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What are borders made of?
An analysis of barriers to European banking integration

by Massimiliano Affinito and Matteo Piazza

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WHAT ARE BORDERS MADE OF?
AN ANALYSIS OF BARRIERS TO EUROPEAN BANKING INTEGRATION

by Massimiliano Affinito and Matteo Piazza[*]

Abstract

Linguistic and cultural differences, different legal and supervisory frameworks, and relationship lending have been repeatedly mentioned as barriers to European retail banking integration. We investigate whether these barriers have affected integration within national boundaries, using an index of localism of regional banking systems as a measure of market integration. If local banks are established and flourish because asymmetric information makes entry difficult for non-incumbents (Dell'Ariccia, 2001) or regulatory and governance rules prevent entry from outside (Berger *et al.*, 1995), we should find a significant relationship between indicators of these barriers and measures of the localism of banking systems. Our results show that this is indeed the case for asymmetric information, while findings are more blurred for supervisory practices.

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1. Introduction[1]

The nature of European banking systems and the prospects for their integration have received much academic and institutional attention over the last decade or so since the launch of the Single Market Programme, the inception of the Economic and Monetary Union and the transition to the Euro.[2] A substantial consensus has been reached that small corporate and retail banking markets are far from being fully integrated across Europe. Available evidence supporting this conclusion seems to be robust across different measures of integration (Adam *et al*., 2002). As summarized by Degryse-Ongena (2004), the "European banking market should be open for business for all banks chartered in the European Union [..]. In practice, things are not that simple as both exogenous and endogenous economic borders remain formidable barriers".

Factors that contribute to the segmentation of the European retail banking market have been alternatively called borders or barriers and include such different phenomena as linguistic and cultural differences, relationship lending, corporate governance rules, and supervisory and lending practices (e.g. ECB, 1999 and 2000; the papers in Artis *et al.*, 2000; Degryse-Ongena, 2004). A distinction is often drawn between barriers due to asymmetric information (linguistic differences, lending relationship) and those due to legal and regulatory provisions (Buch, 2003). The concept of barriers remains comprehensive, however, and the jury is still out on which factors are prominent in hampering retail banking market integration in Europe.

In this paper, we evaluate the role of these different barriers across the continent by examining banking systems in 147 European regions. On the one hand, the regional perspective provides some distinct advantages, as we argue in detail in the next paragraph. Among other, within-country characteristics that have survived national integrations, and are now centuries old, are also the most likely to survive European integration. On the other hand, this sub-national focus forces us, because of data availability, to rely on a quantity-based indicator of financial integration that, as such, lacks a

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[2] For example, the European Central Bank is now publishing an annual report on the EU banking structure and has co-launched a research network on capital markets and financial integration in Europe (ECB, 2004, provides a summary of the findings so far).

clear theoretical underpinning. However, as the most comprehensive study, to our knowledge, on the measures of capital market integration in the European Union (Adam *et al.*, 2002) recognizes, quantity-based indicators (e.g. the share of foreign banks over the total number of banks) may have some informative content. According to Pagano (2002), "[w]e should stress that we look at quantities despite the fact that the law of one price has nothing to say about them. Nevertheless, we feel that these measures are of interest. In a system with no financial barriers, the domicile of assets issuers and holders should play a decreasing role over time."

In this perspective, we verify whether different barriers have a significant effect on an index of localism of regional banking systems that bears several similarities to the quantity-based measures just mentioned. The logic underlying our paper is similar to Buch's (2003): while she shows how lower barriers (achieved through either deregulation or reduction of information costs) induce higher international asset holdings, we look at whether lower barriers are associated, across regions, with a lower degree of localism of the regional banking system.

To determine the expected impact of barriers on our index of localism we draw on the existing literature, as explained in more detail in the next paragraph. For barriers due to asymmetric information, we refer to the papers by Dell'Ariccia (2001), Marquez (2002) and Hauswald-Marquez (2006), which show that informational asymmetries may shape the industry structure, favouring incumbents. For regulatory barriers, several papers (e.g. Berger *et al.*, 1995; Jayaratne-Strahan, 1996; Mishkin, 1996) underline the relevant effects triggered in the United States by the lifting of restrictions on both interstate and within-state branching.

We complement this analysis with an investigation of cross-border *branching* among all regions in our sample. While a cross-border analysis has some well-known limits and branching may not be the favourite way for a bank to go abroad, especially when asymmetric information is relevant, we believe that, precisely for the latter reason, this analysis may be useful to cross-check our results and possibly grasp the role, if any, of specific factors operating cross-border.

The plan of the paper is as follows: in the next paragraph, we illustrate our approach, while in paragraph 3 we describe our methodology. Paragraph 4 reviews data sources and some descriptive statistics. Paragraph 5 summarizes our results. The last paragraph concludes.

2. Why do we focus on *regional* banking *structures*?

Our approach is somewhat novel and has to be motivated in detail, with regard to both the relationship between barriers and our quantity-based measure of integration (the degree of localism of a banking system) and the focus on regional data.

Recent papers by Dell'Ariccia (2001), Marquez (2002) and Hauswald-Marquez (2006) provide a convenient framework to understand the relationship between informational barriers and local banking structures. As incumbent banks gather information about borrowers through lending, they have an informational advantage over new entrants (Broecker, 1990; Sharpe, 1990; Petersen-Rajan, 1994; Shaffer, 1998). This informational asymmetry generates endogenous fixed costs for the potential entrants, which represent a barrier to entry in the banking industry. Dell'Ariccia (2001) shows that differences in endogenous costs increase with the degree of asymmetric information among banks and this could explain why financial institutions have limited their cross-border activities to wholesale banking as the "informational costs" per dollar lent are presumably lower in that segment of the market. In his words, "deregulation [..] is more likely to induce entry on those segment of the market where asymmetric information is less important [..] Evidence from the European Union confirms this view [..] retail markets have remained concentrated and dominated by domestic banks". The lower share of foreign banks in "universal bank" countries is consistent with the idea that entry is more difficult in markets where the institutional framework allows incumbent banks to acquire pervasive information about their clients (Steinherr-Huveneers, 1994). In this vein, we argue that a testable implication of these theoretical models are that regional markets where asymmetric information is more pervasive should have a prevalence of local banks (incumbents). In paragraph 3, we tackle the issue of how to define these variables for our empirical exercise.

Similarly, the survival of small local banks should have been favoured by tighter regulation, especially given the strong trend towards consolidation affecting banking systems across Europe.[3] Regulatory barriers may take, for istance, the form of different legal provisions or regulatory requirements for different types of banks. We assume that, *ceteris paribus*, our proxy for regulatory barriers (described in detail in paragraph 3) is positively related to an index of localism of the banking system.

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[3] From January 1999 to January 2003, the number of banks in the euro area diminished from 9,802 to 8,538, falling in all countries but Finland. In Italy, for example, the number of banks fell by more than 200 between January 1990 and January 1999 and by more than 100 between that date and January 2003.

A second characteristic of this paper is the use of regional data, which we believe is particularly suitable for our goals on several grounds. First, most factors that are frequently mentioned as barriers can probably be better investigated at a regional level. Consider, for example, the idea that a matching of small firms and local banks may occurs endogenously in banking systems, as only small local banks can process the "soft" information that would characterize the small firms. The idea of a matching of the size of banks and the size of firms in an economy – due to information asymmetries – is not new and it has been backed by some evidence (e.g. Angeloni *et al.*, 1995; Cetorelli, 2001; Petersen-Rajan, 2002; Berger *et al.*, 2003), although, as far as we know, it has not been explored for EU regions. In looking at this issue, a local focus of the analysis seems appropriate, as a higher level of aggregation could cancel out within-country variability.

Similar considerations apply to linguistic and cultural differences, which are often mentioned as an important obstacle to cross-border activity in Europe. In the EU-15 countries, not less than eleven official languages are spoken, meaning that linguistic dummies are hardly distinguishable from a country fixed-effect in a cross-country panel regression.[4] At a regional level, instead, we can control for country fixed-effects while taking advantage of the existence of a non-negligible number of regions (about 10% of our sample) with linguistic minorities. If linguistic differences are such a serious issue as to require separate financial institutions for different linguistic communities, we should expect regions with linguistic minorities to have, *ceteris paribus*, a larger number of local banks.

A second reason for our sub-national focus is that the resilience of local characteristics may be more safely assumed at a regional level. In fact, European economic integration is still very much a work in progress, all the more so when compared with unifications within European countries that took place centuries ago. In a similar vein, Guiso *et al.* (2004) noted that as Italy "has been unified, from both a political and a regulatory point of view, for the last 140 years […] the level of integration reached within Italy probably represents an upper bound for the level of integration international financial markets can reach". In other words, regional characteristics have already been largely tested by national integration and it is reasonable to assume that they will also prove resilient to European integration. The same presumption might not apply in a European perspective where *local* is often meant to refer to national characteristics.

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[4] It is customary to refer to the fifteen countries that were already EU members prior to the May 2004 enlargement as EU-15 countries.

Finally, a regional analysis allows the inclusion of country fixed-effects in our regressions, something that cross-country exercise comparing banking structures can hardly omit without incurring in a serious bias.

3. Methodology

3.1. An analysis of regional banking systems

Our general specification is as follows:

$$Y_{rc} = f(X_{rc}; Z_c)$$

where *r* and *c* are indexing respectively regions and countries.

We chose as our dependent variable the ratio between total banks and total branches for each European region, arguing that this ratio, which is bounded between zero and one by construction,[5] is a good indicator of the degree of localism of a regional banking system.

To understand why, consider, first, the case in which the ratio is equal to one in a region. This means that in that region there are no branches from outside and all the credit institutions incorporated in that region have just one branch, being local almost by definition.

Next, consider the case in which the index is equal to zero. This lower bound will be reached only in those regions where no banks are incorporated, whatever the number of branches from outside regions. This is not only a reasonable representation, from an abstract point of view, of a system with no local components, it also reflects the actual situation of banking systems in some European regions.

Between the lower and upper bounds, the index will be smaller the larger the number of branches present in a region with respect to the number of banks incorporated there. As we cannot distinguish between branches owned by credit institutions established outside or inside the region, the ratio could also take on low values when a regional banking system is dominated by a very large regional bank. Although this is an unappealing feature of our index, it is less of a nuisance than one might expect as several contributions, both empirical and theoretical (e.g. Berger *et al.*, 2001; Petersen-Rajan, 2002; Berger-Udell, 2002; Degryse-Ongena, 2004; Hauswald-Marquez, 2006), note that the characteristics typically associated with local banks depend on distance, suggesting that a

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[5] As our index is bounded between 0 and 1, we use a fractional logit regression model (e.g. Papke-Wooldridge, 1996) that fits naturally within our setting.

large regional bank located some distance away from its branches may not be as local as a unit credit institution.

In particular, Berger-Udell (2002) note that large local banks may be less keen to engage in relationship lending because they are headquartered at a considerable distance from potential relationship customers and this aggravates the problems associated with transmitting soft, locally-based relationship information to senior bank management. In a similar vein, Berger *et al.* (2001) note that bank holding companies may have problems in controlling small banks that are located far from their headquarters, consistent with the idea that relationship lending may become more difficult as distance increases. Ferri (1997) shows how turnover of branch managers (typically adopted by large banks and clearly not applying to unit credit institutions) may have been used in Italy as a mechanism to control collusions between them and borrowers, with the side effect of hampering the development of lending relationships in large banks.

Moreover, although DeYoung-Goldberg-White (1999) found that no systematic relationship exists between number of branches and propensity to lend to small firms,[6] their finding has to be qualified by noting that "when assets (that are strongly correlated with the number of branches) are excluded from the specification, the coefficient on the number of branches became negative and statistically significant" (p. 480). This suggests that bank size affects propensity to lend to small firms and that, in this perspective, the fact that our index differentiates between large and small local banks (as banking systems characterized by the prevalence of unit credit institutions have a greater value of the ratio than regional systems with few large banks) may be a favourable feature.

Finally, one may wonder whether our index of localism really bears some relationship to the degree of integration within national boundaries. To provide at least tentative evidence on this point, we compute a rank correlation between the percentage change in the number of banks in our sample period (October 1998-December 2003) and our index to check whether systems with a stronger local component are in fact less prone to mergers (including those out-of-the-market that are a possible way to achieve integration). The correlation has the expected positive sign (i.e. banking systems with a stronger local component "lost" fewer banks) with a coefficient of 0.18, significant at the 5% level. The correlation is also robust to outliers as size and significance of the correlation remain pretty much unchanged if we exclude the top and bottom deciles of the distribution.

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[6] This result was flagged by a referee.

Covariates are defined either at regional (X_{rc}) or country (Z_c) level. We include in our list of variables all the factors that could affect either demand or supply of banking services. Our list of potential variables includes the following:[7]

X_{rc} = {*population$_{rc}$, GDP per capita$_{rc}$, firm size$_{rc}$, dummy for linguistic minorities$_{rc}$, number of workers employed in agriculture$_{rc}$, students/population$_{rc}$, R&D$_{rc}$, dummy for the region of the country capital$_{rc}$, roads' length/ surface area$_{rc}$, weight of service sector$_{rc}$*};

Z_c = {*supervision practices indexes$_c$, share of assets held by government-owned banks in 1995$_c$ and in 2003 $_c$, country fixed effects$_c$*}.

Our interest is focused on four regressors: i) firms' size, as a proxy for barriers relating to asymmetric information and relevance of relationship lending; ii) a dummy for linguistic minorities, as a proxy for linguistic and cultural barriers; iii) indexes of supervisory practices as a proxy for regulatory barriers; and iv) the share of total assets held by government-owned banks, as a proxy for possible legal barriers. Remaining covariates are basically included as controls.[8]

We expect the first variable to be negatively related to our dependent variable, while the remaining variables should be positively related. We summarize the degree of asymmetric information in the borrower-lender relationship with the average firm size, in line with a vast literature on this topic (already reviewed in previous paragraphs), claiming that services to small firms are likely to be provided by small banking institutions. A more skeptical view on this issue has been taken recently by Berger-Udell (2006): they suggest that the received view that financial structures have to include a substantial market share for small institutions to meet the demand of opaque SMEs could be outdated due to new transaction technologies. However, there is still a widely held opinion, backed by some evidence, that not only "..the impact of technology on informational borders is unclear *a priori* from a theoretical point of view. But Europe further faces

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[7] Given the potential for multicollinearity, we check correlations among variables (e.g. share of employees in agriculture and GDP per capita) and we perform standard tests (e.g. variance inflation factor) to detect any problem with multicollinearity.

[8] The inclusion of most of them is self-explanatory. The impact of the share of students is *ex-ante* debatable. It could indicate a weaker current demand, as typically students do not demand a significant amount of banking products, but also a higher prospective demand if returns to schooling are sizeable. We also add a dummy for the region of the country capital to control for the fact that is where some banks (typically foreign ones) tend to locate their headquarters. National and regional differences seem to be properly accounted for by our variables. Residuals for each European region from a log-linear regression do not show any systematic pattern. The comprehensive set of regional variables - X_{rc} - should mitigate the risk of omitted regional variables, although we cannot control for regional effects. However, we lack data on within-country differences in regulatory and legal systems, if any. We believe that this could actually be an issue only

specific problems when it comes to reducing informational asymmetries. Hardening of information, for example, could in principle alleviate some of the informational asymmetries. But hardening of information may also be more problematic in Europe than in the USA as it is not clear that all the information that is already hardened is equally reliable across Europe" (Degryse-Ongena, 2004).

In order to handle the possible endogeneity of firm size (e.g. Demirgüc-Kunt-Maksimovic, 1998; Shan *et al.* 2001; Allen *et al.*, 2005) we also employ instrumental variables (IV) estimators.[9] We use instruments for firms' size that satisfy two conditions: (i) they are suggested by the literature (Kumar et *al.*, 1999 provide a useful review) and (ii) they are available at a regional level. Accordingly, we select three instruments: R&D (the number, in log scale, of patent applications to the European Patent Office by firms in each region), the weight of the service sector (the share of employees in the tertiary in each region), and the infrastructure endowment (the ratio between the length of regional roads and the regional surface area).

3.2. Cross-border branching

To complement the exercise described in the previous paragraph, we also test the determinants of cross-border branching across European regions. It is broadly recognized in the literature that this is not the only way for foreign banks to enter a national market (e.g. Focarelli-Pozzolo, 2001) and there are some claims that branching is probably not the preferred one when information asymmetries are large (e.g. Dell'Ariccia, 2001). Precisely for this reason, an analysis of cross-border branching may shed some further light on the size of the barriers we are investigating. In other words, we expect that the role of informational barriers should be magnified in this kind of exercise.

The dependent variable here is the number of foreign branches established in each region by banks from every other foreign region of our sample. Therefore, in this exercise we have a much larger number of observations, even if zeros are predominant.

Count data models are a natural choice for this exercise as standard linear models ignore the discrete and non-negative nature of dependent variables and the heteroskedasticity inherent in count data (Winkelmann, 2003). In order to account for the excess zeros in the sample, we use a two-step

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in the case of Germany where the federal structure leaves some degree of autonomy to Länder. We repeat our regression excluding Germany without any significant difference in our results.

[9] We carry out both fractional logit and IV regressions in order to exploit the merits of both methodologies.

model, known as Zero Inflated Poisson model.[10] In the first step, a binary probability logit model determines the probability of a zero outcome; in the second step, a Poisson distribution describes the positive outcomes. As in the previous exercise, we carry out an IV estimate to control for the possible presence of endogeneity.[11]

The set of independent variables is slightly different from our previous exercise. We include three different categories of variables that describe respectively some characteristics of the host and the home region (or country) and their links. For the host regions, we use the same set of covariates as in the previous exercises. For the home region, we include country dummies and regional GDP per capita. The third set of regressors includes variables linking each pair of regions: trade flows between their countries; measures (drawn from Guiso *et al.*, 2004) of the reciprocal trust between the citizens of the host country and those of the foreign bank's country; and three dummies: existence of a common language between each pair of regions (or, in alternative, country), a dummy for common borders between countries and a dummy for common borders between regions.

4. Data sources

This work relies on both regional and national data across Europe. We assemble data on the number of banks and branches, and on a large set of real economy and structural data, in 147 regions across Europe, covering all the regions in the EU-15 countries except Luxemburg and Sweden due to some missing data. Regions are identified using the NUTS2 territorial breakdown (with the exception of Germany and the UK, where the NUTS1 level – Laender and Regions – has been used).[12] The following countries are included in the dataset: Austria (9 regions), Belgium (11), Denmark (1), Finland (5), France (22), Germany (16), Greece (13), Ireland (2), Italy (20), Netherlands (12), Portugal (7), Spain (17), United Kingdom (12).[13] Our sample therefore includes

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[10] See Lambert (1992); and Gobbi-Lotti (2003) for a recent application on Italian banking data.

[11] In this case, too, since IV techniques have not been developed, to our knowledge, for the Zero Inflated Poisson model, we adopt a log transformation of data after adding a small positive constant to each count, due to the presence of a great number of zeros.

[12] NUTS is the French acronym for Nomenclature of Territorial Units for Statistics. It was defined by Eurostat more than two decades ago to provide a single uniform breakdown of territorial units for the production of regional statistics for the European Union. For details, see europa.eu.int/comm/eurostat/ramon/nuts/introduction_regions_en.html.

[13] We do not consider six regions that are usually included in the NUTS2 breakdown but that are geographically separated from the mainland. They are the four French départements d'outre-mer and the two Spanish enclaves in North-Africa (Ceuta and Melilla). We also consider jointly the two autonomous provinces of Trento and Bolzano in Italy that are separately coded in NUTS2.

11 euro area countries and 2 EU countries not belonging to the euro area. Table 1 lists the countries and regions included in our sample.

The number of credit institutions in each region is drawn from national data included in the List of Monetary Financial Institutions for five dates (October 1998, June and December 2002, June and December 2003).[14] We map banks to their region of establishment using postal codes as a key. The number of branches of credit institutions in each European region is drawn from the regional database Regio, maintained by Eurostat. The same source also provides data on regional GDP, number of firms, firms' size, R&D (number of patent applications), number of employees in the agricultural sector, industry and services, households' disposable income, surface areas, population, education (number of students), transport (number of vehicles and motorways). We collect annual data from 1996 to 2001, where available. Data on linguistic minorities are inferred from the "Report on the linguistic rights of persons belonging to national minorities in the OSCE area" published by the Organization for Security and Co-operation in Europe (OSCE, 1999). Table 2 reports the regions identified as linguistic and cultural minority areas.

Three indexes of supervisory practices are taken from Barth *et al*. (2006) and are based on a cross-country database on Bank Regulation and Supervision, originally maintained by the World Bank. The database collects the answers of many supervision authorities around the world to a set of questions on regulatory issues.[15] The values of the three indexes for each country are reported in Table 3. The three indexes summarize the restrictiveness of supervision by defining, respectively, the scope of credit institutions' activities (e.g. if they are allowed to deal with securities, to sell insurance, etc.), as the attractiveness of entry into a national market may depend on this aspect; the set of general supervisory powers; and the rules applied to entry. While the latter index seems clearly the most relevant for the issues dealt with in this paper and it properly focuses on questions dealing with both *ex-ante* rules and effective outcomes, it has some distinctive weaknesses because some of the questions are not answered by all the European countries and formal rules for entry are basically defined at European level. As a check for robustness, we include alternatively all the indexes in our regressions.

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[14] The Monetary Financial Institutions - MFIs - are central banks, resident credit institutions as defined in Community law, and other resident financial institutions whose business is to receive deposits and/or close substitutes for deposits from entities other than MFIs and, for their own account (at least in economic terms), to grant credits and/or make investments in securities. Our dataset is limited to the subset of credit institutions. The List of MFIs can be downloaded from the European Central Bank website. October 1998 was a test date as the MFI List started in 1999.

[15] The database can be found on the World Bank website or in a CD-ROM attached to the book by Barth et al. (2006).

Finally, we use data (reported in Table 4) on government ownership of banks, drawn by La Porta *et al.* (2002) for 1995 and by Barth *et al.* (2006) for 2003. The share of total banking assets held by state-owned banks in each country is used as a proxy of the government's stakes in the banking sector and therefore of its incentives to try to influence (e.g. through legislation) the structure of the banking system. For example, if government-owned banks are not maximizing profits, as suggested in part of the literature (e.g. La Porta *et al.*, 2002; Sapienza, 2004), branching decisions could reflect attempts to establish or consolidate influence in certain geographical areas.

As our variables span only a limited period of time and are not available in every period, we average our observations over our sample period; accordingly, our first dataset is a cross-section of 120 regional observations.[16] Table 5 provides summary statistics for the regional variables, broken down by countries. Data confirm that banking structures in Europe exhibit a significant variability not only across but also within countries.[17] The distribution of the ratio across the 120 European regions over our sample period goes from 0 to 0.32, implying that in at least one region the average number of branches for bank is as small as three. A second dataset of 19,442 observations (with the dependent variable being the number of *foreign* banks for the 147 pairs *home region – host region*) is used to study the determinants of cross-border branching.[18]

5. Results

5.1 Barriers and degree of localism in banking systems

This section presents the results of our empirical exercise on the role of different barriers on our index of localism. The idea to be tested is that higher barriers, either due to asymmetric information or to different regulatory regimes, may preserve the local nature of banking systems and be

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[16] Data on branches are missing for Greece, Ireland and The Netherlands. Our cross-sectional observations are therefore reduced when using the ratio between banks and branches as the dependent variable.

[17] The standard deviation in the number of banks within European countries (i.e. across regions in a country) is, on average, greater (61.30) than the standard deviation of national averages across countries (43.85).

[18] We deal exclusively with the determinants of the presence of banks from other European countries in each European region of our sample because this is what our regional data allow for (i.e. no banks from the Rest of World are considered). With regard to this exercise, it should be noted that there is some potential for confusion in the terminology. The List of MFIs does not report, as foreign banks, subsidiaries of foreign banks (i.e. national banks controlled by foreign shareholders, either banks or other entities), but only branches of foreign banks. However, in line with standard reporting practices, only headquarters are reported: in other words, if, say, a French bank should decide to open more than one branch in Italy, this would still imply just one record for that French bank in the Italian List of MFIs. This induces a potentially significant bias: however, we included a dummy for the capital city to take into account this effect and we check how relevant this problem is in Italy, for which we have additional information. It turns out that 72 per cent of the foreign banks have only one branch in Italy and another 18 per cent have just two branches.

associated with a higher level of our index. Being based on the weight of local versus outside banks in each regional banking system, this index is a reasonable quantity-based measure of integration of banking systems within European countries, quite close to measures such as the share of foreign banks in a national banking system. As asymmetric information and relationship lending constitute a barrier to entry for outside banks, they end up hampering integration.

Our results support this idea. Table 6 shows the results obtained running both a fractional logit model (second column) and a IV estimate (third column). The negative coefficient for the (log) firm size and the positive coefficient for the linguistic minority dummy are both strongly significant. Regions where firms' size is smaller and cultural differences matter tend to have a strong degree of localism, supporting the idea that these factors may act as barriers to integration. A lower size of firms magnifies the role of asymmetric information and the relevance of relationship lending and it is, accordingly, associated with a higher ratio between banks and branches. Estimates of instrumental variables confirm the results. The effect and the significance of firm size remain stable when alternative instruments are included.

In a similar way, linguistic minorities also require local (i.e. established in that region) banks, as the presence of such minorities aggravates the problems of asymmetric information and therefore hampers integration. If we exclude from the sample the Italian region Trentino - Alto Adige, which has a significant German-speaking population and a large number of small local banks, the size of the coefficient decreases of about one third, but its significance (at 1 per cent level) does not change.

Moving to the national variables, we find that the government's share is significantly positive, suggesting that a stronger presence of public banks, everything else being equal, raises the degree of localism of banking systems. The picture is more blurred when we come to the supervisory variables. As we said in the previous paragraph, we consider alternatively three different variables; unfortunately, results are not consistent across all the indexes. While sign and significance are those expected on the indicators based, respectively, on the entry rules and on the scope of allowed activities, the index based on the amplitude of supervisory powers is significant but has the wrong sign. This result may reflect the fact that in a prudential supervision framework, supervisory powers are not necessarily limiting markets (as suggested, for example, by the value taken by this

index for the United Kingdom[19]) or, more likely in our view, it could simply be linked to the methodological weakness of our indexes. Actually, although the World Bank database, which they are based on, is to our knowledge the most complete attempt to deal with the issue, we are unsure about the ability of these indexes (and more generally of a survey designed for more than 150 countries across the world) to discriminate among European countries. In particular, there is not much variance of these indexes across EU countries (their average coefficient of variation is around 0.2). The sum of the three different indexes (after a proper normalization) produces an index that shows almost no variability across Europe.

5.2 Number of foreign banks

The number of observations for all possible pairs *host region – home region* is 19,442 (Table 7). Not surprisingly, zeros are largely predominant (but we still have 226 non-zero observations). Results applying the Zero Inflated Poisson model are presented in Table 8. The lower panel (logit model) shows the determinants of the decision by foreign banks not to locate in a region (i.e. empty cells); the upper panel (Poisson model) shows the determinants of the number of foreign banks (when observations are non-zero). We use a slightly different set of covariates respectively in the logit and in the Poisson model, excluding from the latter the dummy for the capital region and the government's share.

In the logit model, localization decisions are affected positively[20] by population and GDP per capita of the host region and by the GDP per capita of the home region. Geographical contiguity also seems to matter as the dummy for neighbouring regions is strongly significant. The same holds for bilateral trade relationships. Capital cities also significantly lure foreign branches.

Consistently with the idea that small firms may be less transparent to outsiders, foreign banks also tend to avoid, *ceteris paribus*, regions where the average size of firms is small. This confirms our previous findings on the role of asymmetric information. Finally, entry regulation affects branching decisions negatively (albeit only at a 10 per cent confidence level) while government's share in the banking system affects these decisions positively, but counter-intuitively, perhaps suggesting that the systems present with more opportunities for foreign banks.

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[19] Indeed, on the basis of a recent survey by the Committee of European Banking Supervisors (CEBS, 2005), supervision is no longer perceived as a major obstacle to cross-border consolidation.
[20] I.e. the coefficients are negative.

In the Poisson model, regional income per capita, in both the host and the home country, affects the number of foreign banks positively and the same holds for population and bilateral trade. Tighter regulation lowers the number of foreign banks while firms' size is not significant. As this regression explains the *number* of banks in each region where foreign branches are located rather than the decision to locate there and it is run with 226 observations vis-à-vis the more than 19,000 used in the logit regression, we do not see the result as a significant drawback. IV regressions broadly confirm these results.

6. Summing up

In this paper, we investigate the role of barriers in the European credit markets using an indicator of the degree of localism of regional banking systems and the number of foreign branches in each European region. We argue that this regional analysis may indeed help to understand better the role of the factors that are frequently mentioned as hindering integration in the EU retail banking markets, namely information asymmetries - originated by linguistic and cultural differences and by the underlying economic structure - and national supervision practices and corporate governance rules. Econometric results support the idea that different languages, an economic structure made of smaller firms and the weight of the government in the banking system favour, *ceteris paribus*, a more local character of a regional banking system. Broadly in line with these findings, the complementary exercise on cross-border branching shows that foreign banks tend to avoid regions where the average size of firms is small.

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Table 1
Countries and regions included in our sample

Countries	N.	Regions
Austria	9	AT11 Burgenland
		AT12 Niederösterreich
		AT13 Wien
		AT21 Kärnten
		AT22 Steiermark
		AT31 Oberösterreich
		AT32 Salzburg
		AT33 Tirol
		AT34 Vorarlberg
Belgium	11	BE1 R. de Bruxelles Hoof. Gewest
		BE21 Prov. Antwerpen
		BE22 Prov. Limburg (B)
		BE23 Prov. Oost-Vlaanderen
		BE24 Prov. Vlaams Brabant
		BE25 Prov. West-Vlaanderen
		BE31 Prov. Brabant Wallon
		BE32 Prov. Hainaut
		BE33 Prov. Liège
		BE34 Prov. Luxembourg (B)
		BE35 Prov. Namur
Danmark	1	
Finland	5	FI13 Itä-Suomi
		FI18 Etelä-Suomi-South
		FI19 Länsi-Suomi-West
		FI1a Pohjois-Suomi
		FI2 Åland
France	22	FR1 Île de France
		FR21 Champagne-Ardenne
		FR22 Picardie
		FR23 Haute-Normandie
		FR24 Centre
		FR25 Basse-Normandie
		FR26 Bourgogne
		FR3 Nord - Pas-de-Calais
		FR41 Lorraine
		FR42 Alsace
		FR43 Franche-Comté
		FR51 Pays de la Loire
		FR52 Bretagne
		FR53 Poitou-Charentes
		FR61 Aquitaine
		FR62 Midi-Pyrénées
		FR63 Limousin
		FR71 Rhône-Alpes
		FR72 Auvergne
		FR81 Languedoc-Roussillon
		FR82 Prov.-Alpes-Côte d'Azur
		FR83 Corse

Countries	N.	Regions
Greece	13	GR11 Anat. Makedonia, Thraki
		GR12 Kentriki Makedonia
		GR13 Dytiki Makedonia
		GR14 Thessalia
		GR21 Ipeiros
		GR22 Ionia Nisia
		GR23 Dytiki Ellada
		GR24 Sterea Ellada
		GR25 Peloponnisos
		GR3 Attiki
		GR41 Voreio Aigaio
		GR42 Notio Aigaio
		GR43 Kriti
Germany	16	DE1 Baden-Württemberg
		DE2 Bayern
		DE3 Berlin
		DE4 Brandenburg
		DE5 Bremen
		DE6 Hamburg
		DE7 Hessen
		DE8 Mecklenburg-Vorpommern
		DE9 Niedersachsen
		DEA Nordrhein-Westfalen
		DEB Rheinland-Pfalz
		DEC Saarland
		DED Sachsen
		DEE Sachsen-Anhalt
		DEF Schleswig-Holstein
		DEG Thüringen
Ireland	2	IE01 Border, Midlands, Western
		IE02 Southern and Eastern
Italy	20	ITC1 Piemonte
		ITC2 Valle d'Aosta
		ITC3 Liguria
		ITC4 Lombardia
		ITD1 Trentino-Alto Adige
		ITD3 Veneto
		ITD4 Friuli-Venezia Giulia
		ITD5 Emilia-Romagna
		ITE1 Toscana
		ITE2 Umbria
		ITE3 Marche
		ITE4 Lazio
		ITF1 Abruzzo
		ITF2 Molise
		ITF3 Campania
		ITF4 Puglia
		ITF5 Basilicata
		ITF6 Calabria
		ITG1 Sicilia
		ITG2 Sardegna

Countries	N.	Regions
Netherlands	12	NL11 Groningen
		NL12 Friesland
		NL13 Drenthe
		NL21 Overijssel
		NL22 Gelderland
		NL23 Flevoland
		NL31 Utrecht
		NL32 Noord-Holland
		NL33 Zuid-Holland
		NL34 Zeeland
		NL41 Noord-Brabant
		NL42 Limburg (NL)
Portugal	7	PT11 Norte
		PT15 Algarve
		PT16Centro
		PT17Lisboa
		PT18Alentejo
		PT2 R. Autónoma dos Açores
		PT3 R. Autónoma da Madeira
Spain	17	ES11 Galicia
		ES12 Principado de Asturias
		ES13 Cantabria
		ES21 Pais Vasco
		ES22 Com. Foral de Navarra
		ES23 La Rioja
		ES24 Aragón
		ES3 Comunidad de Madrid
		ES41 Castilla y León
		ES42 Castilla-la Mancha
		ES43 Extremadura
		ES51 Cataluña
		ES52 Comunidad Valenciana
		ES53 Illes Balears
		ES61 Andalucia
		ES62 Región de Murcia
		ES7 Canarias (ES)
U. Kingdom	12	UKC North East
		UKD North West
		UKE Yorkshire and The Humber
		UKF East Midlands
		UKG West Midlands
		UKH Eastern
		UKI London
		UKJ South East
		UKK South West
		UKL Wales
		UKM Scotland
		UKN Northern Ireland
13 countries		**147 regions**

Table 2

**Linguistic and cultural minorities
in the EU countries in our sample**

Regional Code	Region
AT11	Burgenland
AT21	Kärnten
DE4	Brandenburg
DED	Sachsen
ITC2	Val d'Aosta/Vallée d'Aoste
ITD1	Trentino Alto-Adige
ITD4	Friuli-Venezia Giulia
ES11	Galicia
ES21	Pais Vasco
ES51	Cataluña
ES52	Comunidad Valenciana
UKL	Wales
UKM	Scotland
UKN	Northern Ireland

Source: Authors' calculations based on OSCE (1999).

Table 3
Supervision restrictiveness indexes
in the EU countries in our sample

Country	Overall financial restrictiveness	Entry into banking requirements	Official supervisory power
Austria	11	8	13
Belgium	13	8	10
Denmark	14	8	9
Finland	12	6	6
France	9	6	7
Germany	11	7	9
Greece	12	7	12
Ireland	11	0	11
Italy	15	8	7
Netherlands	10	8	5
Portugal	14	7	14
Spain	10	8	9
United Kingdom	7	8	11

Source: Barth *et al*. (2006).

Table 4
Percentage of bank assets of government-owned banks
in the EU countries in our sample

Country	1995	2003
Austria	50.36	0.00
Belgium	27.56	0.00
Denmark	8.87	0.00
Finland	30.65	0.00
France	17.26	0.00
Germany	36.36	42.20
Greece	77.82	22.80
Ireland	4.48	0.00
Italy	35.95	10.00
Netherlands	9.20	3.90
Portugal	25.66	22.80
Spain	1.98	0.00
UK	0.00	0.00

Sources: La Porta *et al.* (2002) and Barth *et al.* (2006).

Table 5a
Summary statistics for the within-country regional variables in our dataset

statistics	Banks	Branches	Banks/ Branches	Firms' size	GDP per capita	Population	Farmers	Area km2	Students
Austria									
N. regions	9	9	9	9	9.0	9	9	9	9
mean	93.6	594.0	0.17	8.66	22.7	896.8	3.07	9,318	186.42
min	34.0	244.5	0.12	7.23	15.2	276.3	1.80	415	106.83
max	153.0	1,202.2	0.25	11.66	32.4	1,598.7	6.63	19,173	377.35
sd	42.0	324.7	0.04	1.37	5.0	527.4	1.79	6,354	113.78
p25	68.6	364.8	0.14	7.53	19.7	511.3	1.80	3,966	106.83
p50	92.8	551.3	0.16	8.68	22.3	662.2	2.68	9,533	155.68
p75	118.4	707.3	0.18	9.10	24.2	1,379.8	3.97	12,648	273.32
Belgium									
N. regions	11	11	11	11	11	11	11	11	11
mean	10.3	567.0	0.02	5.74	21.3	925.7	2.62	2,774	237.50
min	0.0	111.5	0.00	4.44	14.5	243.3	0.40	161	68.04
max	71.4	1,130.0	0.12	7.34	45.2	1,636.5	7.52	4,440	391.53
sd	21.3	336.3	0.03	0.97	8.5	440.0	2.32	1,272	108.52
p25	0.2	154.0	0.00	4.79	16.1	438.5	0.70	2,106	120.55
p50	2.6	566.0	0.01	5.51	19.1	1,005.7	1.30	2,982	260.12
p75	7.0	858.0	0.01	6.75	22.3	1,283.2	4.35	3,786	333.95
Denmark									
N. regions	1	1	1	1	1	1	1	1	1
mean	193.8	2316.3	0.084	7.972	29.11	5280.2	48.3	43094	1258.43

statistics	Banks	Branches	Banks/ Branches	Firms' size	GDP per capita	Population	Farmers	Area km2	Students
Finland									
N. regions	5	5	5	5	5	5	5	5	5
mean	72.8	343.9	0.20	5.00	22.5	1,027.5	7.75	67,629	259.06
min	3.0	31.0	0.10	3.42	13.0	25.3	0.35	1,527	513.30
max	145.4	615.5	0.32	5.77	34.3	2,033.8	11.68	128,294	505.91
sd	55.5	246.7	0.09	1.10	8.8	860.5	4.63	46,361	226.65
p25	46.4	187.0	0.14	4.25	16.2	564.2	6.18	52,636	129.12
p50	60.0	325.7	0.18	5.77	20.7	698.0	9.92	70,294	163.55
p75	109.2	560.5	0.26	5.77	28.5	1,816.0	10.63	85,395	491.56
France									
N. regions	22	22	22	22	22	22	22	22	22
mean	45.0	1,150.9	0.02	5.87	19.4	2,657.2	15.85	24,726	655.63
min	4.2	360.0	0.01	2.53	15.8	260.8	1.85	8,280	54.32
max	607.6	4,433.0	0.14	7.90	33.1	11,012.3	39.28	45,348	2,857.53
sd	126.2	893.0	0.03	1.47	3.4	2,245.5	9.44	11,212	589.62
p25	8.6	613.0	0.01	4.91	17.8	1,421.0	7.48	16,202	348.23
p50	17.2	1,026.0	0.02	6.04	18.8	2,067.7	14.96	25,708	500.92
p75	27.8	1,359.0	0.02	6.95	19.6	2,895.3	19.77	31,582	724.79
Germany									
N. regions	16	16	16	16	16	16	16	16	16
mean	158.3	3,898.4	0.04	10.67	22.7	5,120.7	30.45	22,314	1,054.44
min	18.0	320.3	0.01	8.03	14.9	673.8	1.12	404	141.50
max	592.2	11,658.2	0.10	16.24	40.0	17,933.0	63.65	70,548	3,857.91
sd	181.9	3,750.4	0.02	2.01	6.9	4,732.3	20.09	18,687	1,005.85
p25	34.0	1,092.3	0.02	9.54	15.7	2,147.5	13.84	9,171	440.59
p50	62.8	1,931.0	0.04	10.28	21.8	3,090.6	34.89	20,147	629.91
p75	269.2	6,055.7	0.05	11.11	26.8	6,920.8	47.52	31,778	1,396.30

statistics	Banks	Branches	Banks/ Branches	Firms' size	GDP per capita	Population	Farmers	Area km2	Students
Greece									
N. regions	13	13	13	13	13	13	13	13	13
mean	4.6	n.a	n.a	13.68	9.7	807.4	7.31	10,125	151.38
min	0.0	n.a	n.a	5.50	6.9	184.3	1.45	2,307	30.51
max	45.0	n.a	n.a	23.58	12.3	3,455.7	17.15	18,811	739.62
sd	12.2	n.a	n.a	4.90	1.6	896.1	5.03	5,285	195.55
p25	0.8	n.a	n.a	11.11	8.4	302.7	2.80	5,286	62.39
p50	1.0	n.a	n.a	13.90	9.7	561.8	7.25	9,452	87.71
p75	2.0	n.a	n.a	16.29	10.4	735.3	10.67	14,158	121.57
Ireland									
N. regions	2	2	2	2	2	2	2	2	2
mean	41.2	n.a	n.a	12.76	18.7	1,840.8	12.27	35,143	493.40
min	0.0	n.a	n.a	12.02	15.2	964.5	7.83	26,527	255.77
max	82.4	n.a	n.a	13.50	22.2	2,717.2	16.70	43,758	731.02
sd	58.3	n.a	n.a	1.04	4.9	1,239.3	6.27	12,184	336.05
p25	0.0	n.a	n.a	12.02	15.2	964.5	7.83	26,527	255.77
p50	41.2	n.a	n.a	12.76	18.7	1,840.8	12.67	35,143	493.40
p75	82.4	n.a	n.a	13.50	22.2	2,717.2	16.70	43,758	731.02
Italy									
N. regions	20	20	20	20	20	20	20	20	20
mean	42.1	1,383.0	0.03	3.34	17.5	2,874.4	29.00	15,066	509.30
min	3.4	89.3	0.01	2.12	10.7	119.5	6.33	3,264	14.46
max	178.8	5,322.5	0.14	4.40	24.0	8,979.7	12.23	25,707	1,393.24
sd	43.8	1,265.2	0.03	0.65	4.6	2,317.1	33.40	7,412	420.26
p25	10.7	500.4	0.02	2.82	13.0	1,054.3	6.33	9,075	171.46
p50	29.2	885.1	0.03	3.36	18.3	1,863.8	12.23	14,344	370.67
p75	56.5	2,060.2	0.03	3.96	21.0	4,377.1	34.42	22,559	755.13

statistics	Banks	Branches	Banks/ Branches	Firms' size	GDP per capita	Population	Farmers	Area km2	Students
Netherland									
N. regions	12	12	12	12	12	12	12	12	12
mean	45.0	n.a	n.a	8.90	21.4	1,302.3	6.70	2,824	270.40
min	9.2	n.a	n.a	7.76	16.7	289.0	1.75	1,364	65.80
max	131.4	n.a	n.a	9.88	27.7	3,356.5	24.60	4,989	73.97
sd	36.2	n.a	n.a	0.73	3.6	988.5	6.58	1,190	212.86
p25	16.8	n.a	n.a	8.28	18.8	510.8	2.71	1,979	109.98
p50	39.8	n.a	n.a	8.97	19.8	1,073.7	4.08	2,656	201.39
p75	61.5	n.a	n.a	9.43	24.7	2,102.7	10.12	3,349	402.04
Portugal									
N. regions	7	7	7	7	7	7	7	7	7
mean	29.7	735.5	0.04	5.39	9.4	1,442.4	13.17	13,129	n.a
min	0.0	141.7	0.00	3.71	7.3	238.5	3.57	779	n.a
max	72.6	1,852.0	0.09	6.26	11.5	3,579.8	26.85	26,931	n.a
sd	27.0	718.2	0.03	0.86	1.4	1,528.6	9.86	10,838	n.a
p25	8.4	142.5	0.03	4.89	8.1	247.5	5.15	2,330	n.a
p50	22.8	300.0	0.03	5.59	9.8	480.5	7.28	11,931	n.a
p75	53.2	1,589.3	0.08	6.11	10.1	3,552.2	22.55	23,668	n.a
Spain									
N. regions	17	17	17	17	17	17	17	17	17
mean	22.1	2,260.9	0.01	4.42	13.2	2,309.7	24.62	29,692	520.69
min	1.0	415.7	0.00	3.37	8.4	261.5	2.52	5,014	52.74
max	171.2	7,199.8	0.04	5.71	17.6	7,140.7	155.62	94,193	1,787.13
sd	40.6	1,953.0	0.01	0.66	2.7	2,058.4	36.25	30,418	487.61
p25	4.0	990.0	0.00	3.87	11.1	1,066.3	4.10	7,261	212.31
p50	7.8	1,648.2	0.00	4.40	12.7	1,595.0	15.95	11,317	369.56
p75	18.8	2,924.2	0.01	4.99	15.9	2,715.0	25.88	41,602	563.01

statistics	Banks	Branches	Banks/ Branches	Firms' size	GDP per capita	Population	Farmers	Area km2	Students
				United Kingdom					
N. regions	12	12	12	12	12	12	12	12	12
mean	37.9	1,252.9	0.02	10.66	19.4	4,920.1	26.03	20,318	1,290.44
min	4.8	321.8	0.01	9.32	15.9	1,677.2	3.47	1,584	458.23
max	315.8	3,019.2	0.10	12.50	29.5	7,955.3	47.83	78,132	2,042.43
sd	87.7	829.0	0.03	1.07	3.7	1,880.0	13.90	19,119	492.10
p25	8.2	578.2	0.01	9.65	17.1	3,542.3	17.98	13,582	935.99
p50	12.3	1,149.6	0.01	10.80	18.6	5,081.9	24.12	15,597	1,223.86
p75	17.1	1,505.1	0.02	11.52	20.3	6,113.9	39.56	19,944	1,696.82

Table 6
Determinants of the degree of localism (ratio banks/branches) at regional level

Coefficients and robust standard errors (in italics) of, respectively, a fractional logit and an Instrumental Variable (IV) estimation. Standard errors in the fractional logit regression are also corrected for country clusters. The dependent variable is an indicator of the degree of localism of the regional banking systems: the ratio between total banks and total branches in each region, which is bounded between 0 and 1 by construction. Apart self-explanatory covariates, Linguistic and cultural minorities are detailed in Table 2; Farmers is the regional share of employees in agriculture; Capital is a dummy for the region of country capital; Entry into banking requirements is an index measuring the restrictiveness of rules applied to entry (Table 3); Government-owned banks '95 is the share of total bank assets held by state-owned banks in 1995 (Table 4). ***, **, * denote, respectively, statistical significance at the 1%, 5% and 10% level.

Regressors	Fractional logit model	IV model
GDP per capita (log)	0.679 **	0.086 ***
	0.290	*0.024*
Population (log)	0.590 **	0.023 ***
	0.236	*0.009*
Firms' size (log)	-0.685 **	-0.136 ***
	0.335	*0.044*
Linguistic and cultural minorities	0.664 ***	0.025 **
	0.192	*0.011*
Farmers (log)	-0.544 ***	-0.016 **
	0.174	*0.007*
Capital	-0.365	-0.023
	0.343	*0.019*
Students/population	13.186 ***	0.704 ***
	3.856	*0.185*
Entry into banking requirements	1.016 ***	0.052 ***
	0.159	*0.012*
Government-owned banks '95	0.012 *	0.003 ***
	0.007	*0.000*
Constant	-17.221 ***	-0.664 ***
	1.226	*0.115*
Country dummies		
Number of observations	113	112

28

Table 7

Observations in the exercise on number of foreign banks for all possible cross-border pairs *host region – home region*

	Domestic regions (a)	Other countries' regions (b)	Observations (c=a*b)
Austria	9	138	1,242
Belgium	11	136	1,496
Denmark	1	146	146
Finland	5	142	710
France	22	125	2,750
Germany	16	131	2,096
Greece	13	134	1,742
Ireland	2	145	290
Italy	20	127	2,540
Netherlands	12	135	1,620
Portugal	7	140	980
Spain	17	130	2,210
UK	12	135	1,620
Total	**147**	**1,764**	**19,442**

Table 8

Determinants of the number of foreign banks at regional level

Coefficients and robust standard errors (in italics) of a Zero Inflated Poisson estimation. Standard errors are also corrected for country clusters. Dependent variable: number of foreign banks in each cross-border pair host region – home region. The upper panel shows the results of the Poisson model (for non-zero observations). The lower panel reports the results of the inflation model = logit. Country dummies are included for both the upper and the lower panel regressions. Covariates are split up on the base of the characteristics of host and home regions and their links. Apart from self-explanatory regressors, Capital is a dummy for the region of country capital; Government-owned banks '95 is the share of total bank assets held by state-owned banks in 1995 (Table 4); Trade is the trade flows between each pair of countries; Farmers is the regional share of employees in agriculture; Official supervisory power is an index measuring general supervisory powers (Table 3); Trust inter countries is a measure of the reciprocal trust between the citizens of the host and home country (Guiso *et al.*, 2004). ***, **, * denote, respectively, statistical significance at the 1%, 5% and 10% level.

Reference region	Regressors	Coef.	Robust Std. Err.	
host	Population (log)	0.444	*0.200*	**
	GDP per capita (log)	3.291	*1.134*	***
	Firms' size (log)	-1.63	*1.61*	
	Entry regulation	-0.345	*0.045*	***
home	GDP per capita (log)	3.82	*0.905*	***
inter-countries	Trade (log)	0.433	*0.141*	***
	Common language	-0.283	*0.203*	
	Common border regions	-0.055	*0.331*	
	Constant	-25.64	*5.79*	***

Inflate

Reference region	Regressors	Coef.	Robust Std. Err.	
host	Firms' size (log)	-3.883	*1.49*	***
	Population (log)	-1.404	*0.375*	***
	GDP per capita (log)	-3.179	*1.263*	***
	Capital	-1.893	*0.519*	***
	Entry regulation	0.216	*0.123*	*
	Government share	-0.085	*0.020*	***
home	GDP per capita (log)	-3.934	*1.441*	***
inter-countries	Trust inter countries	-0.400	*0.73*	
	Common language	-0.580	*0.509*	
	Trade (log)	-1.129	*0.245*	***
	Common border regions	-11.27	*3.64*	***
	Constant	57.95	*7.46*	***
Number of observations		19,442		
Non-zero observations		226		
Zero observations		19,216		

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