

Location Decisions of Non-Bank Financial Foreign Direct Investment: Firm-Level Evidence from Europe*

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PRELIMINARY DRAFT

Abstract

The non-bank financial sector in the euro area has more than doubled in size over the last decade reflecting the substantial growth in shadow banking activities. However, a large proportion of the non-bank financial sector remains unmapped as granular balance sheet information is not available for almost half of the sector. Motivated by these data gaps and employing firm-level data, this paper examines the location decisions of newly incorporated foreign affiliates in the non-bank financial sector across 27 European countries over the period 2004 to 2012. The probability of a country being chosen as the location for a new foreign affiliate is found to be negatively associated with higher corporation tax rates and distance but increases with the size of the host country. Gravity related controls such as the home and host country sharing a common legal system, border, language and currency are found to increase the likelihood of non-bank financial FDI in the majority of our specifications.

JEL classification: F23, F65, G23, G32.

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1 Introduction

The recent financial crisis highlighted the globalisation of the financial sector including the substantial growth and complexity of corporate structures in the non-bank financial sector (sometimes referred to as the “shadow banking” sector). A key feature of the globalisation of the financial sector was the activities of multinational enterprises (MNEs). A recent strand of the foreign direct investment (FDI) literature has focused on the effects of FDI in the financial sector (Goldberg, 2007), with empirical evidence suggesting that financial FDI may be less beneficial to the host country than general or greenfield FDI (Ostry *et al.*, 2010). However, much of the financial FDI literature to date has focused on the activities of foreign banks, while FDI in the non-bank financial sector is less well explored.

Despite the growing importance of the non-bank financial sector in the euro area (according to ECB (2014) assets of non-bank financial institutions increased from €9 trillion in 2003 to €19 trillion in 2013¹) and its large impact on headline FDI statistics in some European countries², the empirical literature on the motivations for FDI in this sector is scarce. Indeed, policy initiatives at a European level, including the European Commission’s so-called ‘Capital Markets Union’ (CMU)³, has further increased the focus on the non-bank financial sector. The objective of the CMU is to maximise the benefits of the capital markets and non-bank financial institutions as funding channels for the real economy. However, policy initiatives such as the CMU also reinforce the need to better understand the activities of non-bank financial institutions, including the determinants for cross-border investment. This can assist policymakers in assessing the potential financial stability implications of CMU.

As noted by Barrios *et al.* (2012) the decision to establish foreign affiliates may be based on a number of tax and non-tax factors. The non-tax factors may include the

¹These data refer to total assets of money market funds (MMFs) and other financial intermediaries (which include all non-monetary financial institutions apart from insurance firms and pension funds) resident in the euro area. Assets of the banking sector (which includes financial assets of monetary financial institutions (MFIs) excluding money market funds (MMFs) and the Eurosystem) rose from €19 trillion to €30 trillion over the same period.

²For evidence of these effects, see OECD (2014).

³See European Commission (2015).

size and location of the foreign market, macroeconomic and business conditions along with the legal system in place in the host country. In addition, MNEs' decisions to incorporate new foreign affiliates may be motivated by tax or regulatory considerations.

The focus of this paper is to examine the determinants of location choice of new non-bank financial foreign affiliates.⁴ Few studies in the empirical literature on firm location choice have examined sector-specific FDI in Europe while most exclude the financial sector from their analysis.⁵ Moreover, many of the papers which examine financial FDI focus on the activities of foreign banks (Grosse and Goldberg, 1991; Yamori, 1998; Buch and Lipponer, 2007; Claessens and van Horen, 2014a; Huizinga, Voget and Wagner, 2014). To the best of our knowledge no study examines the determinants of location decisions for FDI in the non-bank financial sector. This paper aims to fill this gap in the literature.

Against this background, the increasing internationalisation and complexity of corporate structures of the non-bank financial sector coupled with the existing data gaps in official statistics for this sector (ECB (2014) note that 44 per cent of the euro area non-bank financial sector remains unmapped) raises a number of important questions which are relevant to both researchers and policymakers alike. Where are the financial activities of MNEs in the non-bank financial sector in Europe located? What are the key factors that determine the location decisions of non-bank financial FDI? Are determinants for newly incorporated 'brass plate' entities different from newly incorporated entities that create employment in their new host country?

In order to address these questions, we construct a unique firm-level dataset of 8,724 newly incorporated foreign affiliates in the non-bank financial sector in the European Union (EU) over the 2004-2012 period. We extend the existing literature by examining FDI location decisions in the non-bank financial sector only, using a rich firm-level dataset that covers a wide range of information on both the home and po-

⁴Banks and insurance companies' accounts are not available on the *Amadeus* database. Therefore, the majority of our sample consists of firms which would be classified within the other financial intermediary (OFI) sector. Our sample includes multi-affiliate firms within the same corporate group. However, in the absence of consolidated information on these firms, these foreign affiliates cannot be identified or tracked.

⁵An exception is Lawless *et al.* (2014) who include financial services firms in their sample of firms.

tential host country. Our paper focuses on the extensive margin of non-bank financial FDI, and specifically on the location decision of new foreign affiliates. An examination of the intensive margin of non-bank financial FDI is beyond the scope of this paper.

Our results suggest that the location decisions of foreign affiliates in the non-bank financial sector is negatively associated with market potential and distance but increases with the size of the host country. The negative coefficient we obtain for distance is consistent with the findings of Claessens and van Horen (2014a) who examine the determinants of banking FDI. Furthermore, many of the control variables used to proxy for vertical motivations of FDI such as higher corporation tax rates and labour costs decrease the location probability. These results suggest that costs of production are key determinants for FDI location decisions in this sector. Gravity related controls such as the home and host country sharing a common legal system, border, language and currency are found to increase the likelihood of non-bank financial FDI in the majority of our specifications.

The rest of the paper is structured as follows. Section 2 provides a brief overview of the non-bank financial sector. Section 3 presents the theoretical and empirical background for our analysis and situates our work within the existing literature. The data used in our empirical analysis is described in Section 4. Section 5 discusses the empirical methodology and the results obtained from our analysis while Section 6 concludes.

2 The Non-Bank Financial Sector

According to the ECB (2014), the size of the non-bank financial sector in the euro area has grown significantly in recent years, with assets increasing from €9 trillion in 2003 to €19 trillion in 2013. This in part reflects the growth of “shadow banking” activity in the euro area as financial institutions adjust their activities and corporate structures in light of the increased regulatory requirements of the banking sector. Shadow banking can be broadly defined as credit intermediation outside the traditional banking system and therefore it is a catch-all term for a host of non-bank financial institutions engaged

in bank-like activities. For example, in response to increased regulatory scrutiny, banks may be motivated to move some of their activities off balance sheet and establish separate entities to perform specific financial activities. In addition, large MNEs and other non-financial corporations (NFCs) may decide to establish new entities to engage in activities on behalf of the group parent or to take advantage of tax regimes in particular countries. However, a large portion of the non-bank financial sector in the euro area remains unmapped with around 44 per cent attributed to an unspecified sector (ECB, 2014).⁶

Understanding the activities and the location decisions of non-bank financial FDI has important policy implications. For example, many of the newly incorporated foreign affiliates in our sample would be counted within the other financial intermediaries (OFI) classification of flow of funds data. OFIs are a diverse range of entities which are subject to lighter regulatory requirements than monetary financial institutions (MFIs).⁷ The OFI sector includes financial corporations engaged in lending such as financial leasing (including aircraft leasing) or finance companies, specialised financial corporations such as factoring firms, special purpose vehicles (SPVs) including financial vehicle corporations (FVCs) engaged in securitisation activity, financial holding companies, investment funds and securities and derivatives dealers.⁸

Despite the fact that some OFI entities are engaged in credit intermediation, a large proportion of these institutions remain outside of the regulatory perimeter. Annex 1 contains a glossary with definitions of these financial institutions and activities. While there are many different types of institutions, some OFIs such as SPVs may be established as 'brass plate' companies meaning they have no physical presence in the host country and therefore create little or no economic activity or employment. Entities such as FVCs, SPVs and other conduits classified within the OFI sector can also inflate

⁶For a discussion on shadow banking data gaps at a global level, see IMF (2014).

⁷A number of existing and forthcoming securities and markets regulations capture some activities of OFI entities if these entities engage in particular activities. For example, entities engaged in over-the-counter (OTC) derivative transactions will be captured by the European Market Infrastructure Regulation (EMIR) and must report information on these transactions to trade repositories. However, unlike most MFIs, OFIs are not micro-prudentially supervised by financial authorities.

⁸Under ESA (2010), financial holding companies have been reclassified as captive financial institutions and money lenders.

and distort traditional macro-financial data such as balance of payments and external debt statistics.⁹ Furthermore, financial distress in the non-bank financial sector can affect the banking system through a number of channels including through banks' direct funding linkages with non-banks and indirectly through common exposures to assets (ECB, 2014). As non-bank financial institutions are subject to lighter regulatory requirements than banks they can be used as part of regulatory arbitrage strategies and can thus exacerbate vulnerabilities within the financial system.

Depending on the nature of their activities¹⁰ and the definition of shadow banking¹¹ applied, some of the entities in our sample may also be classified within the European shadow banking system.¹² These entities' activities pose challenges for compilers of macroeconomic statistics while their activities also present new challenges for financial authorities concerned with monitoring the scale and nature of shadow banking activities across Europe.¹³

3 Theoretical Background and Related Literature

Firms face a number of decisions when setting up their international activities and associated corporate structures. Some firms may decide to export while others may decide to set up a foreign affiliate to access foreign markets. The decision to set up a foreign affiliate may be driven by cost reasons ('vertical' FDI) or market access ('horizontal' FDI) considerations. The theoretical literature on vertical FDI suggest that FDI takes place to exploit factor price differences that remain after trade and predicts

⁹Creedon, Fitzpatrick and Gaffney (2012) document the large impact OFIs resident in Ireland have on Irish external debt statistics. Similarly, Claassen and van den Dool (2013) describe the effects of including SPEs on balance of payments and FDI statistics by taking the Netherlands as a case study.

¹⁰A number of firms in our sample are engaged in activities which would not be classified as shadow banking activities. For example, according to Broos *et al.* (2012), the majority of the OFI sector in the Netherlands are not engaged in financial intermediation.

¹¹The Financial Stability Board (FSB) define shadow banking as "*credit intermediation involving entities and activities outside the regular banking system*" or *non-bank credit intermediation in short* (FSB, 2013). However, there are a number of alternative definitions of shadow banking applied in the academic literature. For example, Claessens and Ratnovski (2014) define shadow banking as "*all financial activities, except traditional banking, which require a private or public backstop to operate.*"

¹²Bakk-Simon *et al.* (2012) discuss the components of the euro area shadow banking system.

¹³Constâncio (2015) describes the statistical challenges of measuring shadow banking in the euro area.

that FDI increases with endowment differences (Helpman, 1984). In contrast, horizontal FDI leads to production in multiple countries with similar relative endowments (Markusen, 1984). Having made the decision to set up a foreign affiliate, firms are next faced with the decision of where to locate their affiliate. The theoretical literature underpinning this decision is linked to the New Economic Geography (NEG), which is based on the geographic location of economic activities (Krugman, 1991; Venables, 1996). The findings from this literature suggest firms locate their foreign affiliates based on trade costs, increasing returns to scale, imperfect competition and firm costs.

The empirical methodology employed in our paper builds on Barrios *et al.* (2012) and Lawless *et al.* (2014) who both employ the conditional logit model as proposed by McFadden (1974). The focus of Barrios *et al.* (2012) is to examine the separate effects of host and additional home country taxation on the location decisions of MNEs while Lawless *et al.* (2014) examine the impact of host corporate taxation on FDI location decisions. We depart from these papers along two dimensions. First, we focus specifically on non-bank financial FDI. In particular, in order to examine the heterogeneity of this sector we conduct a more detailed sectoral analysis using NACE Rev. 2 level data. Second, we explore heterogeneous responsiveness by splitting our sample according to the number of employees reported by firms to examine whether the determinants of location choice differ for 'brass plate' entities which do not support meaningful economic activity or employment and entities that report employees in the foreign affiliate in their host country. In contrast to FDI which creates employment, the beneficial impact of 'brass plate' FDI on the host country may be minimal.

There is a large and growing number of studies which examines FDI location decisions. One strand of the literature focuses on the wider determinants of location choice (Head and Mayer, 2004; Basile *et al.*, 2008). Using both conditional logit and nested logit models, Head and Mayer (2004) focus on the determinants of location choice by Japanese firms in Europe. They find that demand factors such as market potential is positively associated with the location choice decision. Basile *et al.* (2008) analyse the determinants of location choice of MNEs in Europe. They estimate a mixed logit model

on a sample of foreign firms located in 50 European regions over the period 1991-1999. They find that agglomeration economies (proxied by the number of domestic and foreign firms in each region) and the ability of regions to attract EU structural funds are important determinants in location choices.

A second strand of the literature examines the impact of taxation on FDI location decisions (Devereux and Griffith, 1998b; Barrios *et al.* 2012; Lawless *et al.* 2014). Devereux and Griffith (1998b) examine the impact of taxation on the location decisions of US firms in Europe. Conditional on a firm having decided to produce in Europe, they find that a one per cent increase in the effective average tax rate in the UK would lead to a reduction in the probability of a US firm locating there by around 1.3 per cent. Likewise, Barrios *et al.* (2012) find that both host and home country taxation have a negative impact on the location of new foreign subsidiaries. Using data on MNEs operating in 33 European countries over the period 1999-2003, they find that home country corporate taxation of foreign source income has an independent, strongly negative effect on the probability of location decisions in potential host countries.

These findings are in line with those of Davies *et al.* (2009) who examine the impact of tax treaties on FDI for a sample of Swedish MNEs over the period 1965-1998. They find that tax treaties increase the probability of a Swedish MNE having an affiliate in a given country, although tax treaties are found to have little effect on the volume of FDI. Lawless *et al.* (2014) also examine the impact of corporate taxation on MNEs' location decisions. They use data on new MNEs located across 26 European countries from 2005 to 2012 and find a consistent negative effect of the corporate tax rate on the probability of a country being chosen as a location. They use a number of alternative measures of corporate taxation while their analysis suggests that financial sector firms are the most sensitive to changes in corporate tax rates. A less developed third strand of the literature draws on more granular regional data to examine the determinants of sector-specific FDI locations decisions (Siedschlag *et al.* 2013a; 2013b). Our paper is related to all three strands of literature given that we focus on sector-specific FDI determinants, including taxation.

Regarding studies of financial sector FDI more generally, there are a number of papers which explore the activities of foreign banks (Grosse and Goldberg, 1991; Yamori, 1998; Buch and Lipponer, 2007; Claessens and van Horen, 2014a; 2014b; Huizinga, Voget and Wagner, 2014). Our work extends this growing literature as many of the non-bank financial institutions included in our sample would not be captured within these studies. Of this literature, a close paper to ours is Claessens and van Horen (2014a) who examine the impact of both geographic distance and competitor remoteness in determining banking FDI. Their empirical findings suggest that two dimensions of distance and competitor remoteness matter: geographic distance and cultural distance as measured by the home and host country sharing a common language. The impact of international taxation on the volume of banking sector FDI is the focus of Huizinga, Voget and Wagner (2014). They provide evidence which shows that international double taxation of dividend income reduces banking sector FDI in terms of both foreign-bank assets and the number of banks.

4 Data and Descriptive Statistics

4.1 Data

To investigate the factors driving non-bank financial FDI location decisions, we construct a unique dataset using firm-level data from Bureau van Dijk's *Amadeus* database. These data report financial and ownership information based on standardised financial statements for companies across Europe. We use data from unconsolidated accounts and collect information on the firm's date and location of incorporation, number of employees, the location of the foreign investor and the firm's sector classification. Using four digit NACE Rev. 2 industrial classifications, we restrict our sample of firms to those classified in financial services, corresponding to NACE codes 6400-6630 inclusive (Table 1).¹⁴ This allows us to conduct a detailed sectoral analysis based on the firm's

¹⁴NACE is a statistical classification of economic activities developed in the European Community. NACE Rev. 2 was established by Regulation (EC) no. 1893/ 2006 of the European Parliament and of the Council on 20 December 2006.

main activity with a specific focus on non-bank financial FDI.

Our dataset contains information on 8,724 new foreign affiliates across 27 European countries for the period 2004-2012.¹⁵ A firm is defined as foreign-owned if the firm has one foreign shareholder who holds 10 per cent equity capital. This definition is in line with international statistical frameworks used in balance of payments and international investment position statistics and reflects a lasting interest by a resident in one economy (the direct investor) in an enterprise resident in another economy.¹⁶ A foreign affiliate is taken to be new in its year of incorporation.

We combine this firm-level data with country-level data on cultural, macroeconomic, geographical and institutional characteristics from a number of sources, including the World Bank, CEPII, the World Development Indicators (WDI) and the OECD. Drawing on the literature on location choice decisions we use a number of control variables. The source and definition of each of these variables are presented in Table 2 in the Appendix. In addition, some essential data cleaning was performed prior to conducting the empirical analysis. A description of the data construction and cleaning process is presented in Annex 2.

4.2 Descriptive Statistics

The number of foreign affiliates in each NACE Rev.2 sector classification considered for this analysis is shown in Table 1. Almost 70 per cent of new foreign affiliates incorporated in Europe over our sample period relate to activities of financial holding companies. The second most prominent sector covers other financial services activities (except insurance and pension funding) which represents just over 10 per cent of our sample of firms. Although 27 European countries are included in our final sample, Table 3 shows that a small number of countries, including the Netherlands, the United Kingdom, Germany, France and Ireland represent almost 75 per cent of our to-

¹⁵While a number of the countries in our sample were not Member States of the European Union (Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovakia and Slovenia joined the EU in May 2004 while Romania and Bulgaria joined in January 2007) at the start of our sample period, the new accession countries are only 7.84 per cent of the final sample of host countries. When we exclude these countries, our results are qualitatively similar.

¹⁶IMF (2013) Balance of Payments and International Investment Manual Sixth Edition (BPM6).

tal sample. The Netherlands was the chosen host country for 38.5 per cent of foreign investments in the non-bank financial sector in Europe from 2004 to 2012 with almost 95 per cent of these investments in the Netherlands relating to activities of financial holding companies.¹⁷

The *Amadeus* database provides information on the Global Ultimate Owner (GUO) of the financial foreign affiliate. A GUO is defined as an investor who holds over 50 per cent of the firm's equity capital and whose location can be identified by their ISO country code. We restrict our sample to firms who report their GUO ISO country code on *Amadeus*.¹⁸ Table 3 also provides information on the location of the GUO. The distribution is consistent with many of the related empirical studies (Barrios *et al.* 2012; Siedschlag *et al.* 2013a; 2013b; Lawless *et al.* 2014) and shows that OECD countries are the home country for the majority of GUOs. For instance, over 21 per cent of the firms in our sample originate in the United States followed by Luxembourg with 10 per cent, the United Kingdom with 7 per cent and Germany with 6 per cent.

Given the large proportion of financial holding companies in our sample, Table 4 presents the number of firms per country in this NACE Rev. 2 classification over the analysed period, 2004 to 2012. The first two columns show the top five host countries chosen as locations for financial holding companies. The Netherlands dominates with over 53 per cent followed by Germany (10.3 per cent) and the UK (7.9 per cent). Figure 1 displays the home country of the GUO for investments in financial holding companies in all countries as well as investors who set up financial holding companies in the Netherlands. It is noteworthy that the top home country for both samples is the

¹⁷A number of factors may explain the large proportion of Dutch financial holding companies in our sample. As noted by the ECB (2014), 44 per cent of the euro area shadow banking system remains unallocated to a broad and unspecified sector. They estimate that entities located in the Netherlands and Luxembourg account for approximately two-thirds of this residual. For the Netherlands, entities are most likely special financial institutions (SFIs) which comprise two-thirds of the Dutch shadow banking sector (ECB, 2014). As documented by Broos *et al.* (2012), SFIs are set up by mainly NFCs for tax purposes, to attract external funding and to facilitate intragroup transactions. They suggest that most SFIs are classified as holding companies or group (finance) companies. Weyzig (2014) notes that there are approximately 12,000 of these entities located in the Netherlands which makes it the world's largest conduit country for FDI.

¹⁸Imposing such a restriction is required in order to introduce our gravity related control variables which use bilateral home and host country information. However, this restriction reduces the sample of firms available on *Amadeus* by 69 per cent owing to a large number of missing data for the GUO variable.

United States. Table 4 also shows the top five host countries chosen as locations for all sectors excluding financial holding companies. Of the 2,748 foreign investments made excluding activities of financial holding companies, 22 per cent chose to locate in the United Kingdom followed by Ireland with almost 18.5 per cent and Germany with 15.8 per cent. Figure 2 shows the home country of the GUO for foreign investments excluding activities of financial holding companies. The US is again the main source of FDI followed by the UK.

By focusing specifically on non-bank financial FDI we can explore the nature of foreign investments in our sample and examine whether these investments create real economic activity in their host country or whether the investments are 'brass plate' in nature, such as the activities of SPVs. Currently, there is no single definition of or industrial classification for SPVs. However, according to the BIS (2009), they have a number of common features. First, they are usually created to perform a specific financial or business activity. Second, they are usually set up as bankruptcy remote vehicles which ensures that the assets within the SPV are protected from the risk of bankruptcy of the originator, and therefore creditors of the originator do not have a claim on the assets of the SPV. Third, SPVs usually do not have any direct employees and instead use professional corporate service providers, directors and trustees to perform the vehicle's duties. Fourth, SPVs may not have any physical presence in their host country. Their only presence may be the address of their registered office which usually refers to the corporate service provider's office address. Fifth, in many European jurisdictions such as Ireland, the Netherlands and the UK, the most common type of SPVs are orphan vehicles (BIS, 2009). Orphan vehicles are entities whose share capital is a nominal amount and which is held beneficially on trust for a charity. The holding of shares on trust for charitable purposes ensures that the SPV is not owned by the originator (BIS, 2009).

With this in mind we will perform a number of cross-checks on our sample to isolate SPVs from foreign investments which support real economic activity. Since Q4 2009 the ECB has collected information on SPVs in the euro area whose primary activity

is securitisation. The number and names of these securitisation vehicles in the euro area, defined as FVCs, are published on the ECB website. We cross-check our sample of foreign affiliates with a list of FVCs who have reported data to the ECB at any time from Q4 2009 to Q2 2014 inclusive. Using this approach, we identify just thirty FVCs within our sample of foreign affiliates.¹⁹

Following that, we filter our sample of firms by the number of employees reported which we use as our proxy for 'real' economic activity. Table 5 shows the top host countries for firms with between one and ten employees on *Amadeus*. The Netherlands (with 47.9 per cent) is the top host location and given the concentration of non-bank financial FDI in activities of holding companies in the Netherlands, it suggests that the establishment of holding companies does create some economic activity in the host country (as proxied by the number of employees). Germany and the United Kingdom also attract financial investments which create some employment followed by Ireland and Austria. Next, we explore whether the ranking of top host countries changes when we adjust the number of employees threshold to firms who report having greater than ten employees. Table 5 shows that the United Kingdom is the top host country for this more employment intensive FDI followed by the Netherlands. It is worth noting that the share of foreign investments who chose to locate in the Netherlands falls significantly (to 19 per cent) for this sub-sample of firms.

As our dataset covers new foreign affiliates which are established from 2004 to 2012, it allows us to explore whether the financial crisis has had an impact on the number of foreign affiliates being established in the non-bank financial sector. Considering the full sample of firms, Table 6 shows that the number of new financial foreign affiliates incorporated falls in 2009 which coincides with the economic crisis and a period of high uncertainty in Europe. However, in 2010 the number of new foreign affiliates incorporated rebounds to 1,154 firms which represents the second highest number of firms established per year over our sample period. This distribution is mirrored when

¹⁹It is noteworthy that a significant minority of the identified FVCs report having direct employees. In the absence of a euro area dataset for SPVs who fall outside the definition of FVCs, we cannot perform a cross-check on our dataset for these types of vehicles and therefore must rely on the number of employees as a proxy for real economic activity and as a means to filter out brass plate activities.

we split our sample using firms who report that they employ between one and ten employees. It is noteworthy that when we consider just firms who have more than ten employees, the incorporation of new foreign affiliates in the non-bank financial sector has fallen every year since 2008 although our sample size for this category is much smaller.

Table 7 displays summary statistics for the explanatory variables used in our empirical analysis. We observe significant variation in country characteristics, most notably with respect to GDP growth and labour costs. The variation on GDP growth reflects the impact of the recent financial crisis on macroeconomic conditions in Europe where a number of countries, including Greece, Ireland, Portugal, Spain and Cyprus required external financial assistance programmes. Furthermore, we observe significant variation in labour costs across Europe over the period considered. It is noteworthy that the ranges on our two tax rate variables, corporation tax and effective average tax rate (EATR), are quite similar ranging from 12.5 to 38.4 and 11.1 to 34.0 per cent respectively. In contrast to the statutory tax measure, the EATR takes account of differences in allowances and exemptions across countries. However, owing to missing data for this control variable in our sample, we use the statutory corporation tax rate in our baseline estimations. While corporation tax rates do not usually vary significantly over time, our sample shows that there is a large variation across countries in Europe which may impact firms' location decisions. Next, we check for patterns across our explanatory variables as presented in the correlation matrix in Table 8. As one would expect, our two tax rate variables (the statutory corporation tax rate and the EATR) are highly correlated (0.949) while both are positively correlated with host country GDP.

5 Empirical Methodology and Results

5.1 Empirical Methodology

Our empirical methodology employs the conditional logit model as proposed by McFadden (1974). This model has been widely used in the empirical literature to examine

the determinants of firms' location decisions (Head, Ries and Swenson 1995; Head and Mayer 2004; Nefussi and Schwellnus 2010; Barrios *et al.* 2012; Siedschlag *et al.* 2013a; 2013b; Lawless *et al.* 2014). As summarised by Lawless *et al.* (2014) the firm's location decision can be written as follows, where Π_{ict} reflects the profits of firm i earned from locating in a particular country c at time t :

$$\Pi_{ict} = X_{ict}\beta + \varepsilon_{ict} \quad (1)$$

In equation 1, X_{ict} is a vector of alternative (country) specific control variables. The profit obtained from choosing a particular country is expressed as a function of all observable characteristics of the country, X_{ict} , along with an unobservable component of profit ε_{ict} .

Each firm in our dataset is faced with the binary decision of which of the 27 European countries in which to locate, with it choosing the location which maximises profits.²⁰ Therefore, our dependent variable, *Location*, is equal to one if the firm locates in a particular country c and zero otherwise. Although we do not observe the profits of the firm, we assume the firm chooses the location which yields the highest profits. Assuming the error term ε_{ic} follows a type 1 extreme value independent and identically distributed (i.i.d) across all foreign affiliates and countries, the probability of choosing a particular country c can be written as follows:

$$P(Y = c|1, \dots, J, X_{ic}) = \frac{e^{X_{ic}\beta}}{\sum_{j=1}^J e^{X_{ij}\beta}} \quad (2)$$

The i.i.d assumption inherent in conditional logit models leads to a property called 'Independence of Irrelevant Alternatives (IIA)'. This assumes that the random errors are independent, and as a result it forces the odd ratios of any two alternatives to be independent of other alternatives. As the errors are i.i.d., they cannot contain any alternative-specific unobserved information, and therefore adding a new alternative cannot effect the relationship between a pair of existing alternatives.

²⁰In some specifications the number of alternatives in the conditional logit model falls below 26 owing to missing data for some combinations of countries and years.

5.1.1 Traditional Gravity Controls

To estimate the determinants of firms' location choice decisions in the non-bank financial sector, country-specific information for our alternatives is required. Drawing on the existing theoretical and empirical literature we include a number of control variables which are likely to effect expected profits from locating in a particular country. Gravity variables describe market size and market access and have been used extensively in the empirical literature. In order to capture the *market potential* of each host country, we use the sum of inverse distance weighted real GDP of all countries other than the host country. This has been applied in a number of empirical studies (Head and Mayer, 2004; Basile *et al.* 2008) as it captures the attractiveness of a location to gain access to larger and closer proximity markets which is a key motivation of horizontal FDI. A number of previous studies including Head and Mayer (2004) have found a positive effect for this variable. However, given the footloose nature of non-bank financial FDI, such motivations may be less important and therefore the expected sign on this coefficient is ambiguous. We proxy the size of the host market using $\ln GDP$ and expect a positive effect of GDP on the probability of locating in a particular country. *GDP growth* is also included as a further proxy for macroeconomic conditions in the host country.

Gravity related control variables are included to account for the cultural, geographical and institutional characteristics of the host country. *Distance*, measured by kilometres between home and host capital cities, weighted by population is used to proxy for factors which may hinder FDI between countries, such as information costs or time differences. We expect a negative effect on the probability of location choice. The negative interpretation of distance suggests that the further a host country is from the home country of the FDI, the higher the information costs. Such costs may act as a deterrent to non-bank financial FDI. The findings of Davies and Guillin (2014) validates the use of physical distance measures in empirical analyses on FDI in services. We also control for past colonial ties (*colony*) between the home and host countries which captures cultural distance factors which Blonigen and Piger (2011), amongst others, find to be an

important determinant of FDI. We expect a positive relationship between past colonial ties and the probability of location choice.

Other gravity related explanatory variables included capture whether the home and host country share a common legal system (*comleg*), whether they share a *common language*, whether they share a common currency (*comcurr*) and whether they share a common border (*contiguity*). These variables are commonly included as control variables when examining the determinants of FDI. For example, Claessens and van Horen (2014a) employ gravity controls such as having a common language and legal system in their empirical analysis and find that they are important determinants of banking sector FDI. Drawing on this literature we expect these controls are also important for non-bank financial FDI owing to the complexity of corporate structures and tax frameworks in this sector.

5.1.2 Costs, Tax, Regulatory and Other Controls

Turning to the vertical motivations for FDI, a number of factors are deemed important when considering the attractiveness of a potential host country including labour costs, corporate taxation, labour market flexibility and the overall regulatory regime. Following Lawless *et al.* (2014), we proxy *labour costs* using data on compensation per employee. We expect a negative effect from our measure of labour costs while we also control for the quality of the labour force (*education*) by using the percentage of the population who have obtained a tertiary education. To proxy for labour market conditions in the host country, we include the *unemployment rate*. As highlighted by Siedschlag *et al.* (2013a), high unemployment rates can indicate a pool of available labour but may also reflect a lack of flexibility in the labour market. Therefore, the effect of the unemployment rate on the location probability is ambiguous.

The importance of tax on the location decisions of FDI has been the focus of much of the literature (Devereux and Griffith, 1998b; Barrios *et al.* 2012; Lawless *et al.* 2014) since corporation tax directly reduces the profits of firms. We collect data on two measures of corporation tax, the statutory tax rate from KPMG and the EATR which is

collected by the Oxford University Centre for Business Taxation. We control for the effect of corporate taxation using the statutory corporate tax rate and use the EATR as a robustness check. Our *a priori* expectations is for a negative effect of taxation on the probability of a potential host country being chosen as a location for new foreign affiliates. As documented by Lawless (2013), administrative bureaucracy or 'red tape' in potential host countries may inhibit FDI. To control for this, we include a further proxy, *TimePayTax*, which measures the time (in hours per year) required to prepare, file and pay corporate, sales and labour taxes. We expect the length of time required to file taxes to act as a deterrent to new FDI and therefore reduce the probability of a location choice.

Golub (2009) documents the restrictions in the services sector for a large sample of countries and finds that the financial sector is one of the most heavily restricted industries for foreign investment. Motivated by this literature, we control for the regulatory framework in place in the potential host country using *FFDI Restrict*, the OECD's FDI restrictiveness index for the financial services sector²¹ which is described in Kalinova, Palerm and Thomsen (2010). The index is a measure of all discriminatory measures affecting foreign investors and ranges from 0 (no impediments to FDI) to 100 (fully restricts FDI). The index covers four main areas including (i) foreign equity restrictions (ii) screening and prior approval requirements, (iii) rules for key personnel and (iv) other restrictions on the operation of foreign enterprises. Our theoretical prior is for a negative effect of FDI restrictions on the location probability.

The effect of agglomeration economies was discussed by Head and Mayer (2004) and relates to the idea that firms are attracted to locations where similar firms are based in order to take advantage of potential spillovers and positive effects from the cluster-

²¹This measures FDI restrictions in banking, insurance and the 'other finance' sectors. The 'other finance' sector includes securities and commodities brokerage, fund management and custodial services. As a robustness check, we also use the FDI restriction index for all industries and find similar results.

ing of labour.²² Much of the agglomeration literature utilise data at a more regional level and given that our data is at a country level, we follow Lawless *et al.* (2014) and revert to using the lag of the stock of total FDI to a country as a percentage of GDP as our measure of *agglomeration*. We also include a proxy for the quality of infrastructure in the host country by including the number of fixed broadband *internet* subscribers (per 100 people). We expect such factors to increase the probability of location choice. In contrast to many studies in the banking FDI literature, we do not control for the quality of the financial regulatory regime in the host country owing to the fact that a large proportion of the institutions within our sample (e.g. financial holding companies, financial leasing companies and SPVs) are outside of the regulatory perimeter.

A number of our explanatory variables, namely labour costs, education, agglomeration, unemployment and FFDI Restrict are included with a lag of one time period to mitigate potential endogeneity concerns from possible simultaneity of these variables. Standard errors are robust to heteroskedasticity and clustered at the firm level.²³

5.2 Results

As described in Greene (2012) the coefficients in the conditional logit model are not directly tied to marginal effects. We proceed by following Head and Mayer (2004) and calculate average probability elasticities which have been applied in a number of related empirical studies (Head, Ries and Swenson 1995; Head and Mayer 2004; Nefussi and Schwellnus 2010; Siedschlag *et al.* 2013a; 2013b). As noted by Nefussi and Schwellnus (2010), the average probability elasticities are approximately equal to the estimated coefficients from the conditional logit model when there are a large number of choices in the choice set.

²²The agglomeration effect can be further decomposed into “efficiency agglomeration” and “demonstration effects”. Firms may be attracted to a potential host location because they can increase their efficiency by locating closer to other firms in their sector (efficiency agglomeration). On the other hand, firms might also be attracted by the presence of other firms in the host country. The presence of firms provides positive signals to potential new investors regarding the reliability of the host country. Barry *et al.* (2003) find that both effects are determinants of US manufacturing FDI into Ireland.

²³We also compute heteroskedasticity-consistent standard errors and cluster at the country level which is in line with the methodology employed by Barrios *et al.* (2012). These estimates are not reported here, but are available, upon request, from the authors.

Table 9 reports the baseline estimates of the conditional logit model used to examine the determinants of MNE location decisions in the non-bank financial sector. Column (1) reports the estimates from our initial specification which includes our full sample of firms. We include the statutory corporation tax rate as our proxy for tax which enters with a negative coefficient that is statistically significant. This finding contrasts with other studies of location choice determinants (Basile *et al.* 2008; Siedschlag *et al.* 2013b) who find an insignificant effect of the corporate tax rate on the location choice of MNEs. However, these studies do not consider FDI determinants of the financial sector. Lawless *et al.* (2014) find that financial sector firms are more responsive to changes in corporate tax rates than other sectors.

Of the other country controls included, we find the expected negative effect of distance on the probability of locating in a particular host country. Also, in line with the existing literature, we find a positive and significant effect for host country GDP and GDP growth on the location probability while the unemployment rate and market potential are negatively associated with the location probability. The negative coefficient on market potential is in line with the findings of Blonigen *et al.* (2007). Regarding the interpretation of market potential, non-bank financial FDI may have limited or no fixed assets (brass plate activities) and therefore horizontal (market access) motivations may lag vertical (cost) considerations for this type of FDI.

Column (2) substitutes the statutory corporation tax rate for the EATR. The EATR variable is negative and statistically significant along with our distance control variable. The size of the host country as proxied by GDP again has a positive and significant effect on FDI location probability. However, due to missing observations for the EATR variable, our sample falls from 230,949 to 161,422 observations. Owing to this data limitation, we proceed by using the statutory tax rate in our baseline model specifications.

In column (3), which is our preferred specification, we introduce additional measures including FFDI restrict, education, agglomeration, TimePayTax and internet in order to examine wider determinants of FDI location decisions. Of these, our mea-

asures of infrastructure and agglomeration are statistically significant and enter with a positive coefficient while education, FFDI restrict and TimePayTax are negative and statistically significant. One might expect that for this skill-intensive industry, high levels of education may attract FDI. However, like Lawless *et al.* (2014) we find the opposite. Our controls from the initial specification remain qualitatively unchanged except for labour costs which is now negative and statistically significant. In columns (4) and (5) we re-run our first two specifications but limit our sample of firms to those included in specification (3). Our results remain qualitatively the same.

In column (6) we check for non-linearity effects on our corporation tax variable by introducing a corporation tax squared variable. Lawless *et al.* (2014) find that the negative effect of corporation tax moderates as the tax rate increases. In contrast to these findings, the corporation tax rate is positive and significant while the squared term is negative and significant for our full sample of firms.²⁴ Note, however that the net effect of the tax is negative for all our observations, thus an increase in the tax rate reduces the probability of investment with this change largest for high tax rates.²⁵

The estimates from our extended model are reported in Table 10. In column (1) we re-run our preferred baseline specification from Table 9 (column (3)). Next, we add our gravity related explanatory variables such as sharing a common currency, past colonial links, common legal system, common language and contiguity (column (2)). Sharing a common language, border, currency and legal system are found to increase the probability of firm location choice. Distance, corporation tax, labour costs, market potential and FFDI restrict are again found to be negatively associated with FDI location probability while host country GDP, agglomeration and internet have a positive effect.

²⁴As this result is somewhat surprising, we estimate column (6) above and below the mean and median value of corporation tax (24.2 and 25 per cent respectively). For brevity, we do not report our results here but these are available on request from the authors. We find that corporation tax is negative and significant and our corporation tax squared variable is positive and significant for values above the mean. The signs on our coefficients are unchanged but are insignificant for values below the mean. In contrast, corporation tax is negative and significant and corporation tax squared is positive and significant for values above and below the median value.

²⁵As a robustness check and given their large weight within our sample, we exclude firms that locate in the Netherlands and re-estimate column (6). In this specification, the coefficient on corporation tax is negative and significant and our corporation tax squared variable is positive and significant (unreported). These results are consistent with those obtained by Lawless *et al.* (2014).

To this point we have examined the determinants of firm location choice in the non-bank financial sector using our full sample of firms. However, as noted by the UNECE (2011), Claassen and van den Dool (2013) and the OECD (2014) amongst others, FDI statistics can be distorted by SPVs and holding companies used to channel capital through countries. Such round tripping of capital may be part of MNEs tax planning strategies or a way of circumventing regulations imposed in certain jurisdictions. Given our focus on non-bank financial FDI, these issues are particularly pertinent for our sample of firms. As displayed in our descriptive statistics in Table 6, a large proportion of our sample of firms relates to activities of brass plate entities who do not create real economic activity in terms of employment. Therefore, in order to explore whether the determinants of location choice are the same for FDI which creates employment and those which are brass plate in nature, we split our sample according to the number of employees reported by the firm. In column (3) of Table 10, we restrict our sample of firms to those who report having between one and ten employees on *Amadeus*.²⁶ Therefore, the number of observations falls significantly compared to our baseline and extended model specifications.

Comparing the results between columns (2) and (3) we find that, although market potential is insignificant and positive for this sub-sample of firms, our main results from the extended model are broadly unchanged. For example, the negative coefficient for corporation tax obtained in column (2) holds when we consider this sub-sample of firms while sharing a common legal system, a common language, currency and common border are found to increase the probability of location choice. In column (4), we restrict our sample of firms to those who employ more than ten employees. The number of observations falls significantly reflecting the large proportion of brass plate entities within our sample while many of the controls are insignificant except for positive coefficients on GDP, common language, internet and agglomeration. Our results from this sample of firms suggest that corporation tax and market potential are negatively associated with location choice.

²⁶We also run this specification on sub-samples of firms who have no employees or who do not report employment data on *Amadeus* and obtain qualitatively similar results.

Next, in order to examine the role firm size has in determining the likelihood of firm location choice, we split our sample into small and large firms. The results for these sub-samples are reported in columns (5) and (6). The size filter applied is based on a firm's total assets, annual turnover, and number of employees. To be classified as a small company, a company must fulfill one of the following criteria (i) annual turnover must be less than €10 million, or (ii) total assets must be less than €20 million, or (iii) the number of employees must be less than 150. Firms with values above any of these thresholds are classified as large firms. The results suggest that larger firms are more responsive to corporation tax while smaller firms are found to be more responsive to labour costs. Distance is negative and significant for small firms while positive and insignificant for large firms. This may reflect the greater resources available to larger firms in overcoming information costs which may act as a deterrent to smaller firms entering new markets. Sharing a common legal system and common border are found to increase the probability of location choice for both categories of firms. Average probability elasticities (APEs) from our specifications are reported in Table 11 for our extended model. APEs are calculated following the methodology described in Head, Ries and Swenson (1995) and Head and Mayer (2004).

We conduct a number of additional robustness checks on our results to control for changes in the sample.²⁷ In column (1) of Table 12, we show that our extended model results are robust to the exclusion of the observations of firms whose home country for FDI is outside the OECD. The negative impact of market potential, labour costs, distance and corporation tax hold while we find positive effects of sharing a common legal system, common currency and common border on the probability of location choice.

In column (2), we limit our sample to firms whose home country is again within the OECD. In addition, we also exclude Ireland, Luxembourg, the Netherlands and

²⁷As a further robustness check, we estimate a nested logit model which relaxes the IIA assumption. While Hausman tests reject the assumption of IIA, the dissimilarity parameters are outside the normal range for some nests indicating inconsistency with utility maximisation. The results from the nested logit model are broadly similar to those obtained from our conditional logit model and as the bulk of the location choice literature use the conditional logit model, we do so as well for comparability.

Switzerland. Our motivation for excluding these home countries relates to ownership structures and FDI pertinent to the financial sector. As noted by Claassen and van den Dool (2013), countries like the Netherlands, Luxembourg, Ireland and Switzerland are prominent players in global headline FDI statistics despite having much smaller economies and financial centres compared to countries such as the US and UK. These countries can sometimes act as a financial turntable in FDI transactions relating to SPVs. Therefore, headline FDI statistics for these countries are often distorted by these types of activity. Furthermore, some SPVs can be set up as orphan entities whose shares are held on trust for charitable purposes. These charitable trusts are often registered in jurisdictions such as the Netherlands and Ireland which may potentially distort our GUO data. We therefore control for such complex corporate structures used in these types of structured financial transactions by excluding these jurisdictions as home countries of FDI. As can be seen, our main results are robust to their exclusion.

Following Lawless *et al.* (2014), we exclude the US as a home country in our analysis (column (3) of Table 12). Given the prominence of the US as a source of FDI within our sample, the number of observations falls to 127,220 when we impose this sample restriction. The sign and significance of our coefficients are broadly in line with those obtained in our extended model (column (2) of Table 10). Column (4) show our results when we limit the sample to firms whose home country is within the EU 28. As before, our main results hold.

Last, we check our results by exploring heterogeneity across sectors. In column (5), the sample is restricted to financial NACE Rev. 2 sectors excluding the activities of financial holding companies. Given the large proportion of financial holding companies within our sample (almost 70 per cent), the number of observations in this specification falls significantly to 48,131 observations. Market potential, corporation tax and distance are again found to have a negative effect on the probability of location choice. Sharing a common legal system and common language are found to have a positive effect on location choice while having past colonial links is also positive and significant for this sub-sample of firms. On the whole, the estimated coefficients are similar across

the different sub-samples and to the extended model estimates.

6 Conclusions

Despite the substantial growth and complexity of corporate structures in the non-bank financial sector and their large impact on headline FDI statistics in some European countries, empirical studies focusing on FDI location decisions in this sector are scarce. This is due to a general lack of granular data for this sector. Motivated by these data gaps, we build a unique firm-level dataset in order to overcome this problem. In this paper, we explore the determinants of location decisions for new foreign affiliates in the non-bank financial sector in Europe over the period 2004-2012.

Our results suggest that the probability of a country being chosen as the location for a foreign affiliate is negatively associated with market potential and distance but increases with the size of the host country. The negative coefficient we obtain for distance is consistent with the findings of Claessens and van Horen (2014a) who examine the determinants of banking FDI. Furthermore, many of the control variables used to proxy for vertical motivations of FDI such as higher corporation tax rates and labour costs decrease the location probability. These results suggest that costs of production are key determinants for FDI location decisions in this sector. Gravity related controls such as the home and host country sharing a common legal system, border, language and currency are found to increase the likelihood of non-bank financial FDI in the majority of our specifications.

Given the large proportion of brass plate activity within our sample, we estimate our conditional logit model on sub-samples of firms who report positive employees on *Amadeus* in order to check the robustness of our results. Host country GDP, infrastructure and agglomeration effects are positively associated with the location probability while corporation tax reduces the likelihood of FDI in this sector. Furthermore, sharing a common language is an important determinant for this more employment intensive FDI. We conduct a series of robustness checks using different sub-samples of firms to

account for heterogeneity of determinants across different home countries of FDI.

On the whole, while our results suggest that corporation tax is a key factor in determining firms' location decisions, it also highlights the importance of traditional gravity controls such as sharing a common language and common legal system in determining non-bank financial FDI. These results hold for both FDI which creates employment in the host country and 'brass plate' FDI. Thus, concerns that this sector's investment will move en masse to low tax jurisdictions may be somewhat assuaged. In addition, our analysis provides insight into the nature of non-bank financial FDI in Europe. Owing to a lack of official granular data for this sector, our sample suggests a high level of concentration within a few countries while non-bank FDI is also dominated by a few sub-sectors, most notably, the activities of financial holding companies. This implies that by appropriately targetting data collection, a significant proportion of the data gaps in the non-bank financial sector can be filled.

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Annex 1: Glossary of Terms

Finance company: Finance companies are institutional units primarily engaged in the extension of credit to NFCs and households. *Source:* OECD Online Glossary of Statistical Terms.

Financial auxiliary: A corporation or quasi-corporation that is engaged primarily in auxiliary financial activities, e.g. insurance brokers, investment advisors and corporations providing infrastructure for financial markets. *Source:* ECB Statistics Glossary.

Financial corporations engaged in lending: Corporations and quasi-corporations, classified as OFIs, specialising mainly in asset financing for households and NFCs. Included are also firms specialising in financial leasing, factoring, mortgage lending and consumer lending. *Source:* ECB Statistics Glossary.

Financial holding company: Financial holding companies are entities that are principally engaged in controlling financial corporations or groups of subsidiary financial corporations and do not conduct the business of such financial corporations themselves. *Source:* Moutot *et al.* (2007).

Financial leasing company: Financial leasing companies engage in financing the purchase of tangible assets. The leasing company is the legal owner of the goods, but ownership is effectively conveyed to the lessee, who incurs all benefits, costs and risks associated with ownership of the assets. *Source:* OECD Online Glossary of Statistical Terms.

Financial vehicle corporation (FVC): An FVC is an entity whose principal activity meets the following criteria: it carries out securitisation transactions and is insulated from the risk of bankruptcy or any other default of the originator. It issues securities, securitisation fund units, other debt instruments and/ or financial derivatives and/ or legally or economically own assets underlying the issue of securities, securitisation fund units, other debt instruments and/ or financial derivatives that are offered for sale to the public or sold on basis of private placements. *Source:* Moutot *et al.* (2007).

Monetary financial institution (MFI): MFIs are resident credit institutions as defined in EU law, and other resident financial institutions whose business is to receive deposits and/ or close substitutes for deposits from entities other than MFIs, and for their own account (at least in economic terms) to grant credits and/ or make investments in securities. MFIs include central banks, credit institutions, other deposit-taking corporations and money market funds (MMFs). *Source:* ECB Statistics Glossary.

Other financial intermediary (OFI): A corporation or quasi-corporation other than an insurance corporation or pension fund that is engaged mainly in financial intermediation by incurring liabilities in forms other than currency, deposits, and/ or close substitutes for deposits from institutional entities other than MFIs, in particular those engaged in long-term financing such as corporations engaged in financial leasing, FVCs created to be holders of securitised assets, dealers in securities and derivatives (when dealing for their own account), venture capital corporations and development capital companies. *Source:* ECB Statistics Glossary.

Securities and derivative dealers: Securities and derivative dealers are firms that provide investment services for clients through brokerage, investing or market-making in securities and derivatives as their own business. The investment services provided include asset management advice, clearing and custody services as well as the buying and selling of financial instruments for the sole purpose of benefiting from the margin between the acquisition and selling price. *Source:* Moutot *et al.* (2007).

Securitisation: The pooling of financial assets, such as residential mortgage loans, and their subsequent sale to a special-purpose vehicle, which then issues fixed income securities for sale to investors. The principal and interest of these securities depend on the cash flows produced by the pool of underlying financial assets. *Source:* ECB Statistics Glossary.

Shadow banking: The Financial Stability Board (FSB) define shadow banking as “*credit intermediation involving entities and activities outside the regular banking system*” or non-bank credit intermediation in short (FSB, 2013). However, there are a number of alternative definitions of shadow banking applied in the academic literature. For example, Claessens and Ratnovski (2014) propose to define shadow banking as “*all financial activities, except traditional banking, which require a private or public backstop to operate.*”

Special purpose vehicle (SPV): An SPV is a legal entity set up by a sponsoring firm. The sponsor is usually a bank, finance company or insurance company. SPVs can be set up for a number of reasons including (but not limited to): the transfer of credit or interest rate risk, as a source of funding, to take advantage of tax or regulatory arbitrage opportunities which may exist and for balance sheet management. *Source:* BIS (2009).

Although there is no internationally agreed definition of an SPV, the following characteristics are typical (BIS, 2009). They are usually:

- created for a single business purpose or activity;
- set up to have no employees;
- set up to be bankruptcy remote, often using an orphan entity structure (whereby the share capital is held on trust);

- managed by employees of corporate service providers;
- set up with a nominal amount of share capital which usually does not support the SPV's overall activities;
- funded through the issuance of debt securities.
- 'brass plate' in nature with no physical presence at their address of incorporation.

Annex 2: Data Cleaning

This section describes the data search criteria for obtaining our sample of firms on *Amadeus*. Prior to conducting our empirical analysis some essential data cleaning was performed. The search strategy was as follows:

- Firms classified as “active” on *Amadeus*;
- Firms corresponding to NACE Rev.2 64 (financial services activities, except insurance and pension funding), 65 (insurance, reinsurance and pension funding, except compulsory social security) and 66 (activities auxiliary to financial services and insurance);
- Firms incorporated in EU 28 countries (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Sweden, Slovenia and Slovakia).
- Firms with at least one foreign shareholder (owning 10 per cent equity) located in another country;
- Firms with unconsolidated financial accounts;
- Firms who were newly incorporated between 2004 and 2012 inclusive.

Based on the search criteria outlined above, *Amadeus* identifies just over 40,000 firms. However, we impose a number of essential data filters. First, we restrict our sample to firms whose GUO can be identified on *Amadeus*. Imposing such a restriction is required in order to introduce our gravity related control variables which use bilateral home and host country information. However, this restriction reduces the sample of firms available on *Amadeus* by 69 per cent owing to a large number of missing data for the GUO variable. Second, we convert our data to long format which results in 27 observations per firm (26 zeros and a dummy variable equal to one if that country was the chosen location of the firm).

Third, we merge our firm-level data with country-specific controls (from various sources including the World Bank, Eurostat, Thomson Reuters Datastream and KPMG) and gravity controls (taken from CEPII’s Gravity dataset). Owing to missing data for some bilateral pairs in the CEPII Gravity dataset, 7,209 observations out of 329,859 observations were dropped representing just 2.2 per cent of our final sample. The latest year covered by the CEPII Gravity dataset refers to 2006. Therefore, some countries included in our sample, namely Cyprus, Estonia, Latvia, Lithuania, Slovenia and Slovakia may be recorded as not sharing a common currency with other euro area Member States for the years 2007-2012 owing to the fact that these countries joined the euro area after 2006. However, such a data limitation

should not affect our estimations as only 2 per cent of firms in our final sample located in these six countries. Fourth, we exclude Croatia from our analysis due to missing data for a number of our explanatory variables. Croatia represents a very small percentage of our final sample owing to the fact that only 16 firms were incorporated over our sample period once our data cleaning filters are applied.

FIGURE 1. Home country of top five foreign investors in financial holding companies incorporated in the EU and the Netherlands, 2004-2012

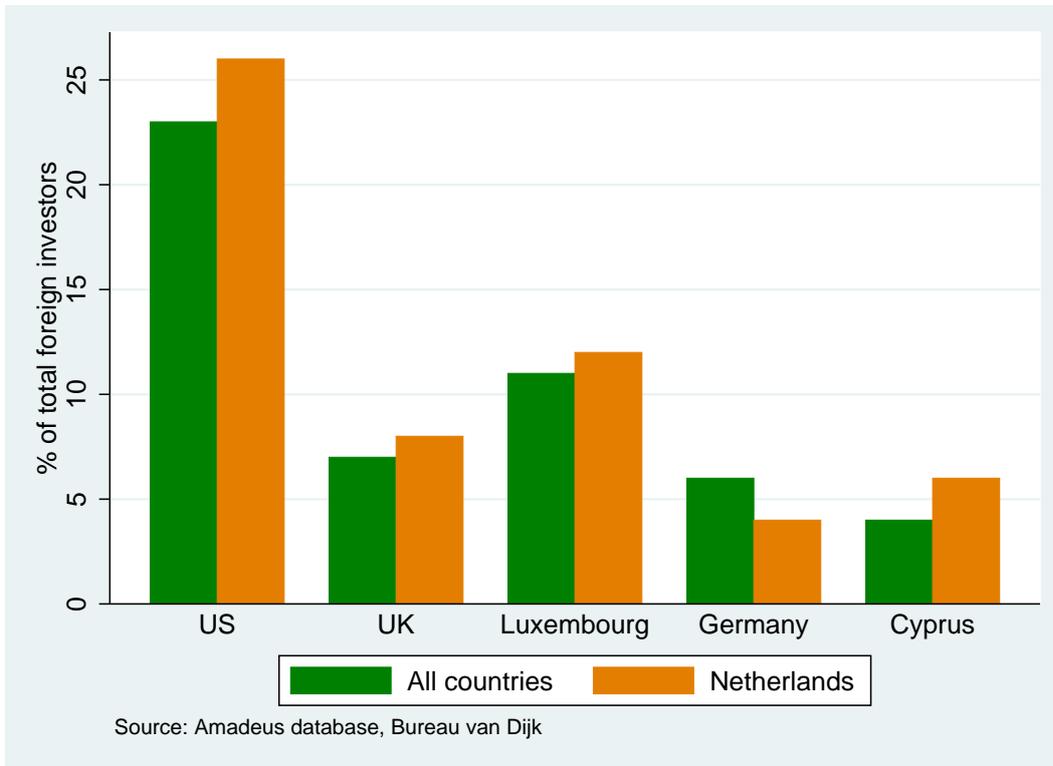


FIGURE 2. Home country of top five foreign investors in financial foreign affiliates (excluding financial holding companies) incorporated in the EU, 2004-2012

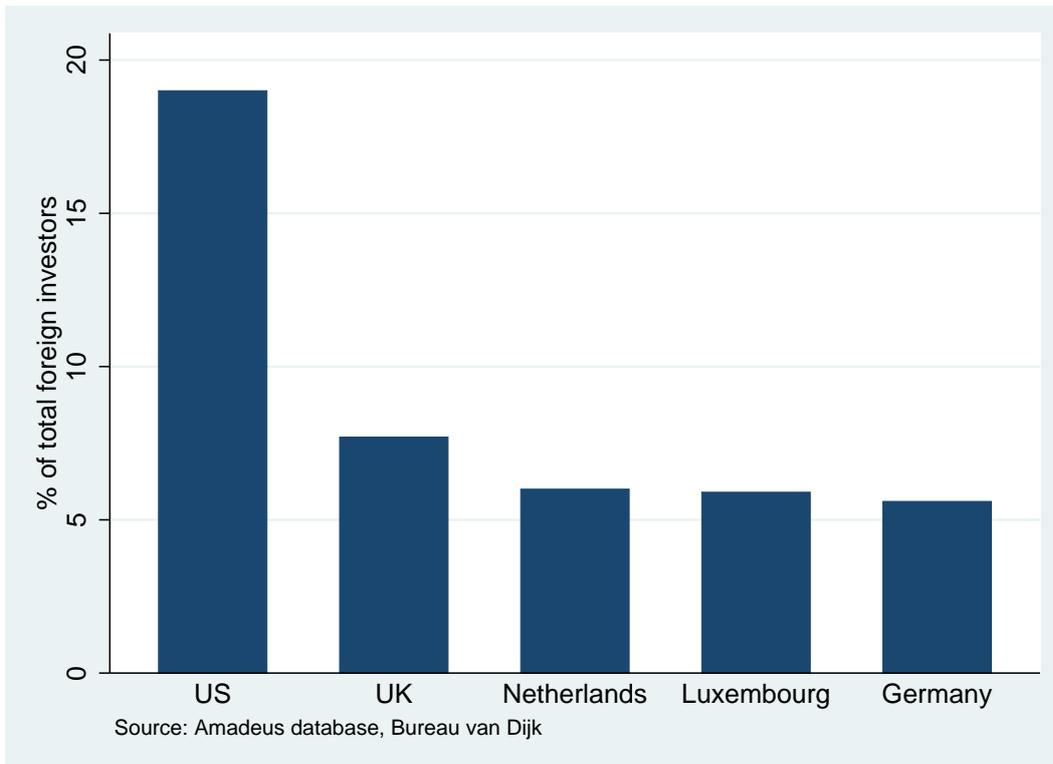


TABLE 1. NACE Rev. 2 classification and number of non-bank financial foreign affiliates per NACE classification

NACE Rev. 2 Code/ Description	N	% of total sample
64 Financial services activities, except insurance and pension funding		
6411 Central banking	0	0
6419 Other monetary intermediation	0	0
6420 Activities of holding companies [†]	5,987	68.5
6430 Trusts, funds and similar entities [†]	323	3.7
6491 Financial leasing [†]	213	2.4
6492 Other credit granting [†]	0	0
6499 Other financial services activities, except insurance and pension funding [†]	882	10.1
66 Activities auxiliary to financial services and insurance		
6611 Administration of financial markets*	74	0.8
6612 Security and commodity contracts brokerage*	202	2.3
6619 Other activities auxiliary to financial services except insurance and pension funding*	689	7.9
6621 Risk and damage evaluation*	26	0.3
6622 Activities of insurance agents and brokers*	150	1.8
6629 Other activities auxiliary to insurance and pension funding*	62	0.7
6630 Fund management activities*	116	1.3
Total	8,724	100

Note: Banks and insurance company accounts are not available on the *Amadeus* database. Therefore entities relating to NACE Rev. 2 65 *insurance, reinsurance and pension funding, except compulsory social security* are not covered in our sample.

[†] refers to NACE Rev. 2 sectors which are classified as other financial intermediaries. Under ESA 2010, financial holding companies have been reclassified as captive financial institutions and money lenders.

* refers to NACE Rev. 2 sectors which are classified as financial auxiliaries.

TABLE 2. Variable Definitions and Data Sources

Variable	Description	Data Source
Location	Dummy variable equal to 1 if affiliate is located in a country and 0 otherwise	Amadeus
Agglomeration	Lag of the stock of FDI as a percentage of GDP, per cent	UNCTADstat
Colony	Dummy variable equal to 1 if home and host country ever shared a colonial relationship and 0 otherwise	CEPII
Comcurr	Dummy variable equal to 1 if home and host country share a common currency and 0 otherwise	CEPII
Comleg	Dummy variable equal to 1 if home and host country share a common legal system and 0 otherwise	CEPII
Common language	Dummy variable equal to 1 if home and host country share a common language	CEPII
Contiguity	Dummy variable equal to 1 if home and host country share a common border and 0 otherwise	CEPII
Corporation Tax	Statutory corporation tax rate, per cent	KPMG
Distance	Log of distance, measured by km between host and home country capital cities, weighted by population	CEPII
EATR	Effective Average Tax Rate as per Griffith and Devereux (1998a)	CBT Tax Database
Education	Proportion of the labour force with a tertiary education, per cent	Eurostat
FFDI Restrict	A measure of all discriminatory measures affecting foreign investors in the financial sector. Varies from 0 (no impediments) to 100 (fully restricts)	OECD
GDP growth	Annual GDP growth, per cent	WDI
Internet	Fixed broadband internet subscribers (per 100 people)	WDI
Labour Costs	Total compensation of employees divided by total number of persons employed	AMECO
Ln GDP	Log of GDP, constant 2005 prices US Dollars	WDI
Market Potential	The sum of inverse distance weighted real GDP of all countries other than the host country. Distance is measured by km between home and host country capital cities, weighted by population	WDI, CEPII
TimePayTax	Time (in hours per year) to prepare, file and pay taxes	World Bank Doing Business Data
Unemployment Rate	Rate of country unemployment, per cent	Datastream

TABLE 3. Home and host countries of new non-bank financial foreign affiliates incorporated in the EU, 2004-2012

Top 10 Host Countries	N	%	Top 10 Home Countries	N	%
Netherlands	3,363	38.5	United States	1,854	21.2
United Kingdom	1,073	12.3	Luxembourg	842	9.7
Germany	1,047	12.0	United Kingdom	629	7.2
France	522	6.0	Germany	525	6.0
Ireland	505	5.8	Netherlands	372	4.3
Belgium	326	3.7	Switzerland	343	3.9
Austria	260	3.0	Cyprus	342	3.9
Italy	214	2.5	France	280	3.2
Denmark	202	2.3	Belgium	233	2.7
Spain	193	2.2	Austria	170	1.9
Total	8,724		Total	8,724	

Source: *Amadeus*, Bureau van Dijk

TABLE 4. The location of new financial holding companies and new non-bank financial foreign affiliates (excluding financial holding companies) incorporated in the EU, 2004-2012.

Top 5 Host Countries of financial holding companies	N	%	Top 5 Host Countries (excluding financial holding companies)	N	%
Netherlands	3,194	53.4	United Kingdom	602	22.0
Germany	614	10.3	Ireland	505	18.5
United Kingdom	471	7.9	Germany	433	15.8
France	388	6.5	Netherlands	169	6.2
Belgium	281	4.7	France	134	4.9
Total	5,987		Total	2,737	

Source: *Amadeus*, Bureau van Dijk

TABLE 5. The location of new non-bank financial foreign affiliates located in the EU by number of employees, 2004-2012.

Top 5 Host Countries of Firms with 1-10 employees	N	%	Top 5 Host Countries of Firms with >10 employees	N	%
Netherlands	1,282	47.9	United Kingdom	82	21.8
Germany	467	17.4	Netherlands	72	19.1
United Kingdom	251	9.4	Germany	34	9.0
Ireland	99	3.7	Spain	26	6.9
Austria	92	3.4	Ireland	24	6.4
Total	2,679		Total	377	

Source: *Amadeus*, Bureau van Dijk

TABLE 6. Number of new financial foreign affiliates in the EU by year of incorporation, 2004-2012

Year	All firms N	Firms with 1-10 employees N	Firms with >10 employees N
2004	636	171	58
2005	802	232	48
2006	1,105	329	44
2007	1,356	425	52
2008	1,086	348	52
2009	893	275	44
2010	1,154	392	38
2011	1,038	351	21
2012	654	156	20
Total	8,724	2,679	377

Source: *Amadeus*, Bureau van Dijk

TABLE 7. Summary statistics

Variable	N	Mean	Std. Dev	Min.	Max.
Market potential	162534	526.9	6.8	509.5	541.0
Ln GDP	162534	26.2	1.5	23.3	28.8
GDP growth	162534	1.5	4.4	-18.0	12.2
Labour costs	162534	25.4	16.4	4.7	92.1
Education	162534	21.9	6.5	10.7	33.3
Agglomeration	162534	58.7	50.5	10.0	322.2
Internet	162534	22.3	8.1	4.4	39.8
Distance	162534	7.8	1.1	5.1	9.9
Corporation tax	162534	24.2	6.4	12.5	38.4
EATR	138358	22.3	5.2	11.1	34.0
Unemployment	162534	8.3	3.6	3.1	21.4
FFDI Restrict	162534	2.3	2.5	0	10.6
TimePayTax	162534	232.5	148.1	59.0	930.0
Comcurr	162534	0.2	0.4	0	1
Colony	162534	0.1	0.2	0	1
Comleg	162534	0.2	0.4	0	1
Common language	162534	0.1	0.3	0	1
Contiguity	162534	0.1	0.3	0	1

TABLE 8. Correlations of explanatory variables

Variables	Market potential	Ln GDP	GDP growth	RLcost	Distance	Corporation tax	EATR	Unemployment	Education	Agglomeration	Internet	FFDI Restrict	TimePayTax	Comcurr	Colony	Comleg	Common language	Contiguity
Market potential	1.000																	
Ln GDP	-0.135	1.000																
GDP growth	0.312	-0.157	1.000															
Lcosts	-0.202	0.345	-0.193	1.000														
Distance	-0.064	-0.096	-0.001	-0.097	1.000													
Corporation tax	-0.032	0.516	-0.089	0.471	-0.079	1.000												
EATR	-0.111	0.616	-0.080	0.311	-0.011	0.949	1.000											
Unemployment	-0.176	-0.025	0.163	-0.364	0.041	-0.107	-0.057	1.000										
Education	-0.486	0.161	-0.154	0.515	-0.019	0.021	0.232	-0.091	1.000									
Agglomeration	-0.067	-0.285	0.012	0.558	-0.053	0.075	-0.054	-0.187	0.269	1.000								
Internet	-0.446	0.316	-0.362	0.640	-0.074	0.386	0.286	-0.239	0.588	0.275	1.000							
FFDI Restrict	-0.068	0.139	-0.025	-0.016	0.032	0.160	0.311	-0.056	0.089	-0.225	-0.116	1.000						
TimePayTax	0.338	-0.138	0.124	-0.533	0.018	-0.256	-0.210	0.097	-0.584	-0.204	-0.544	-0.099	1.000					
Comcurr	-0.106	0.264	-0.092	0.234	-0.399	0.233	0.162	-0.027	0.085	0.032	0.122	0.091	-0.115	1.000				
Colony	-0.103	0.168	-0.027	0.088	-0.002	0.102	0.133	-0.009	0.145	-0.020	0.074	0.151	-0.101	-0.037	1.000			
Comleg	-0.133	0.096	-0.067	0.129	-0.145	0.087	0.075	-0.062	0.102	0.080	0.044	0.104	-0.128	0.334	0.220	1.000		
Common language	-0.062	0.080	-0.039	0.223	-0.143	0.178	0.029	-0.111	0.090	0.197	0.119	0.117	-0.206	0.187	0.265	0.320	1.000	
Contiguity	0.034	0.178	-0.027	0.147	-0.439	0.160	0.118	-0.028	0.048	0.049	0.104	-0.002	-0.050	0.338	0.131	0.249	0.421	1.000

TABLE 9. Estimates of Conditional Logit Model for Non-Bank Financial Firms' Location Decisions (Baseline Model)

Variable (<i>expected sign</i>)	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample	Full Sample	Full Sample	Sample from (3)	Sample from (3)	Full Sample
Market potential (?)	-0.024*** (0.003)	0.012*** (0.003)	-0.028*** (0.005)	-0.007** (0.004)	0.021*** (0.004)	-0.010*** (0.003)
Ln GDP (+)	0.707*** (0.016)	1.031*** (0.018)	1.129*** (0.025)	0.861*** (0.017)	1.169*** (0.022)	0.870*** (0.017)
GDP growth (+)	0.017** (0.008)	-0.026*** (0.008)	-0.020** (0.010)	0.022** (0.009)	0.009 (0.008)	0.017** (0.008)
Labour costs _{t-1} (-)	0.003** (0.001)	0.021*** (0.001)	-0.049*** (0.003)	0.011*** (0.002)	0.027*** (0.002)	0.012*** (0.002)
Distance (-)	-1.520*** (0.030)	-1.506*** (0.035)	-1.216*** (0.044)	-1.645*** (0.037)	-1.517*** (0.041)	-1.656*** (0.037)
Corporation tax (-)	-0.028*** (0.004)		-0.134*** (0.005)	-0.072*** (0.004)		0.056*** (0.017)
Unemployment _{t-1} (?)	-0.239*** (0.010)	-0.195*** (0.009)	-0.066*** (0.010)	-0.225*** (0.011)	-0.185*** (0.009)	-0.197*** (0.011)
EATR (-)		-0.117*** (0.005)			-0.157*** (0.006)	
Education _{t-1} (+)			-0.073*** (0.007)			
Agglomeration _{t-1} (+)			0.015*** (0.001)			
Internet (+)			0.135*** (0.006)			
FFDIrestrict _{t-1} (-)			-0.040*** (0.010)			
TimePayTax(-)			-0.003*** (0.000)			
CTax2(-)						-0.003*** (0.000)
<i>N</i>	230949	161422	162534	162534	134267	162534
<i>Firms</i>	8724	8264	7131	7131	6920	7131
<i>Log - pseudolikelihood</i>	-21637.46	-18537.72	-15279.15	-16722.81	-15085.62	-16685.87

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: The dependent variable *Location* equals 1 if a foreign affiliate is located in a country and 0 otherwise. A number of explanatory variables including *labour costs*, *education*, *agglomeration*, *unemployment* and *FFDI Restrict* are lagged with respect to the dependent variable by one time period. *Ln GDP* and *distance* are in logs. Standard errors are robust to heteroskedasticity and clustered at the firm level.

TABLE 10. Estimates of Conditional Logit Model for Non-Bank Financial Firms' Location Decisions (Extended Model)

Variable (expected sign)	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample	Full Sample	Firms with 1-10 employees	Firms with >10 employees	Small Firms	Large Firms
Market potential (?)	-0.028*** (0.005)	-0.016*** (0.005)	0.005 (0.010)	-0.043** (0.018)	-0.022*** (0.005)	-0.005 (0.010)
Ln GDP (+)	1.129*** (0.025)	1.053*** (0.025)	1.183*** (0.049)	0.925*** (0.122)	0.922*** (0.028)	1.461*** (0.046)
GDP growth (+)	-0.020** (0.010)	-0.018* (0.010)	0.047** (0.019)	0.018 (0.047)	0.021* (0.011)	-0.143*** (0.019)
Labour costs _{t-1} (-)	-0.049*** (0.003)	-0.054*** (0.003)	-0.079*** (0.008)	-0.019 (0.014)	-0.066*** (0.004)	-0.033*** (0.004)
Distance (-)	-1.216*** (0.044)	-0.575*** (0.057)	-0.469*** (0.100)	-0.394 (0.302)	-0.811*** (0.067)	0.082 (0.101)
Corporation tax (-)	-0.134*** (0.005)	-0.130*** (0.005)	-0.133*** (0.012)	-0.116*** (0.025)	-0.102*** (0.007)	-0.192*** (0.009)
Unemployment _{t-1} (?)	-0.066*** (0.010)	-0.070*** (0.010)	-0.137*** (0.023)	0.044 (0.037)	-0.075*** (0.012)	-0.072*** (0.017)
Education _{t-1} (+)	-0.073*** (0.007)	-0.071*** (0.007)	-0.091*** (0.016)	-0.072** (0.031)	-0.077*** (0.008)	-0.049*** (0.015)
Agglomeration _{t-1} (+)	0.015*** (0.001)	0.014*** (0.001)	0.015*** (0.001)	0.012*** (0.003)	0.011*** (0.001)	0.022*** (0.001)
Internet (+)	0.135*** (0.006)	0.150*** (0.006)	0.185*** (0.015)	0.126*** (0.027)	0.147*** (0.008)	0.162*** (0.011)
FFDIrestrict _{t-1} (-)	-0.040*** (0.010)	-0.047*** (0.010)	-0.079*** (0.024)	0.033 (0.044)	-0.042*** (0.012)	-0.057*** (0.016)
TimePayTax(-)	-0.003*** (0.000)	-0.002*** (0.000)	-0.002*** (0.000)	0.001 (0.001)	-0.003*** (0.000)	-0.000 (0.001)
Comcurr (+)		0.334*** (0.059)	0.611*** (0.133)	0.062 (0.300)	0.277*** (0.072)	0.486*** (0.107)
Colony (+)		0.013 (0.049)	-0.032 (0.101)	0.347 (0.212)	0.004 (0.063)	0.011 (0.082)
Comleg (+)		0.537*** (0.042)	0.584*** (0.074)	0.421* (0.238)	0.558*** (0.048)	0.531*** (0.081)
Common language (+)		0.185*** (0.054)	0.412*** (0.107)	0.777** (0.302)	0.331*** (0.065)	-0.061 (0.102)
Contiguity (+)		0.450*** (0.063)	0.661*** (0.123)	-0.030 (0.318)	0.344*** (0.075)	0.669*** (0.118)
<i>N</i>	162534	162534	50986	5750	105434	57100
<i>Firms</i>	7131	7131	2234	253	4623	2508
<i>Log - pseudolikelihood</i>	-5279.15	-14983.61	-4040.92	-599.19	-10010.98	-4719.48

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: The dependent variable *Location* equals 1 if a foreign affiliate is located in a country and 0 otherwise. A number of explanatory variables including *labour costs*, *education*, *agglomeration*, *unemployment* and *FFDI Restrict* are lagged with respect to the dependent variable by one time period. *Ln GDP* and *distance* are in logs. To be classified as a large company, a company must fulfill one of the following criteria (i) annual turnover must be € 10 million or more, or (ii) total assets must be € 20 million or more, or (iii) the number of employees is greater than 150. Small firms refer to those who do not meet these criteria. Standard errors are robust to heteroskedasticity and clustered at the firm level.

TABLE 11. Marginal Effects of Conditional Logit Model for Non-Bank Financial Firms' Location Decisions (Extended Model)

Variable (<i>expected sign</i>)	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample	Full Sample	Firms with 1-10 employees	Firms with >10 employees	Small Firms	Large Firms
Market potential (?)	-0.027***	-0.015***	0.005	-0.041**	-0.021***	-0.005
Ln GDP (+)	1.087***	1.014***	1.139***	0.891***	0.888***	1.407***
GDP growth (+)	-0.019**	-0.017*	0.045**	0.017	0.020*	-0.138***
Labour costs _{t-1} (-)	-0.047***	-0.052***	-0.076***	-0.018	-0.064***	-0.031***
Distance (-)	-1.171***	-0.554***	-0.452***	-0.379	-0.781***	0.079
Corporation tax (-)	-0.129***	-0.125***	-0.128***	-0.112***	-0.098***	-0.185***
Unemployment _{t-1} (?)	-0.064***	-0.067***	-0.132***	0.042	-0.072***	-0.069***
Education _{t-1} (+)	-0.070***	-0.068***	-0.088***	-0.069**	-0.074***	-0.047***
Agglomeration _{t-1} (+)	0.014***	0.013***	0.014***	0.012***	0.011***	0.021***
Internet (+)	0.130***	0.144***	0.178***	0.121***	0.142***	0.156***
FFDIrestrict _{t-1} (-)	-0.039***	-0.045***	-0.076***	0.032	-0.040***	-0.055***
TimePayTax(-)	-0.003***	-0.002***	-0.002***	0.001	-0.003***	-0.000
Comcurr (+)		0.322***	0.588***	0.060	0.267***	0.468***
Colony (+)		0.013	-0.031	0.334	0.004	0.011
Comleg (+)		0.517***	0.562***	0.405	0.537***	0.511***
Common language (+)		0.178***	0.397***	0.748**	0.319***	-0.059
Contiguity (+)		0.433***	0.637***	-0.028	0.331***	0.644***
<i>N</i>	162534	162534	50986	5750	105434	57100
<i>Firms</i>	7131	7131	2234	253	4623	2508

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Figures shown are average probability elasticities (APEs) as described in Head and Mayer (2004). The APEs in the conditional logit model are calculated as follows: $e_x = \beta_x(1 - (1 \div J))$ where β_x is the estimated parameter for x reported in Table 10 and J is the number of alternative countries in the choice set. The dependent variable *Location* equals 1 if a foreign affiliate is located in a country and 0 otherwise. A number of explanatory variables including *labour costs*, *education*, *agglomeration*, *unemployment* and *FFDI Restrict* are lagged with respect to the dependent variable by one time period. *Ln GDP* and *distance* are in logs. To be classified as a large company, a company must fulfill one of the following criteria (i) annual turnover must be €10 million or more, or (ii) total assets must be €20 million or more, or (iii) the number of employees is greater than 150. Small firms refer to those who do not meet these criteria.

TABLE 12. Estimates of Conditional Logit Model for Non-Bank Financial Firms' Location Decisions on Sub-Samples (Robustness Checks)

Variable (expected sign)	(1)	(2)	(3)	(4)	(5)
	Home Country (OECD only)	Home Country (OECD excl. CH, IE, LU, NL)	Home Country (excl. US)	Home Country (EU28 only)	All NACE sectors (excl. fin. holding companies)
Market potential (?)	-0.011** (0.005)	0.002 (0.007)	-0.016*** (0.005)	-0.018*** (0.006)	-0.022*** (0.007)
Ln GDP (+)	1.103*** (0.029)	1.080*** (0.033)	0.966*** (0.027)	0.897*** (0.033)	0.869*** (0.039)
GDP growth (+)	-0.040*** (0.011)	-0.040*** (0.013)	0.001 (0.011)	0.019 (0.013)	0.078*** (0.016)
Labour costs _{t-1} (-)	-0.048*** (0.004)	-0.055*** (0.004)	-0.051*** (0.004)	-0.051*** (0.005)	0.007 (0.006)
Distance (-)	-0.617*** (0.067)	-0.605*** (0.094)	-0.687*** (0.057)	-0.925*** (0.064)	-1.106*** (0.093)
Corporation tax (-)	-0.124*** (0.006)	-0.121*** (0.007)	-0.116*** (0.006)	-0.095*** (0.007)	-0.114*** (0.008)
Unemployment _{t-1} (?)	-0.064*** (0.010)	-0.071*** (0.012)	-0.059*** (0.010)	-0.048*** (0.011)	0.044*** (0.011)
Education _{t-1} (+)	-0.061*** (0.008)	-0.062*** (0.010)	-0.063*** (0.008)	-0.046*** (0.009)	-0.008 (0.010)
Agglomeration _{t-1} (+)	0.014*** (0.001)	0.015*** (0.001)	0.011*** (0.001)	0.008*** (0.001)	-0.001 (0.001)
Internet (+)	0.136*** (0.007)	0.153*** (0.008)	0.134*** (0.007)	0.106*** (0.008)	0.007 (0.009)
FFDI Restrict _{t-1} (-)	-0.062*** (0.010)	-0.027** (0.012)	-0.056*** (0.011)	-0.079*** (0.014)	0.004 (0.014)
TimePayTax (-)	-0.002*** (0.000)	-0.002*** (0.000)	-0.002*** (0.000)	-0.003*** (0.000)	-0.003*** (0.001)
Comcurr (+)	0.291*** (0.060)	-0.093 (0.079)	0.435*** (0.059)	0.507*** (0.062)	-0.019 (0.095)
Colony (+)	-0.067 (0.053)	-0.500*** (0.084)	0.137* (0.058)	-0.031 (0.069)	0.197*** (0.075)
Comleg (+)	0.628*** (0.050)	0.582*** (0.064)	0.540*** (0.041)	0.608*** (0.0540)	0.431*** (0.065)
Common language (+)	0.037 (0.062)	0.454*** (0.086)	0.282*** (0.060)	0.062 (0.0766)	0.625*** (0.086)
Contiguity (+)	0.407*** (0.069)	0.597*** (0.086)	0.247*** (0.065)	0.141** (0.072)	-0.037 (0.101)
<i>N</i>	129202	97303	127220	83976	48131
<i>Firms</i>	5698	4282	5611	3755	2116
<i>Log - pseudolikelihood</i>	-11779.36	-8830.95	-12032.07	-8005.22	-4842.23

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: The dependent variable *Location* equals 1 if a foreign affiliate is located in a country and 0 otherwise. A number of explanatory variables including *labour costs*, *education*, *agglomeration*, *unemployment* and *FFDI Restrict* are lagged with respect to the dependent variable by one time period. *Ln GDP* and *distance* are in logs. Standard errors are robust to heteroskedasticity and clustered at the firm level.