected for this study is essentially textual and was gathered from a number of corporate releases and from transcripts of publicly available interviews of companies that invested in Ireland. Textual data is defined as ‘any text, which constitutes a relevant and necessary source material for answering the questions one is interested in’ (Alexa, 1997). There are many kinds of textual data that can be used for sociological text analysis: open responses to questionnaires, newspaper editorials, commentaries, titles, articles, different kinds of reports (company annual reports, memos, newspaper reports), journal articles, advertisements, public speeches, conversations, interviews, letters, slogans, keywords (Alexa 1997).

The methodology used in this exploratory research is of a qualitative nature. We follow a deductive approach in order to gain an understanding of firms’ internationalisation decisions and motivations. The analysis of the data involved the coding of the corporate releases and interviews announcing the investment with the view to identify connections across documents and linking the findings to the theoretical perspectives presented in the

² Greenfield Investment is investment in a manufacturing, office, or other physical company-related structure or group of structures in an area where no previous facilities exist. (FDI markets, 2009).

literature review and the discussion of the two sectors above. More specifically the research used a focus coding procedure. Through a focus coding research method, the researcher examines all the data in a category, compares each piece of data with all other pieces and finally builds a clear working definition of each concept, which is then named, with the name becoming the CODE (Charmaz, 1983, page 117). The coding and analysis of the data was facilitated through NVivo, a computer-aided qualitative data analysis software package. The key themes that emerge from the codes are concepts that identify firms' FDI motivations and the relevant location characteristics for each of the investments undertaken as presented in the literature review section of the paper. Contents analysis of the documents and the coding process is based on a categorisation scheme, where words or phrases are given a code. The focused coding requires the researcher to develop a set of analytical categories rather than just labelling data in a typical fashion. Modifying code themes is also an important aspect of this method.

A methodological limitation of this paper relates to the reliability of the data. We recognise that firms' releases or responses to the questions in interviews might be framed in ways designed to appeal to host country governments and agencies. However, this limitation has been addressed by the rigorous coding process and the cross reference of documents and sectors. A second limitation relates to the choice of sectors. Although the Pharmaceutical industry has also seen significant levels of FDI into Ireland, the 'Software & IT sector' (a manufacturing research and development intensive sector) and 'Financial Services' (a services sector) were chosen in order to develop the discussion and allow richer comparisons. Finally, a third limitation is related to the link between the identification of motivations and the actual mechanism through which the firm has access to the assets related to motivations. Due to the nature of our data we cannot empirically establish and therefore discuss this mechanism.

5. Empirical Analysis

5.1 Software & IT Sector Analysis

Table 1 provides a graphical summary of the locational factors that motivated firms within the Software & IT sector to invest in Ireland. The different headings correspond to market seeking and strategic asset seeking motives as discussed in the relevant section of the study and captured by the coding process of the different documents and interviews as discussed in the methodology section above.

Insert Table 1 here

The existence of a skilled labour force which has the ability to innovate, according to the statements by the different companies, emerges as the most important factor for companies investing in Ireland. This is directly linked with a strategic asset seeking motive and it is identified by more than half of the companies (14 out of 22). A critical mass of educated human capital is vital to the software industry (Barry, 1994). Moreover, factors related to labour market conditions such as flexibility, trade union representation and recognition together with the quality of the labour force and the relatively low cost and high productivity are key reasons attracting, especially US, MNEs in Ireland (Gunnigle and McGuire, 2001). Ireland benefited from a strong national emphasis on advanced technical education that dates back a generation (technology education was a focus of the 1960's). (Barry and King, 2009; Carmel, 2003; Collins, 2007; Barry 2000). An example from the software sector is Netgear's investment in Ireland:

The company Chairman Patrick Lo described Cork as "an ideal location" due to its infrastructure, multi-lingual capability, highly skilled workforce and 'ease of doing' business. (Netgear, 2006)

This search for a skilled labour force is directly linked with the ability to innovate and conduct research and development. Research and Development is significant for the Software & IT sector as firms in this asset-seeking stream of FDI primarily focus their attention on upstream capabilities such as R&D (Caves, 1996). A considerable part of the existing FDI literature argues that decisions to pursue FDI are made when firms seek to exploit firm-specific capabilities in foreign markets. Several researchers have described the importance of FDI in R&D in exploiting firm-specific capabilities in foreign environments (Bartlett and Ghoshal, 1989). They argue that as local demand grows increasingly sophisticated, local R&D facilities enable a firm to adapt existing products to local markets. As firms establish manufacturing facilities abroad and assign increasingly complex products to them, R&D facilities in close proximity to manufacturing facilities are necessary (Kuemmerle, 1999; Filippaios et al., 2009). An example is the US company StorageTek, a Colorado-based provider of storage solutions to the IT sector which established its European R&D centre in Ireland. The unit based in Dublin develops data management products in the application storage management area for its worldwide customer base. StorageTek, headquartered in Louisville, Colorado, has a turnover of \$2 billion and delivers a wide range of storage solutions that allow universal access to data across servers, media and networks. The company's R&D expenditure in 2002 was \$215 million. The following quotation outlines their rationale for choosing Ireland;

"..Qualified staff, successful track record in R&D investments from global companies'.

(Storage Technology, 2004)

The second most important motivation, exhibited by firms in our sample, is linked to market seeking considerations. Access to Irish and regional markets through the use of Ireland as an export platform (Barry, 2007) is one of the main factors contributing to the large presence of multinationals in Ireland. IDA Ireland specifically identified software as an internationally traded service possessing significant employment potential and as a result began targeting American companies that required large workforces and that did not have an existing European manufacturing or R&D operations (Coe, 1997). Initial successes included IBM in 1956, Lotus in 1984 and in spite of stiff competition from the Swiss canton of Neuchatel, Microsoft in 1985 (MacSharry and White, 2000). These initial investments served as important catalysts for the emerging Irish software industry and created the necessary ground for the emergence of industrial clusters. A cluster represents a critical mass of firms in geographic proximity. Technology clusters are often deliberate government policy initiatives such as the Science Park in Singapore and its proximity to the major universities (Carmel, 2003). In explaining the decision to invest in Ireland, executives of US MNEs in knowledge-based sectors such as computers cite that their location decision is strongly influenced by the fact that other key market players were also located in Ireland (Naveretti et al., 2004). The quotation below from TKO Software (2004) in relation to its investment in Ireland supports this:

“The decision is being hailed by government, the IDA and the Digital Hub as a major stamp of approval for the strategy of creating a cluster of digital media companies in Dublin’s Liberties.” (TKO Software, 2004 investment)

The third set of factors emerging is related to government policy, the existence of a proactive development authority and the existing infrastructure. The government can influence and facilitate the progress of a sector through developing the telecommunications infrastructure, enhance the availability of capital, including risk capital, development of the

human capital pool (through investment in education), quality of life and wage levels (O'Higgins 2002; Carmel, 2003). Indicative examples from the software sector are the investments made by Monster and SAP in Ireland:

“Advanced integrated telecommunications infrastructure and proximity to airports”
(Monster 2003)

“Highly skilled and educated people and infrastructure ... infrastructure necessary to support knowledge-intensive activities” (SAP, 2003)

Technological infrastructure refers to the sophistication and reliability of communication technology (Carmel, 2003). The quotation below from Market Boomer (2005) relating to their investment in Ireland, supports this:

“Ireland provides a perfect base for our European expansion due to the availability of qualified staff and access to a first-class technology infrastructure” (Market Boomer, 2005)

Based on the evidence presented above, strategic asset seeking, especially through access to a skilled labour force and technology-related infrastructure, is the most frequently mentioned motivation thus supporting Proposition 1 which stated: *The Software & IT sector in Ireland exhibits more strategic-asset seeking than market or efficiency seeking investment motivations.* We need to acknowledge though that market seeking and strategic asset seeking investment motivations both exist and strongly complement each other. Companies such as Intel highlight that access to European markets (market seeking), quality of the workforce and government support (strategic asset seeking) are all complementing reasons for their investment decision.

“The performance of our workforce in Ireland and our relationship with the government helped make this investment decision possible” (Intel, 2004)

5.2 Financial Services Sector Analysis

The Financial Services sector landscape is different to that of the Software & IT sector. The Irish Financial Services sector is characterised by its interdependence on regional and global financial services which were uncovered by the 2008 banking crisis (Vallascas and Hagendorff, 2011). The challenges posed by the Internet and globalisation resulted in the financial services sector witnessing consolidation of activities to increase efficiencies and the adoption of a different growth model with significant market diversification and risk hedging (Grant and Venzin, 2009). Expansion strategies that had appeared successful in the run-up to the credit crunch in the summer of 2007 proved unsustainable in an environment of credit shortage and risk aversion (Grant and Venzin, 2009). Advances have since been made in the measurement and pricing of risk, with the underlying theory provided by capital asset and option pricing models, contingent claims analysis and value-at-risk modelling in financial risk management systems (Grant and Venzin, 2009).

Proposition 2 stated: *The Financial sector in Ireland exhibits more efficiency seeking than market or strategic-asset seeking investment motivations.* Table 2 provides a summary of the locational factors identified for all firms in the Financial Services sector. It highlights that government policy and skilled workforce are the most frequently mentioned actors.

Insert Table 2 here

With regards to regulations and government policy one has to appreciate that until the mid-1980s, the Irish Financial Services sector was characterised by significant government involvement and by numerous institutional and regulatory limitations on the domestic, cross-border and cross-sector activities of financial service firms. The process of deregulation and harmonisation in the financial services sector has been a gradual one for Ireland. Numerous

regulatory changes that have taken place have sought to eliminate restrictions on domestic competition (Flier *et al.*, 2001; Gual, 1999) and change the scale and scope of financial activities. An example in support of this comes from the empirical data behind Aviva's decision to invest in Ireland:

"Ireland's position in the EU and our regulatory environment makes us an ideal choice for the reinsurance operation," (Aviva, 2009)

A core motivation emerging for the Financial Services sector is also the existence of a skilled labour force that can foster innovation and use of new technologies. Technology and innovation can be considered basic strategic tools for the financial services sector to safeguard their long-term competitiveness, cost efficiency and improve profitability. HSBC is one example from the empirical data that highlighted knowledge and expertise as reason for investment in Ireland;

"We have an excellent skills and knowledge base here..." (HSBC, 2009)

The global Financial Services sector is expected to have significant innovation and knowledge if it wants to operate in different national contexts because participants have to deal with different regulations, different institutions and cultures. An example from the empirical data for Ireland is ICT Finance's decision to locate in Ireland:

"The combination of increased capability, experience and facilities will enable us to dramatically improve our service to vendors and customers". (CIT Finance, 2003)

5.3 Footloose Multinationals

An important consideration of this study is to explore not only the location attraction but also the location retention factors through exploring the way multinationals approach their efficiency seeking motivations. The following proposition was put forward:

P3: The Software & IT sector exhibits more footloose behaviour than the Financial Services because it performs a constant re-evaluation of its competitive advantage.

Essentially this proposition is about how MNEs decide to configure their activities internally in the most effective manner in line with the comparative and competitive advantages of different locations, in order to maximise efficiency and reduce costs (Zaheer and Manrakhan, 2001). In order to empirically examine this proposition we had to investigate how many companies from the ones included in our sample are still active in Ireland and whether their relocation or decision to remain in Ireland was linked with any particular type of motivation exhibited when they originally invested. Out of the 22 companies originally active in the Software & IT sector, in 2012 remained 17 companies (approximately 77%). The five companies³ that ceased their operations in Ireland originally showed only either one or two motivations usually related to the domestic and regional market growth potential. In comparison to the Software & IT sector in Financial Services, only 2⁴ out of the 16 companies (approximately 88% of companies still active) ceased to exist in 2012. It is interesting to note that neither of these companies originally exhibited market seeking motivation associated with domestic or regional market growth potential.

This proposition is supported as the empirical data demonstrate that the software industry has more footloose characteristics than the financial services industry. Moreover the analysed sample reveals that 14 out of 22 and 8 out of 16 of the multinationals in the Software & IT sector and the Financial Services sector, respectively that invested in Ireland had more than one motivation driving their original decision to invest. Most of the quotations in this regard were linked to restructuring because Ireland was relatively cheaper in comparison to other European countries. McAfee is an indicative example of efficiency seeking and cost saving by locating in Ireland as there is a gap in terms of wages and living costs between

³ The companies that ceased to exist were MySQL, DC Studios, Novell, Shannon Systems LLC and the second project by Accenture in 2005.

⁴ The two companies were MGM Assurance and Northern Trust.

Netherlands and Ireland -

“the company will have to move its European headquarters to Ireland, resulting in some 80 job losses in the Netherlands, where its European headquarters are currently based ...Though the relocation process will need to be given the go-ahead under Dutch law, it is expected that the move will be allowed to go through since the firm will be able to demonstrate to the authorities that significant savings can be made by relocating to Ireland”.

(McAfee, 2004)

Our analysis demonstrates that the Software & IT and Financial Services sectors exhibit different motivations when engaging in FDI. The Software & IT sector entered Ireland because of the availability of a high quality knowledge and R&D based workforce, in addition to the influence of the clustering effect reflecting a clear strategic asset seeking motivation. The Financial Services sector mainly entered Ireland because of the deregulation of markets and the ease of doing business enhancing the sector’s efficiency seeking motivation.

In conclusion, the data provide support for all three propositions that we have put forward on the basis of our literature review.

6. Conclusions and policy recommendations

Our study shows that a key incentive for firms to locate in Ireland, in the period under investigation (2003-2009), has been the high-skilled and low cost characteristics of the Irish workforce (Bailey, 2005). Software & IT related FDI is associated with companies seeking an advanced labour force, keeping up with competitors for learning and clustering purposes. This is a reflection of this sector’s constant re-evaluation of its competitive advantage, of its resources and the way these are used indicating a strong strategic asset seeking behaviour (Fahy and Hooley, 2002; Carmel, 2003; Buckley and Ruane, 2006). By contrast, the Financial Services sector is global in nature and this sector’s motivations for investing in Ireland is not

to develop capabilities, which are available elsewhere, but primarily to enhance efficiencies through innovations and advancements in information technology.

However, one of the main issues that Ireland is facing is that the cost of doing business has become expensive relative to other countries, especially the East European countries (Barry and King, 2009). Despite the recent crisis, Ireland has only made up a small part of its lost competitiveness (Whelan, 2014). In the current competitive global market, multinationals are continuously looking to restructure their network resulting in footloose activities through moving into a more cost effective location (Aliouch, 2015) Although this activity is not new and has taken place continuously throughout the European integration process (Filippaios and Papanastassiou, 2008), the effects have been intensified during the global financial crisis.

The role of an interventionist industrial policy in Ireland provided the country with strong competitive locational advantages to attract inward FDI. Effectively, Irish FDI policy was focused on attracting knowledge intensive sectors such as those represented by the Software & IT sector. Tavares and Young (2005) argue that attracting investment should be done in a proactive and targeted way by potentially tailoring the incentives given to investors to their specific motivations and demands in order to secure investments. According to the literature, the sector is seeking to secure location characteristics (as set-out above) in-line with its capabilities and motivations.

Significant policy recommendations must follow and policy makers need to adopt a targeted approach to FDI, focusing on specific industries and firms that could maximise the use of locational characteristics and create positive effects for the local economy. Policy makers need to enhance their country's strengths and also design and develop a clear and targeted strategy for the future path of industrial development. In order for Ireland to sustain its position as a recipient of FDI, the country needs to continually invest in its knowledge

creation and infrastructure. This could help reduce the phenomenon of footloose MNEs, once the comparative and competitive advantage between the host location and other countries change. Furthermore, when designing policies to attract a particular industry, policy makers also need to consider the effect of such policies on other complementary industries which may potentially increase investment as a result of enhanced linkages. In concluding, one could argue that the existence of a generic policy design to attract FDI might not have the outcomes policy makers wish for, both in terms of attracting and consequently retaining FDI. It is therefore crucial to design targeted FDI attraction policies and complement these with investment in education and infrastructure that could create the necessary conditions for successfully attracting FDI.

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Table 1. Locational Investment Motivations in the Software & IT Services Sector (2003 – 2009)

Motivations Issues for Investment	Domestic and Regional Market growth potential	Development authority	Industrial Government Policy	Infrastructure (Technology, Transport Telecommunication)	Skilled workforce	Total
Software & IT Firm (Total 22)						
Trend Micro						0
SAP			x	x	x	3
Accenture (2003)	x					1
Comprehensive Sports Information (CSI)	x	x	x			3
Storage Technology	x				x	2
TKO Software	x	x	x		x	4
IBM		x			x	2
MySQL	x					1
McAfee (project one 2004)		x	x	x	x	4
McAfee (project two 2004)		x		x	x	3
MarketBoomer	x		x	x	x	4
DC Studios					x	1
Accenture (2005)						0
Redi-Direct Marketing				x	x	2
Netgear		x	x	x	x	4
Digital River				x	x	2
Novell					x	1
Shannon Systems LLC	x					1
Siemens						0
Intel	x		x		x	3
Kenexa	x	x	x			3
Facebook	x			x	x	3
TOTAL:	10	7	8	8	14	

The table was created by the researcher using cluster analysis of the data.

Table 2. Locational Investment Motivations of the Financial Services Sector for the period of (2003-2009)

Motivational Factors for Investment	Domestic and Regional Market Growth Potential	Development Authority	Industrial Government Policy	Infrastructure (Technology, Transport Telecommunication)	Skilled workforce	Total
Financial Services Firm (Total 16)						
CIT Group				x	x	2
MGM Assurance			x			1
Bradford and Bingley		x	x			2
New York Mercantile Exchange (NYMEX)		x			x	2
Bibby Line Group						0
Northern Trust					x	1
Equifax		x			x	2
My Travel Group plc		x	x			2
Continental Traffic Service (CTSI)						0
Royal Bank of Scotland (RBS)	x				x	2
Aviva	x					1
Beazley Group			x			1
HSBC	x		x		x	3
Nationwide Building Society						0
Dual Corporate Risks Ltd						0
Bank of New York Mellon	x		x	x	x	4
TOTAL:	4	4	6	2	7	

The table was compiled by the researcher through cluster analysis of the data.