Corporate Mobility Comes to Europe: The Evidence

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Abstract

This paper is the first empirical study of corporate mobility within the European Union (EU) in the wake of the *Centros, Überseering and Inspire Art* rulings of the European Court of Justice (ECJ) concerning the freedom of establishment of firms. Using data on U.K. companies from 1997 to 2005 we find a large increase in new incorporations of limited liability firms in the United Kingdom from other EU Member States. The increase is abrupt and clearly associated with the ECJ rulings. The analysis shows that corporate mobility is driven by total incorporation cost, suggesting that the price elasticity of incorporation is large. Additionally, we find evidence of regulatory competition between Member States which in turn seems to be triggered by corporate mobility. The evidence suggests that the ECJ has triggered a race between EU Member States to provide low-cost company law for limited liability companies.

Key words: Corporate mobility, financial regulation, private limited company, regulatory competition

JEL Classifications: G38, K22

1 Introduction

The *Centros*[1], *Überseering*[2] and *Inspire Arts*[3] decisions of the European Court of Justice have caused considerable excitement and a scholarly article glut, especially in Germany.[4] The legal debate has focused on the effectiveness of the Courts' decisions in repealing the legal seat doctrine[5] and the practical consequences, in particular the potential for regulatory competition in company law within the European Union. At the same time there has been renewed interest in the competition for corporate charters debate in the United States resulting in comment and speculation on both sides of the Atlantic.[6]

There seems to be broad consensus among legal scholars that the decisions of the Court have firmly established the right to choose the legal seat of a company within the European Union, irrespective of the geographic location of its directors, owners or real activities. However, there is no consensus as to what the practical consequences of this will be. While some authors predict that companies from other EU Member States will move their legal seat to the U.K., others have argued that there will be no measurable impact of the European Courts' decisions.

To our knowledge this is the first attempt to resolve this debate by measuring the impact of the ECJ's decisions empirically. We do this by looking at legal migration from all EU25 Member States to the United Kingdom. We put special emphasis on Germany, the country that received most attention in the comparative legal literature.

We find that the impact of Centros is large, even by conservative estimates. We estimate that between the end of 2002 and 2005 over 44,000 new U.K. Limited companies will have been set up from other Member States and over 20,000 from Germany alone. Comparing the pre-Centros (1997-1999) and post-Centros (2002-2004) periods, the incorporation rates of private U.K. Limited companies with a majority of directors from other EU Member States have gone up 8.4 times (840%). The largest increases can be observed for U.K. private limited companies set up from Austria (620%), Poland (690%), Denmark (790%) and Germany (1350%). Using a difference in medians test, seventeen of the twenty-

[1] Case C-212/97, Centros Ltd. v. Erhvervs- og Selskabsstyrelsen, decision of 3/9/1999, E.C.R. I-1459 (1999).
[2] Case C-208/00, Überseering B.V. v. Nordic Construction Company Baumanagement GmbH (NCC), decision of 11/5/2002, referred to the ECJ by the German Bundesgerichtshof (BGH), Resolution of 3/30/2000.
[3] Case C-167/01, Kamer van Koophandel en Fabrieken voor Amsterdam v. Inspire Art Ltd., decision of 9/30/2003.
[4] For a recent overview see Kieninger (2005).
[5] See, for example, Baelz and Baldwin (2002).
[6] Drury (2005) takes a Centros based "European look" at the U.S. experience. Kamar (2005) argues the case against regulatory competition in Europe from a U.S. perspective.

four increases are statistically significant at the 5% level. Most of the new foreign Limited companies are small, having only one or two directors. The migration effect is confined to new incorporations and private limited companies. We found no evidence that post-Centros residents of other EU Member States have been setting up more public limited companies in the U.K. than has been the case in the past.

Moving beyond the descriptive analysis, we provide evidence on the drivers of this new incorporation trend. Using a simple cross-section regression model we show that most of the variation in the pre- and post-Centros change in legal migration rates is explained by the total setup cost for new companies. Small differences in setup cost have a surprisingly large effect on what company law new companies will choose. Legal uncertainly – at least initially – language barriers and strong enforcement of disclosure standards are no deterrents to large numbers of entrepreneurs choosing the U.K. private limited over more expensive limited liability company vehicles in other EU Member States.

In the German case, a factor that has contributed enormously to the popularity of the U.K. Limited is, no doubt, the existence of aggressive registration agents that have created a Limited culture through web-sites, "how to" books, trade seminars, press and television coverage. The agents allow German entrepreneurs to take advantage of the U.K. cost advantage at relatively low fees.[7]

Germany is responding to the U.K. limited challenge: both major political parties have plans to reform German company law to allow founders to set up companies under German law on U.K. limited terms. Clearly Germany is not seeking to prop up its federal budget by generating revenue from incorporation fees, as has been alleged for Delaware. German politicians from all parties have recognized that German corporate law does not offer all the vehicles German entrepreneurs would like to use. Instead of forcing German entrepreneurs to use corporate vehicles from other EU Member States and pay a fee to intermediaries, they want to reform German company law and offer the same instruments at home – free of charge.

2 Theory

The issue of corporate mobility has attracted the attention of law and economics scholars for a long time, particularly in the United States. The theoretical aspects are well

[7] The agent market in Germany is relatively concentrated, but entry costs are low and there are no formal barriers to entry. A full incorporation package from one of the market leaders is currently available for Euro 602 plus VAT (www.limited4you.de).

known and have been set out repeatedly in the existing literature. This section sketches the theory and links it to our empirical analysis.

In its simplest form, corporate mobility theory has its roots in spatial competition models found in the industrial organization literature. Law producers (countries, states) are treated like Hotelling firms that produce laws in fixed locations. Firms are Hotelling consumers, but instead of consuming ice-cream on a beach they consume corporate law. Producers of law cannot freely choose their location; their location and "sales territory" is set exogenously by history. Although producers of law cannot move, consumers of laws might be able to, but not always.

In its more sophisticated form, corporate mobility theory takes into account agency and contract theory. Firms have multiple constituencies with different interest and powers. Law producers will cater to different corporate interests. In a standard contract theoretic model with managers and shareholders, ex-ante managers will have an interest to incorporate in the jurisdiction that affords the strongest protection to shareholders. Ex-post managers will have an incentive to move the firm to a jurisdiction that caters to them, not to shareholders.[8] Adding creditors and/or employees as an additional constituency further complicates the analysis. Allowing states to change the type of law that is "on offer" endogenously introduces a political economy dimension.

In legal terms, under the incorporation doctrine firms can freely choose which laws they wish to "consume", no matter where they live.[9] Under the real seat doctrine firms must "purchase" the law at the geographic location of their first residence.[10] Under the pseudo-incorporation doctrine, firms are allowed to purchase corporate law away from their first residence, but they are not allowed to operate on the territory of their local law producer - unless they comply with local provisions.[11]

The proponents of the incorporation doctrine argue that it allows consumers (firms) more choice, stimulates healthy competition between law producers and thereby enhances welfare. The opponents argue that there are economies of scale and externalities in corporate law production, leading to natural monopolies and other forms of market failure.[12] The skeptics argue that in the European context the differences between the legal "products" are

[8] For a formal analysis of this type see Fluck and Mayer (2005).
[9] This doctrine is applied by the United Kingdom, Ireland and most U.S. states.
[10] Prior to the ECJ judgements this doctrine was applied by Germany and most other EU countries.
[11] Typical examples for this arrangement are Dutch law prior to the ECJ judgements and the pseudo-corporation statutes of New York and California (Kersting 2002)
[12] There are also political economy arguments.

too small and "transportation cost" too high to make it worth-while consuming corporate law at remote locations and in foreign languages.

3 Empirical Methodology

The European Court of Justice decisions have provided us with a unique opportunity to test these theories empirically. The Court has exogenously moved the European Union from a mixture of real seat, incorporation and pseudo-incorporation models to the incorporation model. In terms of the simple theory, a substantial number of European corporate law producers have lost their local monopolies. Firms have a larger choice set and face a new set of relative prices. Spatial competition theory predicts that firms will adjust their "consumption" and we should observe a change in "legal migration" rates. If the sceptics are right, corporate (consumer) behaviour should be unchanged.

If we observe an ECJ induced reaction on the "demand side" ("legal migration"), spatial competition theory predicts that we see a reaction on the "supply side". The producers of corporate law loosing a substantial number of "customers" (firms and/or incorporations) should revise their laws as a result of the new, competitive environment.

The ECJ experiment is ideal because it came as a surprise and was largely exogenous. However, the ECJ only established corporate mobility (consumer choice) for private firms (Limited, GmbH, SRL) and for new incorporations.[13] The situation for public firms (Plc, AG, SA) is unclear. Established companies continue under the pre-Centros regime. If corporate mobility theory applies we expect to see a change in new incorporations when we observe price differences between different company law producers, but no change in "legal mobility" rates for existing companies.

We begin our investigation by defining what constitutes the nationality of a firm and to devise an empirical measure of "legal migration". What is a German, a Dutch, an Austrian or a Maltese company? Under the legal seat doctrine, a "German company" is a company that has its directors and owners residing in Germany, its main centre of activity in Germany and is therefore obliged to adopt a German legal form. If such a company is a private limited, we shall simply call it a "GmbH". In contrast, we define a "German Limited" as a company that has its directors and owners residing in Germany, its main centre of activity in Germany but has incorporated in the United Kingdom as a private limited company.

[13] The ECJ judgments only established the "move in", but not the "move out" principle. In terms of our beach-model, the firm can freely choose where to consume law, where to live and where to work ("move in"), but the consumer cannot switch the supplier of law independently from where the consumer lives and works ("move out"). In practice the incorporation doctrine only applies to new incorporation, not to reincorporation.

To measure the effect of the ECJ's rejection of the legal seat doctrine on the rate of "legal migration" from Germany to the U.K., ideally we would like to identify all "German Limited" companies, under the strict definition above. Unfortunately, this is not entirely possible and we must use a broader definition of "Germany Limited". Empirically we are able to identify U.K. Limited companies that have one, a majority or all directors residing in other EU25 countries, but we are unable to confirm directly that they have their main centre of activity in these countries (outside the U.K.).[14] Hence, we identify the nationality of firms via the place of residence of the firms' directors. If the majority of the directors of a firm – excluding the company secretary – live in a country other than the U.K., we define the company as being from that country.[15]

Indeed, looking at individual examples of "Germany Limited" companies the broader director based definition might be more appropriate that the narrower definition. An illustrative example for the narrow definition is the Munich provider of a classic non-tradable service – haircuts. *Munich Stylist Limited* is a local Munich hairdressing salon that incorporated in the United Kingdom on 01/12/2003 and has the U.K. company register number 04980253 (Current Appointments Report created on 14/04/2005).[16] The company has one director, Mrs. Irene Stöger, residing in Karlsfeld, Bavaria. The company has a U.K. company secretary, L24 CO SEC Limited. The registered office of Munich Stylist Limited is located at 59 Greenside Avenue in Huddersfield, one of the addresses used by German registration agents.[17] Under the directors' place of residence definition we are able to identify *Munich Stylist Limited* as a German Limited.

We can also identify producers of tradable goods who have their real seat in Germany but whose activities are not confined to Germany. For example, *Aktivplus Limited* is "the producer of Soymilk and vegan milk machines with the Europe biggest model choice" (www.aktivplus.org). The company maintains a web-site in five languages but its operational base is Munich. *Aktivplus Limited* sells its products under German law. The *Aktivplus Limited*

[14] As we shall see, most of the legal migrants we can identify directly are small and only the most rudimentary information is available about them in the U.K. For subsidiaries and branches more information is available, but this information only becomes available with a two year delay after incorporation and, more importantly, does not include a regional breakdown of sales, or other geographic information.

[15] To facilitate understanding the nationality and corporate form of companies under consideration, throughout the paper we refer to Ltds and Plcs incorporated in the U.K. and identified as being of U.K. nationality as *domestic* Ltds and Plcs, whereas we refer to Ltds and Plcs incorporated in the U.K. and identified as being of non-U.K. nationality as *foreign* Ltds and Plcs. Limited liability firms incorporated in countries outside the U.K. are referred to with their common abbreviation, such as GmbHs in Germany.

[16] Munich Stylist Limited was featured in an article in the weekly *Der Spiegel* that drew broad attention to the legal migration phenomenon.

[17] Registration agents play a very important role in facilitating corporate mobility and we devote a separate section to them in the empirical analysis.

registered office is located at 39/40 Calthorpe Road in Birmingham, along with thousands of other German Limited companies. The company secretary of *Aktivplus Limited* is Go Ahead Services Limited, another German Limited and the market leader in the German registration market.[18] *Aktivplus Limited* has one director, Helmut Steiger, residing at Bauerstrasse in Munich. Again, under the directors' place of residence definition we are able to identify *Aktivplus Limited* as a German Limited.

The main drawback of the directors' place of residence definition is that we are unable to make a direct distinction between the "German Limited" of the *Munich Stylist Limited* or *Aktivplus* variety and the U.K. subsidiaries of GmbHs or AGs. In practice this imperfection has no practical consequences for our results. For each non-U.K. EU25 countries we construct a time-series of "legal migration" rates to the U.K. 1997-2005. We then proceed to comparing the migration rates for the pre- and the post-Centros period. If the rate of subsidiary and branch formation in the U.K. has been constant over time, subsidiary formation cancels out in the pre- and post-Centros migration rate comparison. Also, close inspection of individual cases suggests that subsidiaries of EU companies from outside the U.K. in the U.K. have much larger boards of directors than the Centros companies we are looking for. The majority of directors of these operational companies usually live in the U.K., which makes them fall through our grid. Furthermore, for Germany we have direct evidence from registration agents that confirms this observation.[19] We return to these issues in our discussion of the empirical results.

4 Data

All limited companies in the U.K. are registered at Companies House, an executive agency of the U.K. government.[20] Companies House incorporates and dissolves limited companies and stores information filed by these companies under U.K. law. Companies House is also responsible for enforcing these filing requirements. Companies House disseminates company information itself, but also supplies data to commercial vendors.

The data distributed by Companies House is typically document download driven and not directly usable for statistical analysis. This gap is filled by Jordans, a commercial data vendor in Bristol. Jordans transform a large portion of the raw Companies House data into

[18] The agent's German homepage is http://www.go-limited.de (also reachable under the alias http://www.tschuess-deutschland.de/).

[19] For Germany we have a direct measure of "German Limited" formation based on the activities of German registration agents in the U.K. that confirms this assumption. We assume that this result holds for other EU25 countries as well.

[20] See http://www.companieshouse.gov.uk/.

machine readable format. The Jordans data is further processed and distributed by Bureau van Dijk in Brussels through its FAME database and related products. We rely on the FAME database, the most comprehensive version of the database containing an unbalanced panel of all limited liability that are or were registered at Companies House.[21]

We use the FAME database[22] to export data for all firms with limited liability that were newly incorporated in the United Kingdom including England, Northern Ireland, Scotland, Wales, (the Channel Islands and the Isle of Man) between 1997 and the end of the first quarter of 2005. In total there are 1,854,390 million new incorporations over this period recorded on FAME, of which 1,846,534 million were private limited liability companies (*Ltd*s) and 7856 public limited liability companies (*Plc*s).

We export complete information on the company name, the company address, the name and home address of each director, the name and home address of the company secretary, the incorporation date and the current status of the company (alive/dormant/dead). When available, we also exported the issued capital in the year of incorporation.[23]

To compare the significance new incorporations in the U.K. to incorporations of limited companies "at home" we also collected data on incorporations of limited liability companies in other EU Member States. We use company formation data for Denmark, Finland, Italy, Luxembourg, the Netherlands, Portugal, Spain and Sweden from *Business Demography in Europe* (Eurostat 2004) and yearly publications of the Federal Statistical Office for Germany.

We also collect information about minimum capital requirements, typical setup cost and typical setup time for the EU 25 countries from law firms, the EVCA (2004) European business environment study and relevant Web-pages.

5 Evidence

[21] The FAME panel becomes more unbalanced the further one goes back in time. For 1999-2004 the degree of underreporting of new incorporations in FAME compared to the official statistics on new incorporations reported by Companies House (Companies House 2005, pg. 34) decreased from -49.6% in 1999, over -37.2% in 2000, -33.1% in 2001, -20.7% in 2002 to an overrepresentation in 2003 and 2004 (-1.6% and -2.1% respectively). Underreporting is a problem and might have a significant impact on the change in the legal migration rates we estimate. We discuss this problem in further detail below.

[22] Release 190, April 2005

[23] Before turning to FAME we inspected the incorporation forms companies must file with Companies House. These contain some additional information we would have like to use, in particular a description of the company's field of activity and the nationality each directors. Unfortunately the relevant fields in FAME were almost empty and had to discard these variables from our analysis. We assume that Jordans do not transcribe this information because it is not very important for the average FAME user and/or the information is not always supplied to Companies House.

We begin the analysis by reporting the number of foreign firms that incorporated in the U.K. between 1997 and 2005 for each EU Member States. We do this for *Ltd*s and *Plc*s. Next, we compare incorporation rates in the pre- and post Centros periods by country of origin. We also compare the number of limited liability companies incorporating in the U.K. to the number of limited liability incorporations in the home country during the same period. We also document how board size and capital structure of newly incorporate companies has changed over time. We conclude the analysis by looking at potential drivers and catalysts of corporate mobility.

5.1 Legal Migration Pre- and Post-Centros

We begin the analysis by reporting the raw number of limited liability companies on FAME that were newly incorporated in the U.K. between 1997 and 2005 by EU Member States.[24] As defined in Section **Error! Reference source not found.** we consider a company to originate from a particular Member State if the majority of directors reside in that Member State. Throughout we report the results for the EU15 and the 10 Accession Countries that effectively joined the Union on 1 May 2004.[25] The accession process has given entrepreneurs living in these countries the freedom to incorporate in the United Kingdon, under the rules established by the European Court of Justice.

Table 2 shows that *Plc*s are not subject to corporate mobility. The number of public limited companies incorporating in the United Kingdom from any other EU Member State is extremeley low and it does not change over time. We will return to this result when we discuss the drivers of corporate mobility.[26]

In contrast, Table 3 shows that private limited exhibit a high degree of corporate mobility. Private limited companies from other Member States are incorporated in the U.K. in large numbers, with pronounced yearly increases mostly from 2002 onwards. Absolute numbers are largest for Germany, the Netherlands and France. For example, in 1997 only 300 German *Ltd*s were incorporated in the U.K., rising to 950 in 2002 and sharply increasing to

[24] The annual figures for 2005 are a crude estimate from a linear extrapolation of the first quarter.

[25] The ten accession countries are the Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia. The accession treaty was signed in Athens on 16 April, 2003.

[26] One explanation could be that the ECJ decisions were taken for private limited companies and that there is legal uncertainty if the incorporation doctrine fully applies to public limited companies. An second explanation could be that the United Kingdom is not a very attractive place for incorporating a public limited company. Mininimum capital requirements are very high compared to other countries, making Cyprus or Luxembourg are more cost effective place of incorproation (Table 9, Panel B). Unfortunately we cannot test this proposition because we do not have incorporation time series for these countries.

2900 in 2003 and 9800 in 2004. In contrast, while absolute numbers in France are high, the increase is much less pronounced and numbers of newly incorporated firms are falling after 2003. As we explain in more detail later, France as well as Spain undertook reforms of their private limited company acts in 2003. The dampened growth in the incorporation flow from these companies to the U.K. may therefore be evidence of the effects of regulatory competition, a hypothesis we address later.

Table 4 reports the impact of the exogenous switch from the mixed real seat/pseudo-incorporation/incorporation regime to a pure incorporation regime caused by the ECJ rulings. Column 1 shows that for 17 out of 24 countries the numbers of newly incorporated *Ltd*s from that country increase by 100 percent or more, the highest percentage growth being in Germany (2200 percent), Austria (1300 percent), Latvia (900 percent), Estonia and Slovakia (both 700 percent). The following columns address the question whether these large increases are attributable to changes in regulation. For this we break down the sample into two time periods, the 1997-2000 and the 2002-2005 period, excluding the year 2001. We do this since the ECJ's Centros ruling in 1999 left many questions unanswered, for example whether the ruling would similarly apply to a company incorporated in Germany, a country that followed the real seat theory. With the ECJ's stance towards corporate mobility confirmed in the Überseering ruling in 2002 however, we would assume that entrepeneurs and investors were assured that incorporating companies in one EU country while operating in another would not consequently be declared illegal by national courts. We would therefore expect a regulation effect on corporate mobility from the year 2002 onwards.

Columns 2 and 3 report total numbers of newly incorporated *Ltd*s before and after the regulation change, columns 4 and 5 show yearly averages of newly incorporated *Ltd*s before and after the regulation change. As the reported t-statistics show, 15 out of 24 Member States show significant increases of mean yearly incorporations of *Ltd*s following the ECJ rulings. Column 7 reports a growth ratio of yearly averages prior and post the ECJ rulings which is larger than 1 if average incorporations of *Ltd*s increased following the ECJ rulings. For 23 out of the 24 Member Countries the ratio is larger than one, a *t*-test rejects the hypothesis of a cross-country mean ratio of 1 with a *p*-value smaller than 0.001. We conclude that there is a significant effect of regulation on corporate mobility of foreign *Ltd*s.

5.2 Foreign versus Home Incorporations

In order to put the numbers into perspective, we compare the number foreign *Ltd*s incorporating in the U.K. with the general incorporation activity in the U.K. and with the incorporation of limited liability companies in the countries of origin.[27]

In Panel A of Table 5 we report market shares of foreign firms in total incorporations within the U.K. for *Plc*s and *Ltd*s. As the numbers for *Plc*s show, although the absolute number of foreign *Plc*s is relatively low (between 9 and 27 cases per year between 1997 and 2004), they still account for between 1.4 and 2.8 percent per year of all newly incorporated *Plc*s in the U.K. Absolute numbers of domestic and foreign *Ltd*s are much larger, as 113,000 *Ltd*s were incorporated in the U.K. in 1997, gradually rising to 389,000 incorporations in 2003. Of these, foreign firms constitute between 1.9 percent in 1997 and 4.9 percent in 2004, percentages similar to *Plc*s, foreign *Ltd*s however follow a consistent growth pattern as compared to *Plc*s. Between 1997 and 2005 over 60,000 foreign *Ltd*s have been incorporated in the U.K., accounting for three percent of all *Ltd*s.

Panel B reports the market share of German *Ltd*s for GmbH firms in Germany from national trade register statistics from the Federal Statistical Office Germany.[28] German *Ltd*s show a dramatic increase as a percentage of all newly incorporated private limited liability firms (GmbHs and German *Ltd*s combined), as German *Ltd*s account for only 0.3 percent of all new incorporations in 1997, rising to 10.5 percent in 2004. Panel C shows that similar trends exist in other Member Countries such as Luxembourg, the Netherlands and Sweden, although not on a comparable level to Germany.

Figure 1 shows the effect of firm outflows to the U.K. in Germany. The figure shows German *Ltd*s newly incorporated in the U.K. (left axis) and GmbHs newly incorporated in Germany (right axis) as percentages of the total stock of existing GmbHs in Germany. The plot shows a strong downward trend in new GmbHs and a strong upward trend in new German *Ltd*s.[29]

[27] Cross-country comparisons of incorporation activities are not straightforward due to differing reporting and counting approaches between countries, for example data from Companies House for the U.K. are not readily comparable with incorporation data reported by the Federal Statistical Office Germany.

[28] A direct comparison would be a national business register which however does not exist in Germany. The closest substitute is the trade register, where every trade, i.e. commercial activity excluding agriculture and certain professionals in private business such as doctors, lawyers or artists must be registered. The trade register overstates newly incorporated firms as i) firms may register but not actually begin operations and companies may have previously existed and ii) firms may have previously existed but re-registered as required after changes of legal form, sale, moving operations, takeovers and similar activities.

[29] The plot compares limited liability companies in Germany to limited liability companies in the U.K., but it would be wrong to conclude that German limited companies are crowding out new incorporations of GmbH,

5.3 The Driver of Corporate Mobility : Incorporation Cost

In this section we test the hypothesis whether corporate mobility is driven by minimum capital requirements. Table 9 reports minimum capital requirements for *Ltd*s and *Plc*s for the 25 EU states and shows the significant variation that exists between countries.

We define the following components of total capital required to set up a private limited liability firm: minimum capital, paid-up capital (the amount of capital that must be paid up upon registration of the company), setup costs (the upper bound of normal setup costs from taxes, duties and notary fees as reported in EVCA (2004)) and total setup money (minimum capital plus setup costs). On these variables we regress two versions of a growth measure of the outflow of *Ltd*s from the 24 EU Member States to the U.K.. The first growth measure is the mean number of yearly incorporations from 2002-2005 divided by the mean number of yearly incorporations from 1997-2000, calculated for every member state. The second growth measure is identical except for median numbers of yearly incorporations are used. Both measures are therefore similar to the growth ratio of the outflow of companies in Column 7 of Table 4.

Table 10 reports the OLS regression results with robust standard errors. All four measures of required capital to set up a private limited company are positive and significantly different from zero at the 10 percent level or better. Although minimum capital in model (I) and paid-up capital in model (II) have similar coefficient estimates, minimum capital requirements explain more of the increase in exported companies as model (I) has an R-squared of 0.23 (0.28) using the mean (median) growth ratio, while model (II) has a lower R-squared of 0.15 (0.18) using the mean (median) growth ratio. Model (III) has the lowest R-squared and model (IV) which includes total setup money has the highest R-squared and explains 30 (37) percent of the variation in the mean (median) growth ratio. These results are not spurious as we perform similar regressions (not reported) using as dependent variables the upper bound of the time in days usually required for the incorporation process, the quality of bankruptcy regulation, taxation and scorecard results of the attractiveness of the

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as some of the more aggressive registration agents in Germany like to suggest. It is likely that the individuals incorporating in the U.K. using a private limited would have traded in Germany using an unlimited liability company. Limited liability has a lower price in the U.K., which makes it more affordable. Conversely, we cannot rule out that there is some crowding out of GmbH incorporations by German Limited incorporations.

entrepreneurial environment in the 18 Member States surveyed in EVCA (2004) but never find parameter estimates which are significantly different from zero.

The evidence therefore shows that i) minimum capital requirements in the 24 EU Member Countries determine the growth of numbers of new *Ltd*s from that country incorporated in the U.K., ii) setup costs are less important than minimum capital requirements and iii) the total capital required to set up a private limited company in a EU Member State best explains the outflow of companies from that state to the U.K. where the higher the setup costs are, the more companies incorporate in the U.K.

5.4 The Catalysts of Corporate Mobility : Incorporation Agents

Company and registration agents play an important role in the incorporation process in the U.K. This is even more pronounced for firms from outside the U.K regarding issues arising from incorporation and maintenance of the company. We use name and address clustering to identify agents and document for Germany how pervasive the use of agents is and how robust the criterion of identifying a German company via its use of an agent as company secretary is. To do this we identify clusters of director names among German *Ltd*s on a German level and on the EU level, i.e. if any director appears frequently in the basic population or the German subpopulation *Ltd*s, we classify this director as an agent.

Company agents and registration agents play an important role in the incorporation process in the U.K. for firms from outside the U.K. The incorporation and maintenance of a company poses legal and operational obstacles, which are facilitated by these agents. Fees and ranges of services are highly variable.

Identifying agents is not straightforward. Keyword searches in director names is not helpful as though we do have a list available of German agents (17 agents and their websites), these agents usually do not provide names of the companies or individuals they are using as company secretaries. With very few exceptions, we cannot therefore tell from the name of a company secretary whether it is an agent or not.

We therefore use a different approach and search for clusters among directors in FAME. Agents are identified by director name clustering, where clusters are formed by the number of times directors appear in any private limited company between 1997 and the end of March 2005 in FAME. We include all director positions in this search, not just company secretary positions, as agents are not necessarily functioning as company secretaries, and may instead by directors of the company when the firm is set up and then later be replaced by the actual directors. For example, the registration agent *Company Directors Limited* participated in the setting up of over 75,000 private limited companies between 1997 and 2004, but is company secretary only in 91 cases. On the other hand, the German agent *Go Ahead* for over 4400 firms exclusively functions as company secretary, never as director. We use two clustering approaches. First, agents are identified by director name clustering, where a cluster is formed for any director listed at least 20 times in any private limited company with a majority of German directors. Second, agents are identified by director name clusters, where a cluster is formed for any director listed at least 100 times in any private limited company on FAME. Using this approach we identify 37 agent identities for the Germany clustering and 1,257 agents for the FAME clustering as shown in Table 8.[30] To illustrate reading the table, in 2004 there were 9,030 newly incorporated German *Ltd*s, 6,249 of which were incorporated with the help of an agent while 2,781 were not if agents are identified by address clustering among all German firms. If address clusters among all newly incorporated firms are used to identify agents, the figure of firms using agents is slightly higher (6,309) and the number of firms not using agents is slightly lower (2,721). The table shows that the bulk of firms is incorporated with the help of agents. Company and registration agents therefore are vital instruments for corporate mobility. The large increase of incorporations post-Centros is almost entirely due to firms using agents during incorporation. This confirms that our country of origin definition is accurate as small German firms not actually operating in the U.K. are most likely to require the services of an agent. Larger firms with operating activities in the U.K. are much less likely to make use of an agent. Further, we find that the market leading agent in Germany, *Go Ahead*, exclusively caters to firms that we define as German. This again confirms our country of origin definition, since U.K. companies would have no reason to utilize a German agent in the U.K.

[30] We try several other specifications such as clustering by director home addresses or postal addresses of firms as well as varying cluster sizes. Our results are very robust to variations in cluster size while other clustering variables turn out to be less well suited for identifying all agents. Agent identities do not in all cases correspond to different agents, as most agents use several companies to register as directors or corporate secretaries in the various firms.

6 Regulatory Responses

The developments we have documented have triggered a regulatory response in several Member States. In France, it is possible since 2003 to found a new form of private limited liability company (S.A.R.L) with a minimum capital of EUR 1. Similarly, the Spanish authorities have introduced a new form private limited liability company (Sociedad Limitada Nueva Empresa), which while promising a faster 48-hours standardized electronic incorporation process did not lower the minimum capital requirement of EUR 3.010.

In Germany, the Department of Justice has presented a draft for reforming legislation of private limited liability companies on 29 April 2004, that aims at lowering minimum capital from EUR 25.000 to EUR 10.000, among other measures, to make the legal form of GmbH more attractive. While execution of the reform is unclear as it has been met by parliamentary opposition, the draft clearly shows that German authorities regard lowering the minimum capital requirement as necessary for (re)gaining attractiveness of the GmbH legal form. The official motivation for the draft states that the European Court of Justice through its rulings has created interest in foreign forms of private limited companies and various Member States have reformed their limited liability company laws. It seems obvious that the Department of Justice is highly aware of regulatory competition.

7 Implications

This paper has analyzed the effects of the recent *Centros* and related rulings of the European Court of Justice (ECJ) on corporate mobility within Europe. Using data on over 1.7 million newly incorporated U.K. companies it provides evidence of a significant inflow of private limited companies from all EU Member States into the U.K.

The paper shows that the ECJ rulings have had a dramatic effect on corporate mobility, as the average number of private limited companies from all Member States incorporating in the U.K. per year has increased from 3,000 firms pre-Centros to over 25,000 firms post-Centros, an increase of over 800 percent. Between 1997 and 2005 over 60,000 of these foreign private limited companies have been incorporated in the U.K., of which Germany alone accounts for almost 23,000 firms, where aggressive marketing by registration agents continues to point out the comparative benefits of incorporation in the U.K.

What are the benefits of incorporating in the U.K. and what drives corporate mobility within Europe? We find that the minimum capital requirements specific to the individual Member States directly influence the outflow of companies from that country to the U.K. In particular, using a cross-sectional model we find that most of the variation in the change between pre- and post-Centros flows of firms from Member States to the U.K. are explained by the total setup costs for incorporating new companies, of which minimum capital requirements constitute the largest parts. The stronger enforcement and disclosure standards in the U.K. as well as potential legal uncertainty and language barriers seem to be unimportant in comparison for the large numbers of firms utilizing their complete freedom of incorporation within Europe provided by the ECJ rulings.

Further, we provide evidence of regulatory competition, as the French and Spanish authorities have responded by lowering or eliminating minimum capital requirements for private limited companies in 2003. In Germany, the government has put forward plans which similarly aim at lowering minimum capital requirements, which are currently among the highest within the EU and apparently responsible for the particularly pronounced exodus of German firms to the U.K. This race to the bottom, with regulators rushing to lower minimum capital requirements in response to the choices made by entrepreneurs seems to create agency conflicts unlike those previously regarded in the literature, where shareholder-manager conflicts have been considered. Instead, our findings of lower survival rates of Centros-driven incorporations suggest that this race to the bottom in standards of corporate legislation may give rise to agency conflicts between investors and managers on the one hand and the public interest on the other.

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Table 1. Chronology of European and German Legislation

Date	Court	Case	Content
27 Sep 1988	European Court of Justice (ECJ)	Case 81/87, The Queen v. H. M. Treasure and Commissioners of Inland Revenue, ex parte Daily Mail and General Trust plc.	Freedom of establishment has no influence on the applicability of the Member States' company law.
09 Mar 1999	ECJ	Case C-212/97, Centros Ltd. v. Erhvervs- og Selskabsstyrelsen	Centros Ltd., incorporated in the U.K., cannot be denied registration in the Danish Business Register on the grounds that the company operates entirely within Denmark and is incorporated in the U.K. only to circumvent stricter Danish incorporation requirements. ECJ rules that a branch office must be allowed to register in Denmark even if the branch amounts to the complete operation of the firm, without the firm having to incorporate in Denmark. That legal arrangement is intended to circumvent Danish minimum capital requirements is not relevant.
01 Jul 2002	Bundesgerichtshof (BGH)	II ZR 380/00	BGH for the first time rejects real seat theory in favour of incorporation theory, rules that if a foreign firm moves its real seat to Germany and is regarded as having legal capacity in the country of its incorporation, it similarly has legal capacity in Germany, however not as a private limited company but as a partnership.
05 Nov 2002	ECJ	Case C-208/00, Überseering B.V. v. Nordic Construction Company Baumanagement GmbH (NCC)	Überseering B.V., incorporated in the Netherlands, operates in Germany and is rejected as a plaintiff by German courts on the grounds that a Dutch company lacks legal capacity in Germany. BGH referred the company's appeal to the ECJ for guidance. ECJ rules that the company must not be denied legal capacity when the only possible forum is a German court.
13 Mar 2003	BGH	VII ZR 370/98	BGH confirms decision of ECJ in Case C-208/00 Überseering B.V., arguing that a company, that is protected by the EU freedom of establishment can assert ist rights before courts in Germany if it is incorporated in a different Member State.
30 Sep 2003	ECJ	Case C-167/01, Kamer von Koophandel en Fabrieken voor Amsterdam v. Inspire Art Ltd.	Inspire Art Ltd. is incorporated in the U.K., but operates in the Netherlands. The Dutch Government upholds that while the company can legally operate in the Netherlands, it must adhere to legislation in place for formally foreign companies, which among other requires that directors are personally liable if the firm has minimum capital below the minimum capital requirement for Dutch firms.

Table 2. Public limited companies newly incorporated in the U.K. by country

Yearly figures of newly incorporated public limited companies in the U.K. for the EU member countries except the U.K. are obtained from FAME. Firms satisfy the following requirements: (1) Complete company data is available on the FAME database, (2) at least one director resides in the specified country, excluding the position of company secretary. Firms are defined as being from country *x* if the majority of directors resides in country *x*. Newly incorporated firms for the year 2005 are linearly extrapolated from data for the first quarter.

Year	Austria	Belgium	Cyprus	Czech Republic	Denmark	Estonia	Finland	France
1997	0	0	1	0	0	0	1	1
1998	0	1	0	0	0	0	0	1
1999	0	1	2	0	0	0	0	2
2000	0	1	0	0	0	0	1	2
2001	0	0	0	0	0	0	0	1
2002	0	0	1	0	0	0	0	1
2003	1	1	1	0	0	0	0	2
2004	0	1	0	1	0	0	0	3
2005	0	4	0	0	0	0	0	0

Year	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg
1997	1	0	0	0	3	0	0	0
1998	2	1	0	0	1	0	0	1
1999	2	3	1	0	6	0	0	0
2000	4	0	0	1	2	0	0	0
2001	1	2	1	0	0	0	0	0
2002	1	2	0	1	2	0	0	0
2003	1	0	0	2	4	0	0	0
2004	4	3	0	0	2	0	0	0
2005	0	0	0	0	0	0	0	40

Year	Malta	Netherlands	Poland	Portugal	Slovakia	Slovenia	Spain	Sweden
1997	1	1	0	1	0	0	0	0
1998	0	1	0	1	0	0	1	0
1999	0	0	0	0	0	0	0	1
2000	0	1	0	0	0	0	4	0
2001	0	0	0	0	0	0	2	2
2002	0	1	1	0	0	0	3	3
2003	0	0	1	0	0	0	1	1
2004	0	8	1	0	0	0	4	0
2005	0	4	0	0	0	0	0	0

Table 3. Private limited companies newly incorporated in the U.K. by country

Yearly figures of newly incorporated private limited companies in the U.K. for the EU member countries except the U.K. are obtained from FAME. Data requirements and variable definitions are from Table 2. Newly incorporated firms for the year 2005 are linearly extrapolated from data for the first quarter.

Year	Austria	Belgium	Cyprus	Czech Republic	Denmark	Estonia	Finland	France
1997	26	114	190	17	68	1	17	580
1998	44	166	220	15	69	2	22	876
1999	69	203	558	25	105	4	26	942
2000	79	209	663	27	106	3	33	985
2001	90	188	585	17	233	4	23	766
2002	137	270	767	32	984	7	13	997
2003	215	305	749	53	1276	10	27	1296
2004	429	360	751	59	222	15	13	1252
2005	364	296	904	72	80	8	4	1016

Year	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg
1997	301	38	7	119	208	2	4	30
1998	392	75	13	183	266			33
1999	450	68	13	237	318	6	5	48
2000	555	61	7	181	314	7	6	49
2001	446	46	12	148	224	8	3	33
2002	949	108	9	195	285	12	13	34
2003	2871	106	23	1541	395	15	25	33
2004	9791	89	30	243	372	14	24	75
2005	6964	64	16	136	360	20	8	144

Year	Malta	Netherlands	Poland	Portugal	Slovakia	Slovenia	Spain	Sweden
1997	12	203	10	29	1	2	132	77
1998	19	242	20	33	1	1	147	155
1999	20	278	24	45	3	4	179	180
2000	22	234	13	33	4	5	198	153
2001	18	269	14	51	6	7	170	98
2002	14	502	27	32	5	8	274	186
2003	31	674	281	62	3	9	263	247
2004	20	1416	106	52	17	13	325	227
2005	24	1188	84	20	8	12	176	160

Table 4. Percentage growth of private limited companies newly incorporated in the U.K. by country

Growth rates of newly incorporated private limited companies in the U.K. for the EU member countries except the U.K. are reported for firms from Table 3. The Pre-Centros period is 1997-1999, the interim period is 2000-2001, and the post-Centros period is 2002-2004. The test statistics reported are for tests of differences in means and medians between pre- and post Centros periods. *, ** and *** denote the statistic is statistically significant different from 0 at the 1%, 5%, and 10% level, respectively.

Country	Average of newly incorporated firms per year			Median of newly incorporated firms per year			Test of means (t-stat)	Test of medians (z-stat)	Growth in incorporations	
	Pre-Centros	Interim	Post-Centros	Pre-Centros	Interim	Post-Centros			(3) / (1)	(6) / (4)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Austria	46.3	84.5	286.3	44.0	84.5	289.5	-3.00 **	2.12 **	6.2	6.6
Belgium	161.0	198.5	307.8	166.0	198.5	300.5	-4.72 ***	2.12 **	1.9	1.8
Cyprus	322.7	624.0	792.8	220.0	624.0	759.0	-4.35 ***	2.12 **	2.5	3.5
Czech Republic	19.0	22.0	54.0	17.0	22.0	56.0	-3.43 **	2.12 **	2.8	3.3
Denmark	80.7	169.5	640.5	69.0	169.5	603.0	-1.63	1.77 *	7.9	8.7
Estonia	2.3	3.5	10.0	2.0	3.5	9.0	-3.43 **	2.12 **	4.3	4.5
Finland	21.7	28.0	14.3	22.0	28.0	13.0	1.23	1.07	0.7	0.6
France	799.3	875.5	1140.3	876.0	875.5	1134.0	-2.60 **	2.12 **	1.4	1.3
Germany	381.0	500.5	5143.8	392.0	500.5	4917.5	-2.02 *	2.12 **	13.5	12.5
Greece	60.3	53.5	91.8	68.0	53.5	97.5	-2.05 *	1.41	1.5	1.4
Hungary	11.0	9.5	19.5	13.0	9.5	19.5	-1.51	1.43	1.8	1.5
Ireland	179.7	164.5	528.8	183.0	164.5	219.0	-0.87	1.06	2.9	1.2
Italy	264.0	269.0	353.0	266.0	269.0	366.0	-2.30 *	1.77 *	1.3	1.4
Latvia	2.7	7.5	15.3	2.0	7.5	14.5	-5.04 ***	2.12 **	5.7	7.3
Lithuania	3.0	4.5	17.5	4.0	4.5	18.5	-2.84 **	2.12 **	5.8	4.6
Luxembourg	37.0	41.0	71.5	33.0	41.0	54.5	-1.10	1.25	1.9	1.7
Malta	17.0	20.0	22.3	19.0	20.0	22.0	-1.11	1.25	1.3	1.2
Netherlands	241.0	251.5	945.0	242.0	251.5	931.0	-3.77 **	2.12 **	3.9	3.8
Poland	18.0	13.5	124.5	20.0	13.5	95.0	-1.64	2.12 **	6.9	4.8
Portugal	35.7	42.0	41.5	33.0	42.0	42.0	-0.49	0.35	1.2	1.3
Slovakia	1.7	5.0	8.3	1.0	5.0	6.5	-1.78	1.98 **	4.9	6.5
Slovenia	2.3	6.0	10.5	2.0	6.0	10.5	-5.14 ***	2.12 **	4.5	5.3
Spain	152.7	184.0	259.5	147.0	184.0	268.5	-2.78 **	1.77 *	1.7	1.8
Sweden	137.3	125.5	205.0	155.0	125.5	206.5	-1.94	1.77 *	1.5	1.3
Total	124.9	221.8	1048.4	124.8	154.3	435.5	-2.25 **	2.80 ***	8.4	3.5

Table 5. Fractions of newly incorporated limited liability companies in home countries

In Panel A, newly incorporated public and private limited companies are from FAME database. Foreign firms include all firms identified as having a majority of directors residing in any EU country but the U.K. Newly incorporated firms for the year 2005 are linearly extrapolated from data for the first quarter. In Panel B, newly incorporated limited liability firms are from Eurostat and the German Federal Statistical Office and include private and public limited companies registered in that country. Newly incorporated limited liability firms from that country in the U.K. are all limited liability firms from that year registered in the U.K. identified as having a majority of directors residing in that country.

Panel A: United Kingdom

Year	Public limited companies			Private limited companies		
	Newly incorporated in the UK	Foreign firms	Percent of all firms	Newly incorporated in the UK	Foreign firms	Percent of all firms
1997	591	10	1.7	113,123	2,188	1.9
1998	599	10	1.7	132,364	2,994	2.3
1999	1,115	18	1.6	145,467	3,810	2.6
2000	1,074	16	1.5	166,974	3,947	2.4
2001	666	9	1.4	164,964	3,459	2.1
2002	677	16	2.4	260,328	5,860	2.3
2003	856	15	1.8	388,931	10,510	2.7
2004	972	27	2.8	324,190	15,915	4.9
2005	1,180	48	4.1	303,580	12,128	4.0
Total	7,730	169	2.2	1,999,921	60,811	3.0

Panel B: Germany

Year	Private limited companies		
	Newly incorporated in Germany	Newly incorporated in the U.K.	German Limited as percentage of all firms
1997	96,738	301	0.3
1998	100,144	392	0.4
1999	103,186	450	0.4
2000	103,400	555	0.5
2001	95,725	446	0.5
2002	91,031	949	1.0
2003	83,879	2,871	3.3
2004	83,858	9,791	10.5
Total	757,961	15,755	2.0

Panel C: Other EU countries

Country	Reference year	Newly incorporated limited liability firms in that country during reference year	Firms incorporated in the U.K. as percentage of all newly incorporated firms								
			1997	1998	1999	2000	2001	2002	2003	2004	2005
Denmark	2001	4,942	1.4	1.4	2.1	2.1	4.5	16.6	20.5	4.3	1.6
Finland	2001	5,127	0.3	0.4	0.5	0.6	0.4	0.3	0.5	0.3	0.1
Italy	2001	52,138	0.4	0.5	0.6	0.6	0.4	0.5	0.8	0.7	0.7
Luxembourg	2001	2,143	1.4	1.5	2.2	2.2	1.5	1.6	1.5	3.4	6.3
Netherlands	2001	15,017	1.3	1.6	1.8	1.5	1.8	3.2	4.3	8.6	7.3
Portugal	2001	17,792	0.2	0.2	0.3	0.2	0.3	0.2	0.3	0.3	0.1
Spain	2001	79,312	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.4	0.2
Sweden	2001	8,974	0.9	1.7	2.0	1.7	1.1	2.0	2.7	2.5	1.8

Table 6. Board Structure of Newly Incorporate Limited Companies

This table reports the size distribution of boards of directors of newly incorporated private limited companies in the U.K. between 1997 and Q1 2005. Company secretaries are excluded from the analysis. *Majority of foreign directors* are foreign *Ltd*s where the majority of directors is classified as nationals of *one* EU Member State except the U.K. *Domestic directors only* are domestic *Ltd*s where no director is classified as a national of a EU Member State except the U.K. Domestic directors reside mostly within the UK but also in other countries, excluding any EU 24 Member States.

No. of Directors on Board	1997	1998	1999	2000	2001	2002	2003	2004	2005	Total
Panel A: Total number of *Ltd*s with majority of foreign directors										
1	711	1,028	1,266	986	263	1,472	5,293	9,224	8,792	29,035
2	887	1,252	1,591	1,814	2,004	2,918	3,973	5,444	2,784	22,667
3	205	290	407	494	566	758	775	846	380	4,721
4	193	217	284	374	375	479	342	298	148	2,710
5 or more	192	207	262	279	251	233	127	103	24	1,678
Total	2,188	2,994	3,810	3,947	3,459	5,860	10,510	15,915	12,128	60,811
Panel B: Total number of *Ltd*s with domestic directors only										
1	38,623	49,298	49,894	40,260	11,423	27,452	68,486	103,415	188,580	577,431
2	33,754	39,533	45,351	57,883	58,592	107,555	187,909	124,460	69,900	724,937
3	15,563	17,175	20,406	30,705	47,791	71,431	83,004	54,628	25,692	366,395
4	8,199	9,058	10,289	14,605	20,677	25,556	22,329	15,077	6,008	131,798
5 or more	12,834	12,378	13,558	17,093	20,664	20,151	14,906	9,192	2,268	123,044
Total	108,973	127,442	139,498	160,546	159,147	252,145	376,634	306,772	292,448	1,923,605
Panel C: Percentage of yearly total number of *Ltd*s with majority of foreign directors										
1	32.5	34.3	33.2	25.0	7.6	25.1	50.4	58.0	72.5	47.7
2	40.5	41.8	41.8	46.0	57.9	49.8	37.8	34.2	23.0	37.3
3	9.4	9.7	10.7	12.5	16.4	12.9	7.4	5.3	3.1	7.8
4	8.8	7.2	7.5	9.5	10.8	8.2	3.3	1.9	1.2	4.5
5 or more	8.8	6.9	6.9	7.1	7.3	4.0	1.2	0.6	0.2	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Panel D: Percentage of yearly total number of *Ltd*s with domestic directors only										
1	35.4	38.7	35.8	25.1	7.2	10.9	18.2	33.7	64.5	30.0
2	31.0	31.0	32.5	36.1	36.8	42.7	49.9	40.6	23.9	37.7
3	14.3	13.5	14.6	19.1	30.0	28.3	22.0	17.8	8.8	19.0
4	7.5	7.1	7.4	9.1	13.0	10.1	5.9	4.9	2.1	6.9
5 or more	11.8	9.7	9.7	10.6	13.0	8.0	4.0	3.0	0.8	6.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 7. Shareholder funds at incorporation for foreign and domestic private limited companies

This table shows distributions of shareholder funds at time of incorporation for private limited companies in the U.K. from 2001 to 2004. Firms satisfy the requirement of having complete company accounts data at the time of incorporation available on FAME. The columns provide data as follows: i) UK - domestic *Ltd*s where no director is classified as a national of a EU Member State except the U.K. ii) NON-UK 1 - *Ltd*s where at least one director is classified as a national of a EU Member State except the U.K., and iii) NON-UK M - foreign *Ltd*s where the majority of directors is classified as nationals of *one* EU Member State except the U.K.

	2001			2002			2003			2004		
	UK	NON-UK 1	NON-UK M	UK	NON-UK 1	NON-UK M	UK	NON-UK 1	NON-UK M	UK	NON-UK 1	NON-UK M
N	112,061	2,038	2,105	57,957	972	1,649	83,731	619	820	1,925	12	46
Mean	767	2,129	581	183	825	16	218	7,780	189	1,157	5,278	0
Median	0	0	0	0	0	0	0	0	0	0	0	0
90th Perc	1	100	2	0	30	1	0	125	1	0	1	0
95th Perc	1	2,600	50	1	120	1	1	1,876	10	1	63,334	0
99th Perc	331	53,599	2,775	143	24,960	120	70	100,000	750	326	63,334	1
Maximum	13,978,000	350,000	350,000	2,400,000	194,496	5,000	2,913,390	2,451,000	135,000	2,200,000	63,334	1

Table 8. The role of agents for U.K. incorporated German private limited liability companies

This table shows the breakdown by the use of agents of limited liability companies incorporated in the U.K. from 1997-2005 where the majority of directors resides in Germany as reported by FAME. Agents are identified in two ways. In the Germany column, agents are identified by director name clustering, where a cluster is formed for any director listed at least 20 times in any private limited company with a majority of German directors, including company secretaries. In the FAME column, agents are identified by director name clusters, where a cluster is formed for any director listed at least 100 times in any private limited company on FAME. Newly incorporated firms for the year 2005 are linearly extrapolated from data for the first quarter.

Year	Sum	Clustering Germany (n=20)		Clustering FAME (n=100)	
		Firm uses agent	No agent	Firm uses agent	No agent
1997	176	18	158	31	145
1998	239	35	204	56	183
1999	285	27	258	44	241
2000	313	88	225	113	200
2001	255	98	157	83	172
2002	597	250	347	390	207
2003	2,218	917	1,301	1,463	755
2004	9,030	6,249	2,781	6,309	2,721
2005	6,664	4,596	2,068	4,648	2,016

Table 9. Minimum capital requirements in EU 25 countries

Panel A. Private limited companies

Country	Name	Abbreviation	Minimum capital requirement in local currency	Minimum capital requirement in EUR
Austria	Gesellschaft mit beschränkter Haftung	GesmbH	EUR 35,000	35,000
Belgium	Besloten vennootschap met beperkte aansprakelijkheid or Société responsabilité limitée	BVBA or SPRL	EUR 18,550	18,550
Cyprus	Private company limited by shares		CYP 1	2
Czech Republic	Společnost s ručením omezeným	s.r.o.	CZK 200,000	6,700
Denmark	Anpaartsselskap	ApS	DKK 125,000	16,800
United Kingdom	Private limited company	Ltd	GBP 1	2
Estonia	Osaühing	OÜ	EEK 40,000	2,560
Finland	Osakeyhtiö	Oy	EUR 8,000	8,000
France	Société à responsabilité limitée	SARL	EUR 1	1
Germany	Gesellschaft mit beschränkter Haftung	GmbH	EUR 25,000	25,000
Greece	Eteria periorismenis efthynis	E.P.E.	EUR 18,000	18,000
Hungary	Korlátolt felelősségű társaság	Kft	HUF 3,000,000	12,170
Ireland	Private limited liability company	Ltd	EUR 1	1
Italy	Società a responsabilità limitata	S.r.l.	EUR 10,000	10,000
Latvia	Sabiedriba ar ierobežotu atbildibu	SIA	LVL 2,000	2,880
Lithuania	Uždaroji akcine bendrove	UAB	LTL 10,000	2,900
Luxembourg	Société à responsabilité limitée	SARL	EUR 12,500	12,500
Malta	Private limited liability company	Ltd	MTL 500	1,160
Netherlands	Besloten vennootschap	B.V.	EUR 18,000	18,000
Poland	Spólka z ograniczona odpowiedzialnoscia	SP.Z.O.O	PLN 50,000	12,460
Portugal	Limitada	Lda.	EUR 5,000	5,000
Slovakia	společnost s ručením omezeným	s.r.o.	SKK 200,000	5,230
Slovenia	Druzba z omejeno odgovornostjo	d.o.o.	SIT 2,100,000	8,780
Spain	Sociedad de responsabilidad limitada	S.L.	EUR 3,010	3,010
Sweden	Privat aktiebolag	privat AB	SEK 100,000	10,650

Panel B. Public limited companies

Country	Name	Abbreviation	Minimum capital requirement in local currency	Minimum capital requirement in EUR
Austria	Aktiengesellschaft	AG	EUR 70,000	70,000
Belgium	Naamloze vennootschap or Société anonyme	NV or SA	EUR 61,500	61,500
Cyprus	Public company limited by shares		CYP 5,000	8,850
Czech Republic	Akciová společnost	a.s.	CZK 2,000,000	67,000
Denmark	Aktieselkab	A/S	DKK 500,000	67,200
United Kingdom	Public limited company	Plc	GBP 50,000	75,450
Estonia	Aktsiaselts	AS	EEK 400,000	25,560
Finland	Julkinen osakeyhtiö	OYJ	EUR 80,000	80,000
France	Société anonyme	SA	EUR 37,000	37,000
Germany	Aktiengesellschaft	AG	EUR 50,000	50,000
Greece	Anonymos eteria	A.E.	EUR 60,000	60,000
Hungary	Részvénytársaság	Rt	HUF 20,000,000	81,150
Ireland	Public limited liability company	Plc	EUR 38,100	38,092
Italy	Società per azioni	S.p.A.	EUR 120,000	120,000
Latvia	Akciju sabiedriba	AS	LVL 25,000	35,950
Lithuania	Akcine bendrove	AB	LTL 150,000	43,440
Luxembourg	Société anonyme	SA	EUR 31,000	31,000
Malta	Public limited liability company	Plc	MTL 20,000	46,400
Netherlands	Naamloze vennootschap	N.V.	EUR 45,000	45,000
Poland	Spólka akcyjna	S.A.	PLN 500,000	124,580
Portugal	Sociedade anónima	S.A.	EUR 50,000	50,000
Slovakia	Akciová společnost	a.s.	SKK 1,000,000	26,140
Slovenia	Delniska druzba	d.d.	SIT 6,000,000	25,090
Spain	Sociedad anónima	S.A.	EUR 60,100	60,100
Sweden	Publikt aktiebolag	publikt AB	SEK500,000	53,240

Table 10. Growth of EU companies in the U.K. and cost of setting up limited liability companies

This table reports OLS estimates where the dependent variable is the growth rate of newly incorporated private limited companies in the U.K. for the 24 other EU member countries. The growth rate is calculated as in column 7 in Table 4. In all four models, the first column reports growth rates using mean values for 1997-2000 and 2002-2005, the second column reports growth rates using median values. Minimum capital is minimum capital required by law for formation of a private limited company in that country. Paid-up capital is the minimum amount of capital to be paid up upon registration of the company. Setup costs are the upper bound of normal setup costs from taxes, duties and notary fees. Total setup money is minimum capital plus setup costs. All capital amounts are reported in thousands of Euro. Newly incorporated firms for the year 2005 are linearly extrapolated from data for the first quarter. Standard errors robust to heteroskedasticity are reported in parentheses. *, ** and *** denote the statistic is significantly different from 0 at the 1%, 5%, and 10% level, respectively.

	I		II		III		IV	
	Mean ratio	Median ratio	Mean ratio	Median ratio	Mean ratio	Median ratio	Mean ratio	Median ratio
Panel A: Pre-Centros period 1997-2000, post-Centros period 2001-2005								
Minimum capital	0.1445*	0.1500**						
	[0.0718]	[0.0686]						
Paid-up capital			0.1644*	0.1673**				
			[0.0813]	[0.0751]				
Setup costs					0.5469*	0.5364*		
					[0.3015]	[0.2769]		
Total setup money							0.1741**	0.1817**
							[0.0740]	[0.0707]
Constant	1.8480***	1.4933***	2.0659***	1.7447***	2.2878*	1.9890*	0.8613	0.4383
	[0.5431]	[0.4901]	[0.4260]	[0.3705]	[1.1058]	[1.0143]	[0.7818]	[0.6701]
Observations	24	24	24	24	18	18	18	18
R-squared	0.2255	0.2766	0.1489	0.1753	0.0877	0.095	0.3043	0.3734
RMSE	2.395	2.171	2.511	2.318	2.962	2.779	2.587	2.312
F-statistic	4.052	4.778	4.09	4.958	3.289	3.752	5.536	6.604
Panel B: Pre-Centros period 1997-1999, post-Centros period 2002-2004								
Minimum capital	0.1302*	0.0897						
	[0.0727]	[0.0604]						
Paid-up capital			0.1537	0.1373				
			[0.1000]	[0.1268]				
Setup costs					0.9025**	1.4791***		
					[0.3573]	[0.4791]		
Total setup money							0.1803**	0.1743**
							[0.0783]	[0.0804]
Constant	2.4472***	2.6288***	2.6031***	2.5072***	1.9748*	0.5091	1.1052	0.7638
	[0.6495]	[0.6321]	[0.6016]	[0.7266]	[1.1157]	[0.8955]	[0.8631]	[0.7144]
Observations	24	24	24	24	18	18	18	18
R-squared	0.1463	0.0654	0.1039	0.0781	0.2009	0.5268	0.2744	0.2504
RMSE	2.814	3.035	2.883	3.015	3.022	2.354	2.88	2.962
F-statistic	3.203	2.204	2.362	1.172	6.378	9.529	5.305	4.698

Figure 1. New German private limited companies 1997-2004

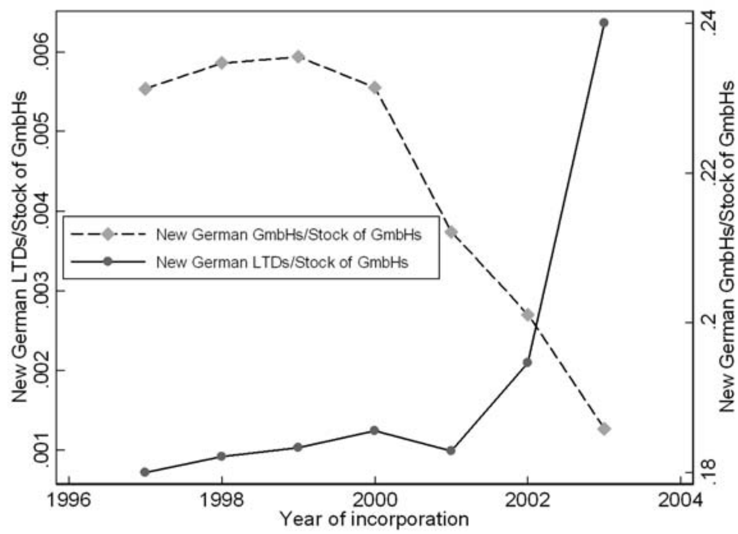

Figure 2. Survival of foreign private limited companies