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Ultimate Foreign Control of Large Firms: Cross-Country Evidence from Europe

Evgeni Peev and Todor Yalamov

Evgeni Peev

Department of Economics, WU (Vienna University of Economics and Business)

Todor Yalamov

Faculty of Economics and Business Administration, Sofia University “St. Kliment Ohridski”

Abstract

We have built a unique ownership dataset of both listed and unlisted large non-financial companies in the EU-28 Member States, Norway, and Switzerland. We show the rising importance of ultimate beneficial owners from Germany, France and Great Britain. The most prevailing non-EU ultimate owners are companies from the USA. We have presented a typology of major types of control: (1) direct managerial control, (2) ultimate foreign managerial control, (3) ultimate foreign family control, and (4) ultimate foreign state control. We find that the openness of economy to foreign trade is a stable factor for the presence of foreign ownership. We present tentative results about the association between ultimate foreign control and cultural and institutional distance. Our research would have important policy implications. We present empirical evidence for the dominant role of the multinational corporate group company in the big business of most EU countries.

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I. Introduction

Recently European policy makers have risen concerns about the non-transparent ownership structures of firms using tax havens and financial centers for tax evasion, and illegal activities against EU countries security.¹ However, the *cross-national* patterns of ultimate ownership structures in Europe are almost not studied.² Comparative corporate governance studies on ultimate ownership have mainly focused on Western Europe (WE). The literature on foreign direct investment in Central and Eastern Europe (CEE) presents an ample empirical evidence on the importance of European foreign investors, nevertheless the research on the emerging ultimate ownership structures in CEE is scarce.³

In this paper, we examine which are the major ultimate foreign control types in the prevailing large firms in both WE and CEE. Is the *typical* large firm in Europe like the Bearle&Means “modern corporation” in the US? The bulk of the corporate governance studies in Europe have focused on public widely held companies. For example, the main research topic of La Porta et al (1999) study of ownership structures around the world was whether the Bearle&Means corporation is also dominant in other countries.⁴ Thus, following this *deductive* approach the underlying topic of corporate governance analysis is separation of ownership and control and the public securities market.⁵

Another possible approach following the Bearle&Means methodology is focusing on a different aspect of their “modern corporation” – its prevalence. Applying this *inductive* approach, one might ask which are the prevailing large firms (counterparts of the Bearle&Means

¹ See, for example, The Fourth EU Anti-Money Laundering Directive (4AMLD).

² Most studies examine country ultimate ownership structures in Europe. For example, La Porta *et al* (1999) examine ultimate ownership of the largest publicly traded companies in a few countries in Western Europe in 1996; Faccio and Lang (2002) study ultimate ownership of publicly traded companies in 13 countries in Western Europe over the period 1996-99. In a recent study, Aminadav and Papaioannou (2016) examine 40,000 listed firms from 127 countries over 2004–2012, including a few European countries.

³ Among a few exceptions, see e.g. Gugler et al (2013a).

⁴ Ironically, the authors asked this question at the time when the B&M corporation has been not dominant even in the USA anymore. See Gilson and Gordon (2013).

⁵ In their seminal book, Bearle and Means (1932) focus on the appearance of the corporate system and the prevalence of widely held corporation (“modern corporation”) in the United States, in which ownership of capital is dispersed among small shareholders and control is concentrated in the hands of managers. Separation of ownership from control, its large size, and the public market for its securities are typical characteristics of the Bearle&Means corporation.

corporation) and their typical ownership and control structures in Europe. In this paper, we apply this second approach.

Since 1990 in both Western Europe and Central and Eastern Europe, the existing corporate governance models have been under pressure.⁶ Yet, there is no systematic evidence about the emerging cross-national ownership and control patterns in the EU Member States following the recent corporate governance reforms. Our paper asks two main questions: What are the dominant ultimate cross-national ownership structures of large firms in Europe? What explains the ownership diversity among European countries? In particular, we ask: (1) Which are the prevailing foreign investors by countries? (2) Which are the dominant types of foreign control? (3) Which are the major determinants of foreign ownership and control?

We focus on large firms because of their importance for both economics and politics of the EU Members States.⁷ Second, we study ultimate ownership because direct ownership structure is not able to reveal both the real chain of agency problems in firms and real decision-makers. Third, our results are based on unique database with ownership information on both private and listed firms because we intend to examine the economically most important firms in any European country. Fourth, we examine the top 20 firms in each of the EU-28 Member States, plus Norway and Switzerland but not the top largest firms in Europe as a whole because the country formal and informal institutions appear to be important for the foreign investors choice.

The previous research of ultimate ownership in Europe has mainly focused on listed firms in Western Europe. Identifying the major cross-national ultimate ownership patterns in both WE and CEE is one of the contributions of our paper. The second contribution is to examine the key determinants associated with the dominant cross-national ownership structures.

Our main findings are as follows. First, we have documented that the prevailing ultimate beneficial owners among the EU owners are investors from Germany, France, and the UK, and among the non-EU owners, the US investors. About two-third of the German cross-national owners in our sample control companies in CEE countries. The US investors are so important as

⁶ See e.g. Ringe (2015) on Germany; Sundqvist (2004) on Sweden; Peev (2002) and Nölke and Vliegenthart (2009) on European transition countries.

⁷ Firms are included in our sample only if they are large. Therefore, our results may not hold for firms that are not successfully growing over time.

investors from Germany, France, and UK taken together. We also report the economic and statistically significant difference between the type of ultimate control by US investors and German foreign investors in Europe. Second, we have presented a typology of major types of control: (1) direct managerial control, (2) ultimate foreign managerial control, (3) ultimate foreign family control, and (4) ultimate foreign state control. Third, we find that the openness of economy to foreign trade is a stable factor for the presence of foreign ownership. We have presented tentative results about the association between ultimate foreign control and cultural and institutional distance.

We find that the differences between ultimate ownership in CEE countries and WE countries are blurring. The deep penetration of ultimate owners mostly from Germany and at lesser degree from France in CEE countries, on the one hand, and the dominant share of US investors in Europe, on the other, have demonstrated the rising importance of cross-national ownership structures in Europe.

We proceed as follows. Section II discusses our unique data set, which identifies the ultimate owners of the 20 largest non-financial companies in each of the 30 European countries. Section III presents the observed cross-national ultimate ownership and control structures. Section IV discusses the determinants of the foreign ownership structures. The results of our econometric analysis are presented in Section V. Conclusions are drawn in Section VI.

II. Data

The paper is based on unique dataset of ownership structures of the largest non-financial firms in 30 European countries (EU28 member states plus Norway and Switzerland). Our research and sample construction was aimed to contribute to the debate of who controls the largest companies in Europe. Prior studies have mostly studied listed companies (La Porta, Lopez-De-Silanes, Shleifer, (1999) and Faccio and Lang, 2002). However, closely held companies are very important in Western Europe and in Central and Eastern Europe, particularly. Some of them have considered or consider IPOs and might be listed within an expansion strategy to new markets. Our sample of companies was drawn from Bureau van Dijk's Amadeus database with ownership information as of November 26, 2015 and financial information up to year 2014. Size of companies is measured by assets, revenues or employees, or by a combination of these three indicators in a given year or time-span. Analysis of available

data in Amadeus for the top 250 firms by each of the indicators in each of the years 2011, 2012, 2013 and 2014 for each country (a total of 20118 firms) suggested high volatility of ranks mostly because of missing data, but also due to errors and economic factors. If we have chosen to work with the available information for 2014 we would have missed 17% of companies in our sample. To offset for specific biases of Amadeus sources we rank the firms by the average total assets for years 2011 to 2014 and draw the top 20 for each country. Thus, we achieve higher validity and reliability of the top lists.

Even though it is claimed and believed that Amadeus contains non-financial firms only, our analysis suggested that there are various exceptions – i.e. financial firms, not-for-profit organisations and even public authorities. We first excluded financial firms by NACE codes 64**, 65** and 66**, but preserved 642* companies (activities of holding companies) for more detailed inspection. This included search for financial holdings but also for wrongly attributed NACE codes to companies with mostly financial, pension and investment management activities. We had to make up to 7 replacements per country (i.e. United Kingdom) of the initial top 20 firms by average assets for the period 2011-2014 to make sure we have only non-financial firms. Plausible explanations are wrong NACE codes, large legal diversity and primary sources of information and errors in processing data. About 10% of the initial sample have been replaced this way. Sector-wise our sample differs from the one of La Porta et al (1999) not only by allowing new sectors to appear through non-listed firms, but because by design they exclude utilities. This sector manifests quite different ownership patterns across Europe – wholly owned by the domestic state, wholly owned by a foreign state, wholly owned by families or other mixed ownership structures.

We looked for the web-sites of companies and their own descriptions of the major type of business in order to qualify for exclusion of the top ranking. In some cases even translating the name of entity from a non-widely used language (i.e. Hungarian) is informative enough, but we either followed the web-site (if available in Amadeus) or searched ourselves for it to make sure it is true. In several cases, NACE sector code was missing in Amadeus dataset and we had to attribute a two digit code based on the activity of the company, as evident from its web-site.

We started from the ownership information in BvD Amadeus with the cut-off being 20% of the shares to continue the search of ultimate beneficial owner (UBO).⁸ If the largest identified shareholder controls 20% or less, following the previous research on ultimate ownership, we call it *widely held company*.⁹ When we identify the largest shareholder, we look for its major shareholder and so on. If we identify dispersed ownership later in the ownership chain, the ultimate beneficial owner is coded as widely held parent. Scope and quality of ownership information in Amadeus varies significantly across countries. We have chosen 20% to achieve comparability with prior research on ultimate control in Europe (i.e. Porta, Lopez-De-Silanes, Shleifer (1999) and Faccio and Lang (2002) – for Western Europe and Gugler, Mueller and Peev (2013) for Central and Eastern Europe), although the lowest in-built definition of UBO in Amadeus is 25.01%. This limited the use of functionalities of Amadeus, but guaranteed higher validity and reliability of data, as we looked companies one by one.¹⁰

We relied on the pre-defined ownership types in Amadeus database: employees/managers/directors, industrial company, bank, mutual & pension funds/nominee/trust/trustee, financial company, private equity fund, and foundation/research institute to inform our UBO type identification. We further investigated *industrial companies* type to check if they are another type of UBO. We distinguished between cooperatives (sometimes coded as an industrial company), financial, venture funds. As resulting number of UBO types in some categories was very small we aggregated non-bank financial companies into a new category (financial, private equity firms, venture capital companies) – *other financial*. Companies with identified UBO being employees/managers/directors, cooperative or foundation/research institute we code as *others*. The category *state* includes three levels of government – central (usually ministries), regional (i.e. states/provinces in Austria, Germany, Switzerland) or local (i.e. cities/municipalities or their associations) institutions.

As a rule, Amadeus database provides exact share of at least the largest shareholder. However, even for the largest companies in EU-28, there were cases where even the largest shareholder could not be identified within Amadeus database (name, nationality and exact share). In some cases, owner non-identification is due to the fact that Amadeus links entities with an

⁸ Most previous studies apply the 20% threshold.

⁹ All the ownership and other variables definitions are presented in the Appendix.

¹⁰ We have also applied 25% cut-off but the results are nearly the same.

unique BvD identification number. However, in limited cases one and the same company might have two IDs in the database, mainly due to different time of entry, differences in name strings in primary sources and the like. In other cases, the shareholder was coded as an industrial company and in fact it was a public authority (government agency, municipality, etc.) or a financial company, which was not included in Amadeus. As we progressed with the ownership chain identification, the number of these cases increased and we had to look for alternative sources of information.

Additional sources of information included (in line of priority if multiple sources available): security and stock exchanges commissions (to identify the exact share of subsidiaries of listed companies, in cases we otherwise identified ownership link), firms' own web-sites and annual reports (including obvious parent companies identifiable by name), regulatory commissions (i.e. which would approve concentration activities and thus identify ultimate control of companies), Bloomberg, 4-traders and Morningstar web-sites, major international (Forbes, Financial Times, etc.) and national press (predominately for Central and Eastern Europe) in English and local languages, Wikipedia and other internet sources (usually identifying the nationality of an owner, available by name in Amadeus dataset but with no data on his nationality). In cases, where we reached two or more shareholders with equal shares, we proceeded to identify their own corporate structures in order to identify the type of UBO and its cash-flow rights). As Amadeus database has limited information on Russian companies (especially registered East of Ural), we had to rely primarily on external sources (including in Russian language). Most of the US companies appearing in ownership structures were either listed companies or their subsidiaries, disclosed either at their web-sites, stock exchange commission or aggregators of that data elsewhere.

Thus, the dataset of the identified top 600 firms in 30 European countries includes information on economic sector of activity, whether company is listed/unlisted, and ownership (name, type and share of capital) data upward to the ultimate beneficial owner. In seven cases, we were not able to go beyond certain industrial company through verified sources, however all information we found lead to us to believe that these are family controlled businesses. In three cases we had to estimate the share held by the UBO in the firm immediately preceding it (Russia, Estonia and Latvia), based on data published in different media.

Besides the company level data we have assembled various existing country-level indexes to explore the determinants of type of ultimate beneficial ownership. They include: the anti-self-dealing indicator in Djankov et al (2008), Corruption Perception Index, Schwartz's egalitarianism indexes (Siegel, Licht, and Schwartz, 2011), Relative risk premium index (Rieger et al, 2015) and share of trade in GDP and GDP from the World Bank.

Table 1 provides summary statistics for the firms in our sample as average age, size (revenues and assets), ownership concentration and cash-flow rights, and the number of listed firms. The average age of companies in our sample of 600 companies is 30 years with the youngest being in Estonia, Greece, Poland, Spain and Bulgaria and the oldest being in Netherlands and Latvia (over 70 years). 31% of firms are listed on stock exchanges, varying from as low as 5% in Bulgaria, Slovak Republic, Malta and Luxembourg to as high as 80% in Germany. This result provides a solid argument why study of non-listed companies is needed when we want to understand who owns the largest companies in Europe and data from the previous research (e.g. La Porta et al , 1999) would not be enough even if replicated with newer data and wider coverage of countries. Size of companies varies significantly both across and within countries. The sample average assets for 2011-2014 are 23.6 billion euro and median being 7.2 billion euro. Expectedly, old EU member states (EU15) have much larger assets than new (EU13) with the ratio being close to 20 times bigger in the former group. Countries with relatively homogeneous firms by size are Ireland and United Kingdom (with a ratio between the maximum and minimum size in top20 being 4) and mostly heterogeneous firms are found in Croatia, Austria and Latvia (with the ratio of 16). While as a rule, listed companies have higher assets than non-listed firms in most of the countries, there are notable exceptions like Bulgaria, Latvia, Croatia and Slovak Republic, where listed companies tend to be smaller. The stock-markets in these countries are dominated by privatized firms, who decided to stay on the exchange, while others de-listed (as in the case of Bulgaria where many large privatized companies concentrated significantly ownership and then de-listed).

Countries differ significantly over the direct ownership concentration. In Spain, Germany and Finland the average share that the largest shareholder has in the top 20 firms is below 50%, while in Netherlands, Norway, Austria, Lithuania, Bulgaria and Malta it is 90% and above. The split between the countries by the ratio of average cash-flow rights of the ultimate beneficial

owner is again obvious – EU15 have lower levels, while EU13 have higher levels.¹¹ The lowest average cash-flow rights have been observed in Ireland, United Kingdom, Luxembourg, Finland, Spain and Belgium (less than 30%) and the highest in Latvia, Lithuania and Croatia (over 70%). There are two notable exceptions of this rule, Austria with 63% and Hungary with 38%.

Table 2 provides the sectoral distribution of firms in our sample. It includes firms in 59 NACE two-digit code sectors in the 30 European countries. Three sectors attract 46% of the top firms. Holding companies account for 16% of the sample, activities of head-offices and management consultancy account for another 16% and 13% are found in electricity, gas, and air conditioning supply. The only other sector that attracts more than 5% of firms is telecommunications. A total of 15 NACE two-digit code sectors attract at least 1.5% of the sample in each of them and a total of 81% of all firms. We use these sectors (described in the annex) as a proxy to control for sector effects in our models.

III. Cross-National Ownership

1. Ultimate Foreign Control By Countries

Table 3 presents the share of domestic and foreign ownership by countries. Table 3 shows that the *foreign investors* are the prevailing ultimate beneficial owners (UBOs) in small open countries like Belgian (80% of the top 20 companies), Netherlands (70%), Hungary (70%), Bulgaria (60%), and Czech Republic (60%). An extreme pattern of foreign ownership penetration is shown in the smallest EU Member States like Luxemburg (95%), Cyprus (95%) and Malta (100% foreign firms) as well as Ireland (95%). One might speculate that smaller the country, more open it is, and more foreign owners could be expected in it. However, countries like Estonia, Croatia, and Lithuania show quite different ownership pattern, namely: prevailing state-owned and family-owned firms.

We zoom further into the group of foreign ultimate owners and presents the cross-national ownership patterns into the EU-28 countries themselves in Table 4, while Table 5 documents the cross-national patterns between EU member States and the EU-28 as a whole, on the one hand, and the non-EU countries like USA, Russia, Norway, on the other.

¹¹ Variable definitions are presented in the Appendix.

Table 4 shows the basic cross-national ownership pairs into the EU. Two key features of the international ownership patterns of the largest national firms are revealed. First, the major role of UBOs from Germany (9% of the all firms in the sub-sample of foreign owners) and France (9%) respectively, mostly investing in CEE countries. Second, the important role of UBOs from UK (7%) in the EU.

Table 5 focuses on the non-EU UBOs in the largest firms in each EU Member State. Again, two basic features can be observed. First, the most important owner among non-EU firms are companies from the USA (25% of the firms in the sample of foreign owners or 62 firms). Typically, these companies invest in Europe via Ireland (10 firms), Luxemburg (13 firms), and Netherlands (9 firms). The three countries represent slightly more than 50 % of total number of American firms investing in the EU. Second, the rest of key owners have negligible share each, for example Russia in 8 firms, Canada (5 firms), and China (4 firms). In certain cases (i.e. two Bulgarian companies owned by the Russian company “Lukoil”) the procedure of identification of UBO goes up to a parent company in offshore zones (i.e. British Virgin Islands), thus underestimating the Russian economic influence. The Russian investors have mostly penetrated into the European ownership market via Cyprus (5 firms). Contrary to the prevailing recent expectations, the role of Chinese firms at least as ultimate owners of large firms in the European countries is modest and concentrated only in one country (Portugal).

In sum, we have documented the importance of the EU investors from Germany, France, and the UK, and among the non-EU owners, the US investors, as ultimate beneficial owners in the EU countries. About two-third of the German cross-national owners in our sample control companies in CEE countries. The US investors are so important for the European ownership landscape as investors from Germany, France, and UK taken together.

The differences between ultimate ownership in CEE and WE countries are blurring. The deep penetration of ultimate owners mostly from Germany and at lesser degree from France in CEE countries, on the one hand, and the dominant share of US investors in Europe, on the other, have demonstrated the rising importance of cross-national dimensions of ownership structures and ownership integration in general.

3.2. Ultimate Foreign Control by Types

Table 6 presents the basic characteristics of the foreign owned large firms in Europe by types. First, 76 % of foreign owned firms are unlisted. From these firms, about 98% have

ultimate beneficial controlling foreign owner. Second, 87 % of foreign owned companies are under ultimate foreign control, the rest are widely held companies. Fourth, the prevailing ultimate beneficial foreign owners are foreign institutional investors.

We can identify a few major types of control: (1) direct managerial control, (2) ultimate foreign managerial control, (3) ultimate foreign family control, and (4) ultimate foreign state control. Each of these corporate control types are briefly describe in turn.

Direct foreign managerial control

Figure 1 presents a not typical case in our sample – a widely held foreign owned company. We start with an example and illustrate the direct dispersed ownership structure of an Irish company in Figure 1. The company CRH is an international building materials group traded at the Irish, London and New York stock exchanges. The company largest direct shareholder is Blackrock Investment Management (UK) Limited with a 5.50 % stake of the total shares outstanding. It is a subsidiary of Blackrock inc (US). Out of the top 6 largest shareholders only one is European based – the Norwegian sovereign fund. Two of the remaining shareholders are UK-registered 100% subsidiaries of US investment funds. The average ultimate cash flow rights of this type of companies is 8.34 %. (The calculation of the average ultimate cash flow rights is described in the Appendix). We classify these companies as companies under direct managerial control.

Ultimate foreign managerial control

Figure 2 describes one of the most typical cases of foreign ownership – ultimate control by foreign institutional investors. We present an example of the prevailing minority owners of widely held parent companies: a sovereign fund in Slovak Republic. This example represents a typical characteristics of chain of foreign control in our sample. First, this is a pyramidal structure (see La Porta (1999) for definition). Second, there is a cross-country vertical chains. Third, this is a complex ownership structure. The most companies ultimately controlled by *widely held parent companies* are unlisted (92%) and under foreign control (84%). Thus, these companies are typically affiliates of the foreign companies via an intermediate ownership chain. These companies have *direct controlling* shareholder and are ultimately owned by widely held parent with direct minority institutional investors, sovereign funds or families. Thus, a complex

chain of agency problems among the managers of the affiliated firms might be observed. The average ultimate cash flow rights of this type of companies is 7.76 %. We coin this type of control ultimate foreign managerial control.

Ultimate foreign family control

Figure 3 depicts another important foreign ownership category among large firms in Europe – ultimate control by foreign family. Domestic families own 53 % of family firms, foreign families – 47 %. An example with a German family ultimately controlling a Hungarian firm is presented in Figure 4. This is also an example of a pyramid firm. The chain of agency problems in firms controlled by families is company specific but nevertheless we might expect more powerful owners and less powerful managers being the common principal-agent model. For example, Figure 4 shows how the ultimate family owner (families Porsche/Piech) has elaborated a chain of majority control via intermediate companies (Porsche Automobil Holding – Volkswagen Aktiengesellschaft – Audi Aktiengesellschaft) to its subsidiary Audi Hungary. The average ultimate cash flow rights of this type of companies is relatively higher than the ultimate cash flow rights in the other types 55.21%, smaller only that the ultimate cash flow rights of state control. We classify this type of companies as companies under ultimate foreign family control.

Ultimate foreign state control

Figure 4 displays an example of foreign state ultimate control. We describe the role of the state of Poland as an ultimate owner of firm in Lithuania. This example illustrates a typical case of privatization of state owned companies by another state-owned company from another country. While in Lithuania the Polish Orlen bought Mažeikių Nafta after several changes in ownership (initially privatised by private US and Russian firms), in other countries like Bulgaria the state owned companies were privatized directly by foreign state-owned companies like CEZ and EVN, while the Czech government owns CEZ and the Austrian Government owns EVN. The average ultimate cash flow rights of this type of companies is 73.48 %. We coin this type of control *ultimate foreign state control*.

The ultimate foreign control of large European companies appears to be: (1) managerial (61 % of companies), (2) minority control (19% of companies), (3) majority control (20% of companies). Is there separation of ownership from control in foreign owned large firms in

Europe? There are a few alternative answers: First, *Yes*. The bulk of foreign owned companies are under managerial control. Second, *No*. A cheer number of large firms in Europe are foreign owned affiliated under full direct foreign control. Third, *Maybe*. The complex ownership structures of large European firms show a separation of ownership from control and agency problems which are different from ones observed in both the Bearle&Means corporation and the German company with a typical concentrated ownership. We leave this question for further research.

On average, the European foreign owned company is a *corporate group company* with different manifestations in each country, namely: (1) widely held (mainly public) company with dispersed ownership and largest shareholders like institutional investors (see e.g. Figure 1); (2) an affiliate of *foreign widely held parent* company (Figure 2); (3) corporate group company under ultimate *foreign family* control (Figure 3); (4) corporate group company under *foreign state* control (Figure 4).

IV. The Determinants of Foreign Ownership

4.1. Country Examples

Which are the country factors determining the foreign control in each European country? One needs in depth- analysis of country ownership and corporate governance history that is beyond the goals of this paper. However, using our dataset we might sketchy present a few country examples for the importance of a particular foreign ownership pattern and possible explanation of it.

France

In France all the top 20 companies are under *domestic ultimate control*. One may explain this peculiar pattern presenting *path-dependant* considerations focusing, for example, on the industrial policy for creating “national champions” in France in 1960s and 1970s.

Hungary

This country has been a textbook example of foreign investors’ friendly policy for privatization of state owned firms in CEE in the 1990s. As a result, the most Hungarian large firms become under foreign control. Thus, the Hungarian *privatization* policy and methods (e.g. sale to strategic investors) might partly explain the emerging dominant foreign ownership

structures. However, why path-dependency story could be relevant for France but not for countries like Hungary.

Cyprus, Luxemburg, Malta and Ireland

These countries are obvious outliers. Cyprus, Luxemburg, Malta and Ireland appear to have nearly no domestic control of their large companies. One might assume that these countries are well known as *financial centres*, conduits for foreign investors penetration in Europe. They have provided hospitable environment for foreign companies to be registered in their jurisdictions (e.g. tax preferences).

In sum, in any country we might identify a few country specific factors explaining the presence of foreign investors. Which are the *common* cross-country determinants of foreign investors penetration?

4.2. Political Power of Corporate Insiders

The literature on political economy of corporate governance focus on a few political determinants like decreasing the political power of corporate insiders and diminishing level of economic entrenchment.¹² However, in the cross-country setting it is difficult to apply consistent measures of the political power of insiders. It is not so trivial to measure the driving political and economic motives of political actors supporting liberalisation of markets and corporate governance reforms. The domestic political factors leading to decreasing the power of domestic insiders and the state have implemented various policies like trade and financial liberalisation (Rajan and Zingales), legal reforms aiming at better protection of shareholders, initiatives for establishing corporate governance codes explicitly focusing on the protection of retail and foreign investors as a key objective of corporate governance reform and anti-corruption policies.¹³

In our study, we focus on a few variables which proxy for a decreasing power of domestic corporate insiders like (1) the openness of economy, (2) the quality of country governance, and (3) legal investors protection.

4.3. Host Country Variables Explaining Foreign Ownership

Liberalization of Markets in the EU

¹² See, e.g., Rajan and Zingales (2003); Morck et al (2005).

¹³ See, e.g., OECD Principles of Corporate Governance, 1999; World Bank website.

Studies reveal the positive effect of trade and financial liberalisation on decreasing of economic entrenchment (Morck *et al* (2000)). Studies show a positive link between liberalization of markets and foreign ownership in developed, developing and transition countries. In WE, for example, Franks *et al* (2012) report that more *foreign ownership* is a direct indicator of the greater degree of openness of the market for corporate control in the U.K. compared to Continental Europe. In CEE, for instance, Resmini (2000) finds that the prevailing large *vertical FDI flows*, benefit from increasing openness. In developing countries, Singh and Jun (1995) also find that export orientation is very important in attracting FDI, and link this to the rising complementarity of *trade and FDI flows*.

However, the expected positive relationship between openness of economy and the importance of foreign investors among the top 20 firms in any European economy is not so obvious. First, France, for example, had a massive financial and trade liberalisation reform in the 1980s, nevertheless there is virtually no foreign presence among the top 20 French firms. Second, largest domestic firms would be more special. There exist a couple of reasons why governments might prefer domestic to foreign owners among their largest firms, for example, national security considerations, industrial policies for promoting “national champions”, policies for preserving employment and soft budget constraint considerations in general. This caveat aside, we have:

Hypothesis 1. Openness relates positively to foreign ownership.

We measure openness as the share of trade (export and import) of GDP. The variable is a simple average of this ratio for years 1996, 2008 and from 2011 to 2014, thus giving more weight to most recent years, yet capturing historic influence as well.

Country Governance

Recent studies show that countries with low levels of corruption, strong property rights, and independent judiciaries grow faster and are more open to foreign trade.¹⁴ Property rights protection provides greater incentives to enter into contracts and make investments. Thus, foreign investors should be more willing to invest, the stronger institutional protection is in the host country. The better the institutions, the less likely their risk of expropriation. Likewise, countries with better institutions are generally more open to foreign investors.

¹⁴ See, e. g., Knack and Keefer (1995); Knack (1996); Wei (2000); Mahoney (2001); Gugler et al, (2013).

Thus we have:

Hypothesis 2. Country governance relates positively to foreign ownership.

Country governance could be proxied by various measures, but one aggregate measure is corruption. We measure the quality of the governmental institutions using the Corruption Perception Index.

Investor Protection

We focus on companies under ultimate foreign control, thus we use investors protection as a control variable. La Porta *et al* (1997,1998) argue that Bearle and Means widely held corporation should be more common in countries with good legal protection of minority shareholders. In these countries, controlling shareholders have less fear of being expropriated themselves in the event that they ever lose control through market for corporate control markets and so might be willing to cut their ownership of voting rights by selling shares to raise funds or to diversify. In contrast, small diversified shareholders are unlikely to be important in countries which fail to protect their rights. Thus, law and finance literature would suggest that countries with better legal investor protection would attract more foreign institutional investors. Empirical evidence supporting this law and finance literature prediction is mixed.¹⁵ We measure investor protection using the anti-self-dealing index (Djankov *et al* , 2008).

4.4.Ultimate Foreign Control by Home Countries

In our sample, the distribution of foreign investors by home countries is highly skewed. Investors from a few countries (e.g. US, Germany, France, and the UK) ultimately control about 50% of all the foreign-controlled firms. Thus, we focus on these countries and test whether there are statistically significant differences of control patterns of the firms in Europe ultimately owned by foreign investors from the US, Germany, France, and the UK.¹⁶

4.5.Explaining Ultimate Foreign Control?

How one might explain the foreign investors choice of ultimate control (e.g. minority, majority, supermajority or full control) of European large firms? The literature is not helpful in

¹⁵ See, e.g., Leuz et al. (2009) who report that US investors invest less in foreign firms with poor outsider protection and opaque earnings. On the other hand, Ferreira and Matos (2008) find a negative link between legal investor protection and the presence of foreign institutional investors.

¹⁶ Our sample is relatively small and due to lack of data we cannot reasonably test the possible effects of distance measures by countries. We have data for egalitarianism distance for 69.5% of the observations and data for risk averse distance for 80.2% of the observations.

formulating predictions about the effects of country variables on foreign investors ownership strategies. Recent studies reveal the importance of both host and home countries environment for investors decisions to penetrate into a foreign market.¹⁷ However, these studies examine mainly macro-level FDI flows. For example, Siegel et al (2011; 2013) focus on differences in cultural egalitarianism as an impediment to a firm's entry into international markets via FDI.¹⁸ Their basic underlying proposition is that the greater the difference in terms of cultural egalitarianism between the home and host markets, the greater the adjustments the firm will have to make in order to engage effectively with its stakeholders. The authors' basic hypothesis that egalitarianism distance relates negatively to FDI flows was empirically corroborated.

One might argue that using FDI flows as a proxy for foreign investors ownership strategies in the context of egalitarianism distance would be problematic at least for two reasons. First, FDI flows cannot measure the salient feature of the foreign investment – the export of intangible assets from the home to host country. Furthermore, foreign investment might be done without any international financial flows. Second, the potential cultural distance problems are linked to the attitudes and behaviour of both foreign managers and the local managers of host companies. Thus, more relevant unit of analysis appears to be at company level focusing directly on formal foreign corporate control, power relations among corporate stakeholders, their agency problems, and the like. We do not make predictions about the sign of the relationship between distance and corporate control but test for any systematic differences.

We construct a (sheer) distance measure of egalitarianism by taking the square of the difference between scores of each country pair. We apply a similar method to construct the other distance measures in our equations. The other repressors used as a set of controls are country governance distance, investor protection distance, loss aversion distance, and development distance. The definitions are provided in the Appendix.

V. Econometric Modelling and Results

5.1. Modelling

¹⁷ Researchers focus on various dimensions of country pairs distance like political risk and corruption, institutions, cultural distance, and shared language and religion. See e.g. Zwinkels and Beugelsdijk (2010).

¹⁸ Cultural egalitarianism is defined as belief that all people are of equal worth and should be treated equally in society.

Which are the causal effects of country openness and country governance on foreign ownership? Without a controlled experiment, we cannot determine (1) if these variables impact ownership structures, and (2) how their interactions impact ownership structures (Pearle, 2009). However, we can present a few causal assumptions which were used in various specifications of our econometric model estimations.

In this paper, we are confident that reverse causality is not an issue, since we measure openness during the 18 years *before* we observe foreign ownership structure (this is also true for the other explanatory variables: we measure country governance during the 18 years before we observe ownership structure, shareholders protection the 23 years before.). Second, the methodology of measurement of country indexes is independent from our methodology of identification of ultimate foreign ownership structures. Nevertheless, one might raise a few concerns. First, are the decisions for economic liberalization of markets in the EU in the 1980s and in Eastern Europe after the sudden collapse of communism at the end of 1989 exogenous decisions? We are agnostic about this. As some authors observe addressing endogeneity concerns is difficult because finding a suitable instrument for liberalization is nearly impossible.¹⁹

Second, how do both economic liberalization and country governance interact? The sign of the joint effect of economic liberalization and country governance on economic performance are *ex ante* unclear and is an open empirical question. On the one hand, Acemoglu *et al.* (2003) argue that the quality of political institutions played an important role in how European countries took advantage of Atlantic trade and were propelled to higher growth. On the other hand, countries with relatively bad governance and inefficient capital markets could experience a large drop in the cost of finance and generate larger firm and economic growth (e.g. communist countries in Eastern Europe in 1950s.). Thus, we test for the effects of country governance and economic liberalisation on foreign ownership structures but do not make predictions about how their interactions impact foreign ownership.

We apply the following model (1), where i denotes a firm, c denotes a country.

$$\text{Ownership}_{ic} = a + b \cdot X + c \cdot Z + \text{constant} \quad (1)$$

¹⁹ Bekaert *et al.* (2005).

We want to understand how specific country factors affect foreign investor ownership strategies, applying control variables (Z) like firm size (log of firm total assets) and industry sectors (using industry dummies based on NACE Rev.1 and NACE Rev. 2 (Eurostat 1996; Eurostat 2008)). Ownership is measured by two variables: foreign direct and foreign cashflow.

Foreign direct is a dummy variable, which takes the value of 1 if the company's largest shareholder is a foreign company or a person and 0 otherwise. *Foreign cashflow* measures the cash-flow rights of the ultimate beneficial owner if such exists and is zero if the company is domestic. The definitions are provided in the Appendix.

We are particularly interested in coefficient b , which measures the effect of X , where X denotes host country variables like openness and country governance. As the decisions of the ultimate investors are also dependent of their home country characteristics, we also use variables, which take into account this environment as well like a few distance measures. Probit models use as independent variables characteristics of the country, while the OLS models use distance measures, to account for more complex nature of the investment control.

We use a maximum likelihood probit model with cluster (countries) standard errors and a random effects model. These models fit our specification with a dichotomous dependent variable. Since the unit of observation is a firm, but we include country observations, we use repeated observations and the requirement that observations are independent is violated. If we would not account for the induced correlation within each country, we would get standard errors which are biased downward. Thus, we use a robust variance estimator based on country clustering, i.e. standard errors that allow for intra-country correlation. This does not reduce the number of observations but only places restrictions on the variance covariance matrix. Our second specification fits a random-effects probit model. We chose the random effects model because unconditional fixed-effects probit models are biased.

Table 7 presents descriptive statistics for the main variables. On average, 46 percent of the firms are foreign owned, 36% have a direct foreign owner. The average cash flow rights of the ultimate foreign owners is 12.58 %. The average of the governance measure (Corruption Perception Index) is 64.93. The range of this index is 0 to 100, where 0 denotes the highest level of perceived corruption and 100 is the lowest level.

Table 8 reports the correlations between the basic explanatory variables and the main foreign ownership categories. The correlation between openness and the three foreign ownership measures is positive and significant at 1% level. The presence of foreign ownership is not significantly correlated with country governance. The five distance measures are positively and highly statistically significantly correlated with foreign ownership. Table 8 presents as well as correlations between selected type of ownership control of firms and selected sector dummies. Foreign companies significantly more invest in telecommunications and wholesale trade. In the later sector, expectedly invest widely held parent companies.

5.2. Results

Host Country Variables and Foreign Ownership

Table 9 reports the results of testing Hypotheses 1 and 2. The dependent variable takes the value one if a company is directly foreign owned in 2015, and zero otherwise. Our first specification (Column 1) uses a probit model, while our second specification fits a random-effects probit model (Column 2). In the first specification, both main explanatory variables are statistically significant with the expected signs. Higher openness implies more direct foreign ownership. The coefficient on governance measure is negative and significant implying that countries with lower the CPI index score (less corruption) are more likely to attract foreign investors. Better legal investors protection is associated with higher level of foreign investor presence. The coefficient on the company assets is statistically insignificant. Using a random-effects probit model (Column 2), the coefficients on openness remain positive and statistically significant. The coefficient on country governance remains with the expected sign but turns insignificant.

Our sample consists of both widely held companies with a largest shareholder - foreign investor (13 % of the foreign sample) and ultimately foreign controlled companies (87 %). We separate the total sample into two sub-samples in order to test for the possible different effects of country factors by company type. Columns 3 and 4 of Table A presents the results for the sub-sample of ultimately foreign controlled companies. In both specifications, the effects of openness and the quality of governmental institutional on foreign ownership structures remain the same. The coefficients on the openness variable and the governance index are of the predicted sign and statistically significant. Columns 5 and 6 of Table 9 presents the results for the sub-sample

of widely held foreign owned companies. As expected, only coefficient on the shareholder protection index is significant in both specifications.

We performed a battery of robustness tests, for example, probit and random effects models with independent variable openness, log of assets and industry sectors, the same models presented in Table 9 without cases from Luxembourg, Malta, Cyprus and Ireland, the same models presented in Table 9 using different measures of investors protection and country governance and the like. In all the tests, the results for openness remain valid within the same significance levels brackets.

Summarizing, the hypothesis on the effects of openness (Hypothesis 1) was consistently corroborated in all our specifications. The hypothesis on the effects of country governance (Hypothesis 2) was only mildly corroborated. MNCs invest more readily to get corporate control in countries with more trade liberalisation and less corruption. MNCs do not found more attractive to buy larger companies than domestic investors at least in our sample of top 20 firms in each European country.

Foreign Control by Countries

Table 10 presents our estimates of control types of foreign firms by countries of origin of the UBOs. We report results only for the four countries, which have higher number of investments. We used paired sample t-test to test if country of origin of the UBO influences the amount of control needed in the largest companies in Europe. The US controllers on average have 10% cash flow rights in their investments in large firms in Europe. This mean is about three times lower than that of the non-US investors (33 %). This difference is highly significant. German controlling investors have 40% cash flow rights and this is statistically significantly higher than the cash flow rights of their non-German counterparts (26 %). There is no statistical and economic difference between the cash flow rights of French and non-French investors. Similarly indistinguishable from the others are companies in UK, despite the difference is much higher than in the case of France. British companies would have on average 23.4% cash flow rights, while non-British companies would have 27.8% cash flow rights.

One explanation of the de facto managerial control observed for US investors might be that they are predominately institutional investors and their investments in EU countries are

channeled through public companies and hence they have lower cashflow rights than German, French and other investors. Figure 1 depicts a typical ultimate ownership structure of European firms owned by US investors. The US institutional owner is usually the largest minority owner in a public company which is a widely held parent company owning themselves a large European firm via an investment chain. More generally, the more open and investment protection environment in the US would tend to provide more opportunities for US companies to go abroad with less control, as they would prefer arbitrage contracts at their home countries, which are protective enough.

In Germany, the majority of controllers are families and foundations, which would tend to prefer larger ownership stake. The T-test of cash flow rights of foreign companies controlled by families suggests that families (average 43% cash flow rights) have significantly higher cash flow rights than non-family controllers (almost twice less – 24%). Families do not differ substantially if they invest at home or abroad (average cash flow rights for domestic investments is 43.6%), while states, expectedly have larger stakes at home (78%).²⁰ Thus, on average, German investors have ultimate minority control in European large firms.

German investors are mainly foreign direct investors. For example, Figure 3 shows a typical ultimate ownership structure of a European large firm owned by a Germany ultimate owner. The ultimate owners, Porsche/Piech families, have a full control of a holding company which has a majority control themselves in a public company (Volkswagen), the latter investing through its German subsidiary (AUDI Germany) in one of the top 20 large firms in Hungary in our sample (AUDI Hungary). The higher level of corporate control of the different layers of the company group have results in a higher ultimate cash flow rights of the ultimate owner, in this case Porsche/Piech families, in the Hungarian firm. Interestingly, French investors are not statistically different than non-French investors.

Foreign Control and Distance

Table 11 presents the main results of the effects of distance on ultimate foreign control. Column 1 of the Table 11 reports estimates of egalitarianism distance. This variable is highly significant statistically with positive sign. Among the legal distance factors, a country governance distance (Column 2) and legal investors protection distance (Column 3) have

²⁰ These results are not reported and available from the authors by request.

positive effects and are significant. Column 4 of Table 10 presents the results of testing of the effects of loss aversion distance. The coefficient on loss aversion distance is insignificant. Column 5 of Table 10 control for the effects of economic development distance. The coefficient on economic development distance is significant with positive sign. The joint effects of all the distance measures are presented in Column 6. Most coefficient turn insignificant but the coefficient on egalitarianism distance and governance distance remain significant at 1% level and with a positive sign.

5.3. Discussion

Do cultural and institutional distance matter for foreign control?

We present tentative results that both the coefficient on egalitarianism distance and governance distance are significant at 1% level and with a positive sign.

One might argue that managers of affiliates may refuse to comply with foreign rules that reflect different values (cf. Simons and Ingram 2003, Freeman and Audia 2006). The adjustment might be costly and part of these costs are agency costs connected to different cultural understanding (e.g. what is the difference between state capture in CEE and political strategies of big business in WE). Egalitarianism is linked to corporate governance mechanisms that determine the exercise of power in relations with corporate stakeholders (e.g. shareholders, managers, employees, competitors, and governments). Thus, distance on this dimension is likely to create high agency costs (managerial shirking, etc.). Under these conditions, rising ultimate foreign corporate control might serve as an important corporate governance mechanism in the context of foreign owned firms.

Empirical evidence about the link between institutional distance and foreign ownership is tentative. Gaur and Lu (2007) find that in institutionally distant countries, subsidiaries have better survival chances if foreign parents have more ownership. Host country experience has a negative impact on subsidiary survival, but the effect is weaker if foreign parents have larger ownership positions in the subsidiaries. Studies show that implementing organizational practices in several national institutional environments is likely to be costly (Kogut 2004). Foreign investors have to adjust to eventual corruption practices, local regulation, local legal environment and law enforcement protecting investors and property rights in general. Foreign investors' concerns are embodied in the international movements for introducing Corporate Governance Codes, benchmark indexes like Heritage Foundation Economic Freedom indexes, and various

initiatives of the World Bank for improving country governance and establishing anti-corruption practice, especially in transition and developing countries. These initiatives are directed to diminish the distance between the quality of governmental institutions in developed countries (typical home country of big MNCs) on one hand and the institutional environment in less developed countries (typical host) on the other hand. One might argue that higher institutional distance is associated with higher costs of legal adjustment, higher agency costs, and higher risk of expropriation of foreign investors from both the state and managers of foreign owned firms. Thus, internal corporate might serve as a countervailing governance mechanism protecting foreign investors. Further research is needed on these issues.

VI. Conclusions

We have documented the major cross-national ultimate ownership structures of top 20 non-financial large firms in 30 European countries in 2015. First, the prevailing ultimate beneficial owners among the EU owners are investors from Germany, France, and the UK, and among the non-EU owners, the US investors. About two-third of the German cross-national owners in our sample control companies in CEE countries. The US investors are so important as investors from Germany, France, and UK taken together. We also report the economic and statistically significant difference between the type of ultimate control by US investors and German foreign investors in Europe. Second, we have presented a typology of major types of control: (1) direct managerial control, (2) ultimate foreign managerial control, (3) ultimate foreign family control, and (4) ultimate foreign state control. Third, we find that the openness of economy to foreign trade is a stable factor for the presence of foreign ownership. We have presented tentative results about the association between ultimate foreign control and cultural and institutional distance between European host countries and home countries of ultimate foreign investors. In sum, we find that the differences between ultimate ownership in CEE countries and WE countries are blurring. The deep penetration of ultimate owners mostly from Germany and at lesser degree from France in CEE countries, on the one hand, and the dominant share of US investors in Europe, on the other, have demonstrated the rising importance of cross-national ownership structures in Europe.

Our research would have important policy implications. We have constructed a unique dataset that could be used for further evidence based policy making at both the EU level and the

EU Member States. We present empirical evidence for the dominant role of the multinational corporate group company in the big business of most EU countries. Relevant corporate governance policies would focus on the actual agency problems of this type of company and aim establishing adequate corporate governance mechanisms for their resolving.

Appendix

List of variables

Widely held - a dummy variable, which takes the value of 1 if firm's largest shareholder controls 20% or less of the shares and 0 otherwise.

Foreign - a dummy variable, which takes the value of 1 if a firm is under control of a foreign investors (e.g. company, family, state) or if under control of a widely-held company, its largest shareholder is a foreign company, and 0 otherwise.

Foreign direct – a dummy variable, which takes the value of 1 if firm's largest owner is a foreign entity of individual/family.

Age – firm age based on provided registration date by BvD Amadeus. Age calculated as of 2015.

Foreign cash flow rights – cash-flow rights are defined iteratively on the tree of chain of controlling ownership. If there is a widely held company then the cash-flow rights equal to the share of the largest shareholder. If there is a company A with a controlling owner B of X percentage of shares, then the cash-flow rights of the ultimate beneficial owner in the company A are equal to the cash-flow rights of the same ultimate beneficial owner in the controlling owner B multiplied by X/100. For example, if company A is owned 60% by a company B, and B is owned 80% by an individual C then C has $0.6 \cdot 0.8 = 0.48$ cash-flow rights over A. Then, foreign cash flow equals cash flow for foreign companies and is zero for domestic companies.

Ownership concentration – The ownership share of the largest direct owner of the company.

Openness – Share of trade (export and import) of GDP. Indicator is an average for the years 1996, 2008 and 2011 to 2014. Source: World Bank.

Anti-self-dealing index – The index measures legal protection of minority shareholders against expropriation by corporate insiders. Source: Djankov et al (2008).

Anti-self-dealing sheer distance – A square of the difference of Anti-self-dealing index of the of ultimate beneficial owner's country and domestic anti-self-dealing index.

Governance – As proxy for the governance we use the Corruption Perception Index for 2014. Source: Transparency International.

Governance sheer distance - A square of the difference of Governance proxy of the of ultimate beneficial owner's country and domestic governance measure.

Egalitarianism – We use Swartz's egalitarianism measure of the belief that all people are of equal worth and should be treated equally in society. The data is released in 2005 and is based on observations from 1988 to 2004. Source: Siegel, Licht, and Schwartz (2011).

Egalitarianism sheer distance - A square of the difference of Egalitarianism of the of ultimate beneficial owner's country and domestic egalitarianism.

Risk - Relative risk premium index (Rieger, 2015).

Risk sheer distance - A square of the difference of Risk of the of ultimate beneficial owner's country and domestic Risk.

LN assets – Natural logarithm of average assets in the period 2011 – 2014. Data from BvD Amadeus.

LN GDP – Natural logarithm of GDP of the country in current prices 2014. Data from World Bank

LN GDP sheer distance – A square of the difference of LN GDP of ultimate beneficial owner's country and domestic LN GDP

nace1 – Dummy variable, which takes the value of 1 if firm is in sector Extraction of crude petroleum and natural gas and 0 otherwise.

nace2 - Dummy variable, which takes the value of 1 if firm is in sector Manufacture of coke and refined petroleum products and 0 otherwise.

nace3 - Dummy variable, which takes the value of 1 if firm is in sector Manufacture of basic pharmaceutical products and pharmaceutical preparations and 0 otherwise.

nace4 - Dummy variable, which takes the value of 1 if firm is in sector Manufacture of motor vehicles, trailers and semi-trailers and 0 otherwise.

nace5 - Dummy variable, which takes the value of 1 if firm is in sector Electricity, gas, steam and air conditioning supply and 0 otherwise.

nace6 - Dummy variable, which takes the value of 1 if firm is in sector Civil engineering and 0 otherwise.

nace7 - Dummy variable, which takes the value of 1 if firm is in sector Wholesale trade, except of motor vehicles and motorcycles and 0 otherwise.

nace8 - Dummy variable, which takes the value of 1 if firm is in sector Retail trade, except of motor vehicles and motorcycles and 0 otherwise.

nace9 - Dummy variable, which takes the value of 1 if firm is in sector Land transport and transport via pipelines and 0 otherwise.

nace10 - Dummy variable, which takes the value of 1 if firm is in sector Warehousing and support activities for transportation and 0 otherwise.

nace11 - Dummy variable, which takes the value of 1 if firm is in sector Telecommunications and 0 otherwise.

nace12 - Dummy variable, which takes the value of 1 if firm is in sector Activities of Holding companies and 0 otherwise.

nace13 - Dummy variable, which takes the value of 1 if firm is in sector Real estate activities and 0 otherwise.

nace14 - Dummy variable, which takes the value of 1 if firm is in sector Activities of head offices; management consultancy activities and 0 otherwise.

nace15 - Dummy variable, which takes the value of 1 if firm is in sector Office administrative, office support and other business support activities and 0 otherwise.

naceother – Dummy variable, which takes the value of 1 if firm is in all other NACE sectors and 0 otherwise.

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Table 1. Summary Statistics

	Firms	Listed firms	Assets (Average)	Assets (Minimum)	Assets (Maximum)	Assets (Median)	Revenues (Average)	Average cash-flow of UBO	Ownership concentration	Firm Age
	No	No	in million euro (2011-2014)					Percent	Percent	Years
Austria	20	3	26,200	8,660	146,649	18,886	18,660	63%	90%	17
Belgium	20	3	23,774	10,750	59,234	19,461	6,318	30%	83%	14
Bulgaria	20	1	1,045	474	3,248	781	668	69%	93%	14
Croatia	20	5	2,207	476	9,339	1,427	769	75%	87%	27
Cyprus	20	3	3,034	1,412	7,374	2,366	1,750	36%	78%	52
Czech Republic	20	3	3,812	1,626	23,625	2,530	2,482	50%	89%	34
Denmark	20	6	11,781	4,284	55,379	6,809	6,591	50%	77%	17
Estonia	20	3	504	200	2,023	316	211	56%	81%	11
Finland	20	13	8,301	3,350	28,102	5,348	6,661	26%	45%	48
France	20	13	88,726	42,119	250,239	61,001	46,691	45%	52%	18
Germany	20	16	80,568	32,252	309,708	54,305	64,085	39%	42%	23
Greece	20	11	4,529	1,472	16,472	2,815	2,296	48%	57%	11
Hungary	20	3	5,024	2,008	15,708	3,842	2,467	38%	86%	45
Ireland	20	9	12,545	7,113	21,250	11,413	9,868	15%	55%	27
Italy	20	10	47,393	13,990	171,201	26,532	18,359	43%	64%	48
Latvia	20	3	589	211	3,451	343	251	73%	82%	72
Lithuania	20	6	735	269	1,880	540	582	78%	92%	15
Luxemburg	20	1	26,024	12,095	54,631	20,503	370	25%	89%	41
Malta	20	1	2,021	743	8,791	1,332	2,242	54%	92%	18
Netherlands	20	4	71,214	32,522	324,856	49,779	32,402	30%	90%	74
Norway	20	4	27,529	7,543	105,217	16,953	15,835	40%	90%	44
Poland	20	11	5,898	2,590	14,427	4,390	4,373	54%	69%	12
Portugal	20	5	7,065	3,520	20,447	4,975	1,706	38%	74%	34
Romania	20	6	2,419	940	8,646	1,386	1,057	66%	79%	33
Slovak Republic	20	1	2,517	951	7,578	1,805	1,576	59%	88%	35
Slovenia	20	6	1,084	383	5,589	652	634	68%	77%	25
Spain	20	13	37,636	17,275	125,139	25,152	17,535	28%	41%	12
Sweden	20	8	17,939	9,741	57,046	12,140	10,056	32%	61%	30
Switzerland	20	10	39,031	9,354	101,795	27,262	27,733	36%	54%	23
United Kingdom	20	6	147,703	73,337	285,920	143,501	129,965	22%	74%	41
Total	600	187	23,628	200	324,856	7,169	12,101	46%	74%	30

Note: Variable definitions are presented in the Appendix.

Table 2 Distribution of Firms by Industry

Code	Sector name	Variable name	Percent
06	Extraction of crude petroleum and natural gas	nace1	1.67%
19	Manufacture of coke and refined petroleum products	nace2	2.83%
21	Manufacture of basic pharmaceutical products and pharmaceutical preparations	nace3	2.17%
29	Manufacture of motor vehicles, trailers and semi-trailers	nace4	2.33%
35	Electricity, gas, steam and air conditioning supply	nace5	13%
42	Civil engineering	nace6	1.67%
46	Wholesale trade, except of motor vehicles and motorcycles	nace7	3.5%
47	Retail trade, except of motor vehicles and motorcycles	nace8	2.17%
49	Land transport and transport via pipelines	nace9	3%
52	Warehousing and support activities for transportation	nace10	4.33%
61	Telecommunications	nace11	5.17%
642	Activities of Holding companies	nace12	16.33%
68	Real estate activities	nace13	1.67%
70	Activities of head offices; management consultancy activities	nace14	16.33%
82	Office administrative, office support and other business support activities	nace15	4.67%
	Other	naceother	19.17%

Note: Variable definitions are presented in the Appendix.

Table 3. Domestic and Foreign Ultimate Ownership by Countries

	Domestic	Foreign	Foreign EU	Foreign non EU
Austria	0.55	0.45	0.2	0.25
Belgium	0.2	0.8	0.5	0.3
Bulgaria	0.4	0.6	0.3	0.3
Switzerland	0.6	0.4	0.1	0.3
Cyprus	0.1	0.9	0.2	0.7
Czech Republic	0.4	0.6	0.5	0.1
Germany	0.75	0.25	0	0.25
Denmark	0.65	0.35	0.05	0.3
Estonia	0.65	0.35	0.25	0.1
Spain	0.65	0.35	0.15	0.2
Finland	0.6	0.4	0.2	0.2
France	1	0	0	0
United Kingdom	0.7	0.3	0.1	0.2
Greece	0.7	0.3	0.3	0
Croatia	0.8	0.2	0.2	0
Hungary	0.3	0.7	0.2	0.5
Ireland	0.05	0.95	0.35	0.6
Italy	0.85	0.15	0.05	0.1
Lithuania	0.8	0.2	0.15	0.05
Luxembourg	0.05	0.95	0.3	0.65
Latvia	0.6	0.4	0.25	0.15
Malta	0	1	0.35	0.65
Netherlands	0.3	0.7	0.2	0.5
Norway	0.5	0.5	0.3	0.2
Poland	0.8	0.2	0.2	0
Portugal	0.55	0.45	0.1	0.35
Romania	0.65	0.35	0.25	0.1
Sweden	0.8	0.2	0.1	0.1
Slovenia	0.7	0.3	0.2	0.1
Slovak Republic	0.55	0.45	0.25	0.2
Total	0.54	0.46	0.21	0.25

Note: Ownership structure value is presented in decimal fraction of the total. Variable definitions are presented in the Appendix.

Table 4. Cross-National Ultimate Ownership: EU-28 Countries

	AT	BE	BG	CY	CZ	DE	DK	EE	ES	FI	FR	GB	GR	HR	HU	IE	IT	LT	LU	LV	MT	NL	PL	PT	RO	SE	SI	SK	NO	CH	EU28	EU30	Other	Total	Share of firms with foreign UBO
Austria (AT)						1					2															1			1	4	5	4	9	0.03	
Belgium (BE)											5	1										4							3	10	13	3	16	0.06	
Bulgaria (BG)	1					2													2		1							1	6	7	5	12	0.04		
Cyprus (CY)											2		1									1						1	4	5	13	18	0.07		
Czech Republic (CZ)						5					1								1			2	1					1	10	11	1	12	0.04		
Germany (DE)																												4	0	4	1	5	0.02		
Denmark (DK)																	1												1	1	1	6	7	0.03	
Estonia (EE)											1	1										1				2		1	5	6	1	7	0.03		
Spain (ES)																	2					1							3	3	4	7	0.03		
Finland (FI)																										4			4	4	4	8	0.03		
France (FR)																													0	0	0		0.00		
United Kingdom (GB)						1													1										2	2	4	6	0.02		
Greece (GR)				2		2													2										6	6	0	6	0.02		
Croatia (HR)						1					1				1	1													4	4	0	4	0.01		
Hungary (HU)						3										2													5	5	9	14	0.05		
Ireland (IE)										1		5							1										7	7	12	19	0.07		
Italy (IT)											1																		1	1	2	3	0.01		
Lithuania (LT)																						1	1			1			3	3	1	4	0.01		
Luxembourg (LU)		1				1						4																	6	6	13	19	0.07		
Latvia (LV)												1										3				1		1	5	6	2	8	0.03		
Malta (MT)						2						3							1			1						2	7	9	11	20	0.07		
Netherlands (NL)											1	1							1							1			4	4	10	14	0.05		
Poland (PL)				1	1						1	1																	4	4	0	4	0.01		
Portugal (PT)									1		3						1												5	5	4	9	0.03		
Romania (RO)		1				2					1							1											5	5	2	7	0.03		
Sweden (SE)						2																					1		2	3	1	4	0.01		
Slovenia (SI)						1					1			1								1							4	4	2	6	0.02		
Slovak Republic (SK)						2					1				1		1										1		5	6	3	9	0.03		
Total EU28	2	1	0	3	1	25	0	0	1	1	20	18	1	1	2	3	6	0	9	0	1	15	2	0	0	10	0	0	15	122	139	118	257	0.93	
Norway (NO)											4								1							1			6	6	4	10	0.04		
Switzerland (CH)																	1									1			2	2	6	8	0.03		
Total EU30	2	1		3	1	25			1	1	24	18	1	1	2	3	7		10		1	15	2			12		15	130	147	128	275	1.00		
Share of firms with foreign UBO	0.01	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.00	0.00	0.09	0.07	0.00	0.00	0.01	0.01	0.03	0.00	0.04	0.00	0.00	0.05	0.01	0.00	0.00	0.04	0.00	0.00	0.05	0.01	0.47	0.53	0.47		

Note: Share of firms is presented in decimal fraction of the total. Other values are number of firms. Variable definitions are presented in the Appendix.

Table 5. Cross-National Ultimate Ownership: EU-28 Countries and non-EU Countries

	US	Russia	Canada	China	Korea	Qatar	British Virgin Islands	Brasil	Mexico	Singapore	Bahamas	Japan	Others	Share of all firms with foreign UBO
Austria	1							1	1		1			0.016
Belgium	3													0.012
Bulgaria	2						2		1					0.019
Cyprus	3	5					1				1		3	0.051
Czech Republic					1									0.004
Germany	1													0.004
Denmark	4											2		0.023
Estonia			1											0.004
Spain	1					2			1					0.016
Finland	4													0.016
France														0.000
United Kingdom						1				2			1	0.016
Greece														0.000
Croatia														0.000
Hungary	5		2					1					1	0.035
Ireland	10		2											0.047
Italy		2												0.008
Lithuania		1												0.004
Luxembourg	13													0.051
Latvia	1												1	0.008
Malta	2						1				1		7	0.043
Netherlands	9				1									0.039
Poland														0.000
Portugal				4										0.016
Romania													2	0.008
Sweden	1													0.004
Sovenia	1												1	0.008
Slovak Republic	1				2									0.012
Total EU28	62	8	5	4	4	3	4	2	3	2	3	2	16	0.459
Norway	3									1				
Switzerland	4					1		1						
Total EU30	69	8	5	4	4	4	4	3	3	3	3	2	16	0.498
Share of all firms with foreign UBO	0.25	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.06	

Note: Share of firms is presented in decimal fraction of the total. Other values are number of firms. Variable definitions are presented in the Appendix.

Table 6. Foreign Owned Companies

	Unlisted	Listed		
1. Foreign Total	76.00%	24.00%		
1.1. Ultimate control	98.09	48.48%		
1.2. Widely held	1.91%	51.52%		
			Ultimate control	Widely held
2. Foreign Total	76.00%	24.00%	87%	13%
2.1. Institutional	44.02%	37.88%	40.59%	55.56%
2.2. Family	34.93%	25.76%	34.73%	19.44%
2.3. State	21.05%	36.36%	24.69%	25.00%

Variable definitions are presented in the Appendix.

Table 7. Descriptive Statistics: Main Variables

	Mean	Standard Deviation
Ownership concentration	74.43	34.30
Foreign cash flow	12.58	24.00
Foreign	0.46	0.50
Foreign direct	0.36	0.48
Openness	118.26	62.78
Anti-self-dealing	0.39	0.18
Governance	64.93	16.31
Anti-self-dealing sheer distance	0.04	0.10
Governance sheer distance	0.02	0.04
Egalitarianism sheer distance	0.06	0.17
Risk averse sheer distance	0.17	0.65
LN GDP sheer distance	5.02	9.15
Ln Assets	15.72	1.72

Variable definitions are presented in the Appendix.

Table 8. Correlation

	Foreign cashflow	Foreign direct	Foreign
Openness	0.3448***	0.275***	0.4239***
Anti-self dealing index	0.1053**	0.0508	0.0757*
Governance	-0.1289***	-0.0074	0.0522
Anti-self-dealing sheer distance	0.2927***	0.3054***	0.4687***
Governance sheer distance	0.4465***	0.4218***	0.4913***
Egalitarianism sheer distance	0.4156***	0.3805***	0.4646***
Risk averse sheer distance	0.2115***	0.3356***	0.3196***
LN GDP sheer distance	0.3098***	0.4580***	0.5967***
LN (assets)	-0.1847***	-0.0744*	-0.0428
nace1	-0.0426	0.0108	-0.0152
nace2	0.0185	0.0393	0.0244
nace3	-0.0440	0.0315	0.0469
nace4	0.0375	0.0681*	0.0572
nace5	-0.1388***	-0.1660***	-0.2163***
nace6	-0.0647	-0.0976**	-0.0936**
nace7	-0.0086	0.1217	0.1342***
nace8	0.1538***	0.0792*	0.0469
nace9	-0.0910**	-0.1319	-0.1226***
nace10	-0.0907**	-0.1255	-0.1465***
nace11	0.0987**	0.1073	0.1177***
nace12	0.0720*	-0.0120	0.0460
nace13	0.0030	-0.0434	-0.0675*
nace14	-0.0195	-0.0120	-0.0173
nace15	0.0677*	0.0481	0.1771***
naceother	0.0393	0.1023	0.0535

Notes: *** Significant at 1%

** Significant at 5%

* Significant at 10%

Variable definitions are presented in the Appendix.

Table 9. Determinants of Foreign Ownership

Directforeign	Probit		Xtprobit		Probit		Xtprobit		Probit		Xtprobit	
	Coeff	z	Coeff	z	Coeff	z	Coeff	z	Coeff	z	Coeff	z
Openness	0.01	3.42	0.01	4.14	0.01	2.99	0.01	3.70	0.01	2.06	0.01	1.38
Anti-self dealing	0.80	1.98	0.79	1.67	0.77	1.76	0.81	1.37	2.19	2.08	2.19	1.96
Governance	-0.01	-1.71	-0.01	-1.54	-0.01	-1.76	-0.01	-1.68	0.01	0.43	0.01	0.41
Assets	0.01	0.12	0.00	0.03	0.02	0.19	0.00	-0.04	-0.22	-1.00	-0.22	-1.07
nace1	0.41	1.37	0.39	0.86	0.70	1.70	0.61	1.26			-7.89	-0.00
nace2	0.60	1.33	0.61	1.37	0.52	1.01	0.53	1.13			7.30	0.00
nace3	0.23	0.56	0.27	0.58	0.11	0.24	0.17	0.32			7.36	0.00
nace4	0.52	1.08	0.55	1.16	0.60	1.27	0.68	1.36				
nace5	-0.43	-1.93	-0.41	-1.53	-0.42	-1.72	-0.41	-1.43			7.31	0.00
nace6			-5.99	-0.00			-5.84	-0.01			-6.86	-0.00
nace7	0.67	1.91	0.70	1.70	0.75	2.20	0.83	1.86			5.91	0.00
nace8	0.22	0.49	0.22	0.44	0.16	0.31	0.17	0.30			5.48	0.00
nace9			-5.98	-0.01			-5.84	-0.01				
nace10			-6.03	-0.00			-5.85	-0.01				
nace11	0.68	2.04	0.77	2.29	0.93	2.45	1.07	2.96			-7.85	-0.00
nace12	-0.11	-0.43	-0.09	-0.34	-0.05	-0.15	-0.04	-0.12	-0.70	-1.61	-0.70	-1.06
nace13			-5.79	-0.00			-5.67	-0.00			-7.23	-0.00
nace14	-0.23	-0.83	-0.19	-0.80	-0.22	-0.66	-0.18	-0.66	-0.87	-1.36	-0.87	-1.42
nace15	-1.28	-1.43	-1.05	-1.82	-1.21	-1.25	-0.80	-1.23	-2.80	-2.51	-2.80	-1.82
Naceother												
Contstant	-1.11	-0.93	-0.98	-0.98	-1.23	-0.91	-0.87	-0.73	1.71	0.52	1.71	0.55
Log pseudolikelihood	-202.83		-202.40		-170.19		-169.01		-20.14		-20.14	
R-square												
Observations	355		400		308		351		39		49	
Sample	Total				UBO				Widely held			

Note: Variable definitions are presented in the Appendix.

Table 10. Ultimate Foreign Control by Countries

Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]		Ha: diff < 0
Non-US	204	33.42451	2.150704	30.71819	29.18393	37.66509	Pr(T < t) = 1.0000
US	69	10.00801	1.555597	12.92176	6.90386	13.11215	Ha: diff != 0
combined	273	27.50605	1.764445	29.15341	24.03235	30.97976	Pr(T > t) = 0.0000

diff		23.4165	3.810701		15.91416	30.91885	Ha: diff > 0
							Pr(T > t) = 0.0000
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]		Ha: diff < 0
Non-DE	249	26.27413	1.799786	28.40014	22.72931	29.81894	Pr(T < t) = 0.0121
DE	24	40.28728	6.974497	34.16792	25.85943	54.71512	Ha: diff != 0
combined	273	27.50605	1.764445	29.15341	24.03235	30.97976	Pr(T > t) = 0.0242

diff		-14.01315	6.184287		-26.1885	-1.837795	Ha: diff > 0
							Pr(T > t) = 0.9879
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]		Ha: diff < 0
Non-FR	249	27.53368	1.869732	29.50387	23.8511	31.21626	Pr(T < t) = 0.5201
FR	24	27.21942	5.264359	25.78998	16.32926	38.10958	Ha: diff != 0
combined	273	27.50605	1.764445	29.15341	24.03235	30.97976	Pr(T > t) = 0.9599

diff		.3142591	6.242567		-11.97583	12.60435	Ha: diff > 0
							Pr(T > t) = 0.4799
Group	Obs	Mean	Std. Err.	Std. Dev.	[95% Conf. Interval]		Ha: diff < 0
Non-UK	255	27.80008	1.860331	29.7071	24.13644	31.46372	Pr(T < t) = 0.7342
UK	18	23.34067	4.674487	19.83217	13.47836	33.20297	Ha: diff != 0
combined	273	27.50605	1.764445	29.15341	24.03235	30.97976	Pr(T > t) = 0.5315

diff		4.459412	7.117868		-9.553935	18.47276	Ha: diff > 0
							Pr(T > t) = 0.2658

Note: Variable definitions are presented in the Appendix.

Table 11. Distance and Ultimate Foreign Control

Regress foreigncashflow		Coeff	t										
Egalitarian	sheer distance	41.19	3.03									13.57	1.67
Governance	sheer distance			216.76	5.15							140.69	2.05
Anti-self dealing	sheer distance					61.04	3.81					9.14	0.60
Risk averse	sheer distance							3.82	1.46			0.95	1.11
LN GDP	sheer distance									0.70	3.82	0.21	1.10
Assets		-1.52	-2.25	-1.55	0.07	-2.69	-2.81	-1.12	-1.79	-2.50	-2.56	-0.77	-1.33
nace1		-21.92	-1.18	-6.12	-0.64	-3.90	-0.37	4.43	1.33	-1.48	-0.15	-22.30	-0.93
nace2		-23.38	-1.21	-0.53	-0.05	2.15	0.18	1.98	0.88	2.27	0.21	-23.66	-1.03
nace3		-25.19	-1.37	-7.82	-0.83	-9.72	-0.91	4.54	3.73	-6.81	-0.69	-23.58	-1.01
nace4		-9.23	-0.48	3.77	0.38	8.02	0.75	15.80	2.39	7.07	0.71	-10.11	-0.41
nace5		-25.19	-1.41	-10.12	-1.10	-7.56	-0.74	1.18	0.82	-7.55	-0.80	-23.69	-1.01
nace6		-24.52	-1.33	-11.29	-1.19	-10.10	-0.97			-10.18	-1.07	-22.32	-0.95
nace7		-15.99	-0.94	-5.19	-0.55	-1.89	-0.18	10.09	2.89	-2.91	-0.29	-15.86	-0.75
nace8				17.23	1.04	16.78	1.01	30.24	2.40	20.79	1.32		
nace9		-26.52	-1.43	-14.86	-1.48	-12.60	-1.23	-1.45	-2.81	-11.64	-1.24	-25.00	-1.06
nace10		-22.89	-1.24	-10.56	-1.13	-9.13	-0.92	-1.18	-1.16	-9.09	-1.00	-22.35	-0.97
nace11		-11.71	-0.63	-1.49	-0.14	10.36	0.92	17.73	3.08	9.48	0.87	-13.36	-0.55
nace12		-17.99	-1.02	0.96	0.09	4.68	0.38	7.04	4.44	4.69	0.43	-18.45	-0.83
nace13		-10.57	-0.41					-1.99	-1.85			-24.09	-1.07
nace14		-17.42	-0.93	-0.90	-0.09	2.14	0.20	8.39	2.41	2.09	0.21	-17.88	-0.75
nace15		-18.22	-0.98	9.75	0.92	1.17	0.10	16.09	5.91	-0.76	-0.06	-21.11	-0.87
naceother		-16.31	-0.89	-0.43	-0.05	1.43	0.14	6.60	5.09	0.82	0.08	-20.20	-0.87
Contstant		48.97	2.34	34.69	2.16	51.90	2.82	18.54	1.88	48.08	2.67	35.30	1.62
R square		0.26		0.27		0.18		0.16		0.19		0.28	
No observations		415.00		597.00		595.00		479.00		597.00		356	
Sample		Total		Total		Total		Total		Total		Total	

Note: Variable definitions are presented in the Appendix.

