



Cass Business School
CITY UNIVERSITY LONDON

**Centre for Banking Research
Cass Business School
City University London**

WORKING PAPER SERIES

WP 01/12

What factors cause foreign banks to stay in London?

Andrew Clare

(Cass Business School, City University London)

Mohamed Azzim Gulamhussen

(University Institute of Lisbon)

Carlos Pinheiro

(Caixa Geral de Depósitos)

What factors cause foreign banks to stay in London?*

Andrew Clare**
Cass Business School

Mohamed Azzim Gulamhussen
University Institute of Lisbon

Carlos Pinheiro
Caixa Geral de Depósitos

Abstract

The banking literature focuses extensively on the phenomenon of bank entry and pays less attention to the factors driving the continuation of banking activities in foreign markets. In this paper, we analyze this important, but overlooked, issue by constructing a unique database of foreign banks that continue operating and those that have withdrawn from arguably the world's most international banking center – London. This new data set comprises information on 408 offices from 77 countries spanning the period from 1945 to 1999, giving us 4,643 observations, of which 2,795 represent offices that continue operating and 1,848 that withdrew from London during this period. Our empirical work shows that the continuation of international banking activity in London is positively related to: the setup of locally integrated organizational forms at entry; the experience in the local market; and the size of local operations. Continuation of banking activities is however negatively related to the setup of organizational forms integrated into the parent bank at entry and to the geographic distance of the home country to London. We also find that higher global economic activity increases the likelihood of international banking operations continuing in London; however, the more volatile the global economic environment, the greater the prospect of a cessation of this activity.

Keywords: International investment; financial institutions and services

JEL Codes: F21, G20

* We acknowledge financial support from 'Fundação para a Ciência e Tecnologia' (PTDC/EGE-ECO/114977/2009). We also benefited from helpful suggestions made by Alberto Pozzolo, Colin Cameron, Erlend Nier, Ewa Pinkowska, Geoffrey Jones, Lea Zicchino, Mark Casson, Peter Buckley, Phil Molyneux and Sarkis Khoury. All errors are our own responsibility.

** Corresponding address: Andrew Clare, Cass Business School, 106, Bunhill Row, London. Phone +44 (0) 20 7040 5169, Fax +44 (0) 20 7040 8699, Email a.clare@city.ac.uk

1. Introduction

Many researchers have studied the phenomenon of foreign bank entry (see, among others, Manlagñit, 2011); however, the factors determining the continuation of these operations have received much less attention. Perhaps one of the main reasons why this phenomenon has received less attention is the unavailability of suitable data on the incidence of international bank withdrawals (Hryckiewicz and Kowalewski, 2011). The main contribution of this paper is to fill this important gap in the literature. We do this by assembling a new bank dataset on the continuations and withdrawals of foreign banks present in different organizational forms in, arguably, the world's most international banking center – London.¹ Our novel dataset consists of a rich set of information on 408 foreign banks from 77 countries spanning the period from 1945 to 1999, providing an unbalanced panel of 4,643 observations; 2,795 of these represent survivals and 1,848 represent withdrawals from London.

Multinational banks differ from other corporate enterprises because of the informational intensity of their products (Gray and Gray, 1981). The costs of transacting largely non-tradable information-intensive products tends to inhibit banks from entering into licensing and franchising arrangements, that is, banks tend to appropriate greater rents by internalizing their information flows across borders (Grubel, 1977). The extensive literature on bank entry places significant emphasis on the informational processing advantages that banks derive from their domestic customers. The empirical evidence largely supports this follow-the-customer hypothesis, that is, the informational advantage with respect to their domestic customers drives banks to set up international banking activities where their home customers are present (see, among others, Hultman and McGee, 1989; Yamori, 1998).

There are a few studies, however, that do not find support for this hypothesis. For example, Seth and Quijano (1993) do not find an empirically significant relationship between loans booked by U.S. operations of Japanese banks and loans contracted by Japanese manufacturing firms. Seth et al. (1998) find that foreign banks in Canada, Japan, the Netherlands and the U.K. lend more to local customers than to domestic customers. Moreover, Focarelli and Pozzolo (2005) and Goldberg and Johnson (1990) find that banks not only follow domestic customers but also seek new customers in markets that offer growth opportunities. These findings indicate that banks

¹ As well as being a leading international banking center with a rich history of international banking, London is also suitable for our purposes because regulatory authorities have treated both domestic and overseas banks impartially for a number of years (Goldberg and Saunders, 1980).

possess other strengths, aside from the informational advantage they may have with respect to their own domestic customers, which enable them to compete with local banks. These strengths comprise intangible technical, market-making and/or managerial skills that take the form of public goods and can be applied to new markets at very low marginal cost and high marginal benefit equivalent to the size of the market (Qian and Delios, 2008; Williams, 1997). These intangibles are particularly useful in providing deposit-lending services, financial advisory services, participation in the syndicated loan market, portfolio management services, the management of Eurobond issues and complex financial instruments to global customers demanded at financial centers (Ursacki and Vertinsky, 1992). Unlike information flows on bank-customer relationships that are independent of the presence of other banks, the demand for these services is enhanced by proximity to other multinational banks operating in financial centers (Choi et al., 1986).

Despite possessing significant strengths to service local and global customers at financial centers, foreign banks may still have to overcome other local barriers associated with: business practices; societal and cultural aspects; the functioning of the monetary and financial markets; supervisory and regulatory entities; and coping with volatile demand conditions over time. The operation of offices over time reduces these barriers to the extent that local experience becomes a key driver of future expansion (Johanson and Vahlne, 1997). Ball and Tschoegl (1982) and Qian and Delios (2008) find that multinational banks internalize their advantages through nascent operations that over time act as footholds in exploiting different growth opportunities in overseas markets.

The possession of internalization strengths and experience with doing business in the local market can lead banks to expand to a point of holding a diversified portfolio of both upstream and downstream activities, signaling asset and service quality demanded by customers seeking international banking relationships (Berlin, 1987). A well-diversified portfolio of activities enables banks to deal with changing demand conditions, as long as the costs of switching between different activities (opening and closing desks or hiring and firing staff) are not too high. A less-diversified portfolio may lead banks to specialize in offering tailor-made financial packages, leaving them vulnerable to changing demand conditions (Buckley and Casson, 1998).

Banks originating from some countries may be endowed with privileged conditions, which may make them better equipped to continue their operations abroad. In early studies of the

benefits of internalizing home-country advantages, Fisher and Molyneux (1996) and Grosse and Goldberg (1991) find that geographic distance discouraged foreign entrants in both the U.K. and the U.S. Of the several other home-country-related advantages, in particular, regulatory quality has been found to have a significant influence on bank entry because it appeals to international customers due to the potential safety net that their banks can access in difficult conditions (Chen and Liao, 2011). The presence of peers from the domestic market in the foreign market signals significant home country related advantages but increases competition hindering potential expansion in the foreign market (see also Ball and Tschoegl, 1982).

Our findings show that the continuation of overseas banking operations in London is influenced by bank characteristics, domestic market-related advantages and global market conditions. Specifically, we find that continuation is positively related to initial organizational forms that are incorporated into local markets, the experience and size of the local operations, and global economic demand; furthermore, it is negatively related to initial organizational forms integrated into the parent bank, geographic distance and volatility of global economic demand. We also find that the volatility in global economic demand has a positive influence on the chances of continuation when interacted with the size of the overseas operation. The remainder of this paper is organized as follows: in Section 2, we define and relate our main hypotheses to previous research. Section 3 presents our methodology, the dataset and the variables used to estimate the model. In Section 4, we present and discuss our results for the decision to continue in London or, conversely, withdraw from London. Finally, in Section 5, we summarize the main conclusions of our study.

2. Defining the hypotheses

The preceding discussion indicates that a variety of factors can influence the continuation or conversely withdrawal. In this section of the paper, we define the hypotheses that we address and test in our empirical work.

First, multinational banks internalize their ownership advantages across borders in different ways (Nachum, 2003). The different internalization advantages are likely to figure in the organizational form adopted to operate abroad (Heinkel and Levi, 1992). Parent banks possessing advantages in the form of information flows on domestic customers will service them through organizational forms integrated into the parent–representative offices, branches or agencies—because these customers are monitored more effectively by organizational forms integrated into

the parent (Cerutti et al., 2007; Du, 2003). Parent banks possessing other intangible assets that assume the form of public goods will service local and global customers through locally licensed subsidiaries and banks because local and global customers are monitored more effectively by locally integrated subsidiaries (Cerutti et al.; 2007; Du, 2003).² These subsidiaries are likely to be more committed to the market than other organizational forms integrated into the parent bank. For example, Ursacki and Vertinsky (1992) do not find a statistically significant relationship between the presence of customers and foreign branches and representative offices from the same country in Tokyo, indicative of a lack of demand for services by multinational corporations with whom banks have information processing advantages. Consequently banks with these forms of presence are more likely to withdraw from overseas markets.

Hypothesis 1a: There is a negative relationship between ownership advantages stemming from information flows on domestic customers (serviced through organizational forms integrated into the parent bank) and continuation of foreign banks in the same market, and a positive relationship between ownership advantages useful in servicing local and global customers (serviced through locally licensed subsidiaries and banks) and continuation of foreign banks in the same foreign market.

Another bank characteristic that is likely to influence continuation in the foreign market is experience. The early formulation of the sequential expansion model advocated incremental commitment to overseas markets to enable firms to gather information on local business conditions before sinking significant resources into the overseas market (Johanson and Vahlne, 1977). Ball and Tschoegl (1982) applied this theoretical framework to the internationalization of banking activity and showed that Japanese and U.S. banks expanded their overseas operations in the U.S. and Japan after acquiring significant experience of doing business in these markets. Subsequent extensions of the sequential expansion model show that the experience of operating overseas plants reduces the costs of doing business in those markets (Kostova and Zaheer, 1999) and facilitates the search for new opportunities (Luo and Peng, 1999). Qian and Delios (2008) used these extensions to study the internationalization of Japanese banks and showed that the

² Representative offices, branches and agencies are legal extensions of parent banks. They are subjected to minimal regulation, and business conducted through these offices can be booked elsewhere in the network of the parent. Subsidiaries and locally incorporated banks are separate entities belonging to the parent bank. They have to comply with local regulation and governance. Most business conducted by subsidiaries in financial centers is with local and global customers, placing them on equal footing with other domestic banks. Compared to representative offices, branches and agencies, subsidiaries are costlier to set up and operate. The choice between organizational forms integrated into the parent and organizational forms with local incorporation involves trading off parent and home central bank support and local regulatory control and the costs of local incorporation and improved governance (see, among others, Du, 2003; Tschoegl, 2004).

experience acquired by these banks in servicing local markets enabled them to augment their business with local customers. Tschoegl (2002) also finds that the experience acquired by overseas banks in Norway increased their propensity to continue operating there.

Hypothesis 1b: There is a positive relationship between the experience of local operations of foreign banks and their continuation in the same foreign market.

The size of the local operation, another bank characteristic, is also likely to influence continuation in the foreign market.³ The size of the operation is likely to be determined via a combination of internalization advantages possessed by banks to service local and global customers and experience acquired over time in counteracting the deterring effects of a lack of familiarity with local business, markets and regulatory conditions. Strong internalization advantages and experience allow banks to operate large concerns involved in servicing several markets in the vicinity, preferably exhibiting uncorrelated demand, and in providing a portfolio of products (Buckley and Casson, 1998). These large concerns are likely to give banks the flexibility to deal with fluctuating demand over time and to reap the advantages of contiguity to other multinational banks but, at the same time, lock them into the financial center. Small concerns operating in niche segments may be more vulnerable to fluctuating demand conditions and less committed to the market, making them more likely to withdraw. The size and scope of the activity of foreign banks in several financial centers is documented by Brealey and Kaplanis (1996). Their regressions relating the level of presence of domestic customers with whom banks might have information processing advantages and the size of the financial market could not alone explain the staffing levels of foreign banks in several financial centers, leading them to conclude the involvement of these banks over a wider geographic space and products.

Hypothesis H1c: There is a positive relationship between the size of local operations of foreign banks and their continuation in the same foreign market.

Second, there is evidence that suggests the benefits of internalizing home-country advantages. First, the geographic distance to the host country can influence the continuation of overseas operations. On the one hand, the lower monitoring costs of offices in nearby locations

³ The main tangible assets owned by foreign banks include offices and equipment, often rented on short leases, and staff (Khoury, 1979). The main intangibles include costs sunk in hiring and training staff, establishing contacts, putting procedures and routines in place and acquiring reputation (Casson, 2000). The overall size of the operation is likely to be a combination of the expenses related to the early termination of lease contracts; severance staff; the cessation of procedures and routines; loss of reputation; and the costs sunk in hiring and training staff. Because all these elements are extremely difficult to assemble, we follow Brealey and Kaplanis (1996), Khoury (1979), and Ursacki and Vertinsky (1992) in estimating the potential size of the operation through the staffing level.

might lead one to expect that banks from countries relatively close to the host country should find it easier to continue operating offices in nearby countries. However, on the other hand, banking requires a local presence to provide many non-tradable services; therefore, the farther from the home market a foreign destination is, the more likely a local office is required to service those overseas customers. Fisher and Molyneux (1996) and Grosse and Goldberg (1991) formulated similar hypothesis in their studies of the entry decisions of foreign banks in the U.K. and the U.S. Both studies identified a negative relationship between geographic distance and the entry of overseas banks in the U.K. and the U.S. However, Esperanca and Gulamhussen (2001) found a positive relationship between distance and the assets of foreign banks in the U.S. and a negative relationship between distance and the number of offices of foreign banks in the U.S. The mixed evidence on the relationship between geographic distance and the entry decision suggests that distance may well matter for the exit decision but gives us an indeterminate sign for this relationship.

Hypothesis H2a: There is a negative/positive relationship between geographic distance and continuation of foreign banking operations.

Analogous to geographic distance, banks also benefit from internalizing domestic regulatory quality, which can also influence the continuation of foreign operations of multinational banks. Customers intending to establish international banking relationships value banks headquartered in robust and efficient regulatory jurisdictions, as this signals asset and service quality and also support of the domestic central banking system (Berlin, 1987). In a recent study spanning several countries Chen and Liao (2011) show that restrictive regulation and supervision in the domestic market significantly increases margins of the foreign operations of banks from these countries.

Hypothesis H2b: There is a positive relationship between the quality of domestic regulation and the continuation of foreign banking operations in financial centers.

Banks originating from the same domestic market possess country-related internalization advantages that are shared by their direct peers but not by other multinational banks. The presence of several banks from the same home country however places them in direct competition, as country-related advantages internalized by banks may no longer act as a differentiating factor in services provided to local and global customers. It is thus possible that the more banks there are from the domestic market in the foreign market, the stiffer the

competitive conditions that banks will have to face to continue operating in the overseas market. Ball and Tschoegl (1982) find a positive but non-significant relationship between the number of banks from the domestic market and the propensity of Japanese and U.S. banks to expand their operations in the U.S. and Japan, respectively.

Hypothesis 2c: There is a negative relationship between the presence of competitors from the same domestic market and the continuation of foreign banking operations.

Third, major international financial centers offer banks the possibility of internalizing their advantages by offering services that are independent of the presence of other multinational banks, for example, services provided to domestic customers with whom banks have information processing advantages and dealings in domestic monetary and capital markets, as well as services whose demand is enhanced by the presence of other multinational banks through the reduction of search costs for customers and concurrently increasing demand for all banks at the financial center (see also Choi et al., 1986; Jones, 1992; Kindleberger, 1974). Thus, while the presence of competitors from the same home market places banks under increased competitive pressure, reducing the propensity to continue operating; the presence of banks from other markets increases the propensity of continuing operations in the overseas market.

Hypothesis 3a: There is a positive relationship between the presence of other foreign banks and the continuation of their foreign banking operations.

Finally, following previous studies of financial centers (Brealey and Kaplanis, 1996; Ursacki and Verstinsky, 1992), we assume that banks service both local and global markets from financial centers. It is thus possible that both the level of global economic activity and its volatility can play an important role in determining the continuation or withdrawal of overseas bank ventures (Rugman and Li, 2007). However, and again following the previous discussion (see *Hypothesis 1c*), it is equally likely that the volatility of global demand will have a disproportionate impact on small compared to larger bank operations. Larger operations, almost by definition, will tend to have a more diverse range of activities, making them potentially immune to volatile economic environments.

Hypotheses H3b: There is a positive relationship between global economic conditions and the continuation of operations of foreign banks in financial centers.

Hypotheses H3c: There is a negative relationship between the volatility of the global economy and the continuation of operations of foreign banks in financial centers.

Hypothesis 3d: The influence of volatility of the global economy on the continuation of large and small operations of foreign banks in financial centers will be different.

3. Data and methodology

3.1. Data

To test the hypotheses outlined above, we constructed a unique dataset. The database was constructed using the annual listings produced by *The Banker* magazine.⁴ This publication enabled us to gather information on the continuation and withdrawal of operations of overseas bank in London between 1945 and 1999. The sample period ends in 1999 because *The Banker* stopped publishing this information at this time. The richness of our data can be observed in Figures 1 to 3. In Figure 1, we summarize the entries and withdrawals of bank offices during an extensive sample period spanning 1945 to 1999. This figure shows a general decline in the number of new entrants and a steady flow of withdrawals during the sampled period (1970-1999): in 1999, the last year of the sampled period, 32 banks withdrew, and only 2 banks entered London. In the 1990s, 113 entries were recorded versus 132 withdrawals, compared with 158 entries versus 74 withdrawals in the 1980s. Figure 1 also shows how variable the entries and withdrawals are from year to year. It is this variability that we seek to understand in this study. Approximately 43% of banks in the sample are European; Asian banks comprise 35% of the sample; North and South American banks account for 10% and 6% of the sample, respectively, while 6% are banks from Africa or the Caribbean. In Figures 2 and 3, we chart the continuation and withdrawal of the London operations of foreign banks on a country-by-country basis. Japan, Switzerland and the U.S. have higher shares in both banks that continue operating in London and banks that have withdrawn from London.

In a recent study, Hryckiewicz and Kowalewski (2011) use Bankscope to compile data on bank withdrawals from foreign markets. Their data contain information on only 145 subsidiaries that withdrew from 54 countries during the period 1997-2009. They identify an important limitation of their source, in that they are able to compile only data on withdrawals; that is, they could not compile from Bankscope data on benchmark cases of banks that continued operating in

⁴ The Banker has recently been used in other empirical studies on banking. For example, Brewer et al. (2008) use this source as an auxiliary database to identify the largest banks operating around the world. Morck et al. (2011) also rely on this source to update their database on bank ownership compiled by Caprio et al. (2007).

the market and other organizational forms, namely, representative offices, branches and agencies. Our sources enable us to overcome these difficulties and extend their work.⁵

Our data relate exclusively to the London operations of foreign banks. Our original sample of data consisted of information on 616 foreign banks operating in London. However, we had to exclude several observations: a) 64 banks because we could not collect data for one of the three key bank variables: organizational form, experience or staff size (as a proxy for operational size, as explained earlier); b) 55 banks that entered London before 1945 (although these banks were largely setup for colonial reasons they facilitated sterling transactions and trade financing pointing to the desirability of including these banks in future analysis controlling for other macro conditions such as the World Wars I and II and the financial crisis of the 1930s in the U.S.) again because we could not collect data for one of the three key bank variables mentioned in a) in addition to computing the number of banks from the same country and the total number of banks operating in London⁶; c) 53 banks with more than one operation in London, e.g., the multiple concerns of West LB in the U.K. (we control our baseline model for these multiple concerns in our robustness tests with findings reported in Panel 1 of Table 6); d) 36 usable cases of banks that entered into mergers as several authors (see, among others, Berger et al., 2004; Focarelli and Pozzolo, 2001) consider this activity a different phenomenon (we control our baseline model creating a dummy for all banks that entered into a merger independent of having usable information on several cases in our robustness tests with findings reported in Panel 2 of Table 6).

The preceding exclusions for the sake of the reliability of the data employed left us with data on 408 banks headquartered in 77 countries, yielding an unbalanced panel of 4,643 observations. Of these 408 banks, 177 banks (2,795 observations) entered and continued in London during our sampled period, while 231 banks (1,848 observations) entered and subsequently withdrew from London.

Dependent variable: Our analysis focuses on the decision to continue operating in London or, conversely, the decision to withdraw from London. We construct a time-varying dependent (y) variable that takes the value of 1 if an overseas bank continues operating in London and a value of 0 if it withdraws from London (which we refer to as a closure).

⁵ The authors caution the reliability of accounting ratios used to proxy parent-bank advantages (p. 93). We attempted to collect data on accounting ratios as well, but this would have led us to drop the number of observations in the study drastically, additionally hampering our study due to the reliability of such historical data. We follow Buch and DeLong (2004), who avoided using accounting data due to similar concerns in a study on cross-border mergers and acquisitions in banking.

⁶ Strictly speaking we would require to populate information on 55 banks x 75 years (1870-1945) = 4,125 observations. Despite significant effort we only managed to gather a highly unbalanced panel for 8 banks x 13 years (1925-1945) = 152 observations.

The independent variables: We construct the independent variables following the literature identified in each of the hypotheses developed in the previous section.

Variable 1a: Bank characteristics - organizational form. To capture the nature of internalization advantages, information processing advantages associated with domestic customers or other intangible assets that assume the form of public goods within the multinational bank, we created dummy variables for each of five types of organizational form, adopting a self-explanatory taxonomy: *representative office (rep. office)*, *agency* (used as the control variable in the regressions), *branch*, *subsidiary* and *U.K. licensed bank*. These dummies were created from *The Banker*. The Japanese bank Nomura opened a subsidiary in 1986 and continues operating in London, whereas another Japanese bank, Hyakujushi, began operating in London in 1987 with a representative office that it withdrew in 1998. WFC Ltd. from the U.S. operated an agency in London from 1973, which it withdrew in 1977. The Saudi International Bank from Saudi Arabia operates a U.K. licensed bank since 1990. Our sample includes 49% representative offices, 1% agencies, 34% branches, 13% subsidiaries, and 3% licensed banks.

Variable 1b: Bank characteristics – experience. To capture the level of familiarity of the concern with the local market we define *experience* as the logarithm of the number of years that a bank has been present in London before its withdrawal or until 1999 if it is still present in that year. We constructed our variable from *The Banker*. The Japanese bank Nomura has 14 years of *experience* in our sample because it arrived in 1986 and continued operating past 1999. However, Okobank from Finland collects only 13 years of experience because it entered London in 1986 but withdrew in 1998. Our sample also contains the Overseas Union Bank; it entered the London market in 1963 and continued operating past 1999, yielding an experience of 37 years.

Variable 1c: Bank characteristics – size. To capture the level of involvement of the parent bank in the host market, we use the logarithm of the number of staff employed by the bank in London, which we denote by *size*. Within our dataset, we know, for example, that the Saudi International Bank entered the London market with a staff of 245, staff levels peaked at 250 between 1993 and 1996, but had fallen to 208 by 1999. By contrast, the Swiss bank, Sarasin & Cie., which entered in 1980, operated with a staff of 3 people and continued operating in London, whereas United Overseas Bank, also from Switzerland, operated with 32 people at its peak in 1992 and withdrew in 1996. In terms of size, the Solali Bank from Bangladesh operated with only 1 employee in London from 1974 to 1975, while at the opposite end of the scale, Goldman

Sachs' headcount reached 3,000 in 1999, and, of course, the bank was still operating in London in 1999.

Variable 2a: Country characteristics – distance. To capture home country related internalization advantages in terms of the cost of monitoring distant activities, we use a measure of geographic *distance*, logarithm of the number of kilometers between London and the capital city of the bank's country of origin. The average value of this variable for the sample is 2,000km, approximately the distance between London and Athens. For instance, despite the considerable distance between Tokyo and Japan (9,558km), Japanese banks populate the London market in significant numbers (from 15 in 1970 to a maximum of 58 in 1996 and 41 by the end of 1999); on the other hand, French banks whose capital is only 342km from London had 9 banks in London in 1970, which rose to a high of 25 in 1990 but had fallen to 18 by 1999. The most distant country capital from London in our sample is Australia (16,973km), and the closest is Brussels (322 km).

Variable 2b: country characteristics - regulatory quality. To capture home country related internalization advantages in terms of the soundness of the domestic banking market, we use a measure of the quality of domestic regulation, *regulatory quality*, which we collected from the World Bank database (Worldwide Governance Indicators, available at <http://www.worldbank.org/wbi/governance>, Kaufman et al., 2009). This measure indicates how authority in a country is exercised and captures regulatory changes in the period of analysis. Higher values of regulatory quality pertain to better governance at the country level. Iran had the lowest score of -1.60, while Singapore had the highest value of +1.88.

Variable 2c: country characteristics – same origin. To capture the influence of the deterring effects of competition from banks originating in the same home country, we construct a time-varying variable denoted by *same origin* with *The Banker* data. We construct this variable for each foreign bank by adding up the number of banks operating in London that have the same origin. For example, Taiwan had only 2 banks operating in London from 1981 to 1992, while the US had 90 in 1979 and between 1981 and 1983. Thus, for a U.S. bank, *same origin* would be 89 in 1979 and between 1981 and 1983 and would have a value of 1 for Taiwanese banks in 1979 and between 1981 and 1983.

Variable 3a: Global market conditions – total. To capture the influence of agglomeration, advantages stemming from presence of other multinational banks in the vicinity, we construct

another time-varying variable denoted by *total* using *The Banker*. This variable represents the total number of foreign banks operating in London. Agglomeration has a maximum value of 488 in 1990 and a minimum of 187 in 1970.

Variable 3b, 3c and 3d: Global market conditions: world GDP and volatility. Finally, we use *world GDP* to gauge the strength of the world economy as well as its *volatility* ($\sigma(\text{GDP})$), on a yearly basis. The *world GDP* variable peaks in 1999 at \$31.20trn. The volatility of world GDP is computed as the standard deviation of world GDP using a three-year rolling window and peaks during our sample at 2.41% in 1995; its lowest value is 0.12% in 1998. Finally, the interaction of *volatility* and *size* is measured as $\sigma(\text{GDP}) \times \text{size}$ (as defined earlier).

In Table 1, we present the descriptive statistics of the variables used in this study, separating the ones used to test the hypotheses defined earlier (as well as the ones used in robustness tests). Table 2 presents the correlation of the variables.

3.3. Methodology

We hypothesize that the continuation of a foreign bank's operations in the City of London is positively related to: (a) bank characteristics (initial organizational form, experience and size); (b) home-country characteristics (distance, regulatory quality and presence of domestic competitors); and (d) global market conditions (agglomeration of other multinational banks, global GDP and its volatility).

Given the existence of observations on i banks for t years, the general specification is:

$$Y_{it} = \alpha + \beta_j \text{ bank characteristics}_{it} + \gamma_j \text{ home country characteristics}_{it} + \phi_j \text{ global market conditions}_{it} + \varepsilon_{it} \quad (1)$$

where Y_{it} refers to bank i and time t ; it is a two-state dependent variable, which is assigned the value 1 when bank i remains in London and a value of 0 if it leaves London; α is the intercept; β , γ , and Φ are the unobserved coefficients for the unknown parameters, and ε_{it} is an error term not suffering from the strict assumption of normality.

Our database comprises information on 408 banks for the period 1945-1999, a typical unbalanced panel with 4,643 usable cases. Observations in the panel, for the same bank and for a number of banks from the same home country, can exhibit heterogeneity and be correlated. The standard logistic models suited for binary outcomes, for cross-section or pooled data, are inappropriate to test our hypotheses, as these do not capture the unobserved heterogeneity and intra-clustered correlations, leading to inconsistent parameter estimates. For this reason, we use

mixed-effects logistic regressions, as these recently developed techniques capture the unobserved heterogeneity and relax prior independence of irrelevant alternatives (Cameron and Trivedi, 2009).⁷ We estimate the model following the procedures described in Cameron and Trivedi (2005), Hensher and Jones (2007), Hensher et al., (2007) Jones and Hensher (2004), and Train (2003). Mixed models comprise fixed effects and random effects and consider parameter heterogeneity by allowing parameters to be stochastic, which translates in our specification into simply considering the whole set of 408 banks as a random sample and modeling the unobserved within- and between-bank variability as a random effect. In this sense, mixed-effects logit is an improvement of the standard logit model, as it adds a number of random parameters poised to capture the unobserved heterogeneity. A duration-based formulation, most commonly known as survival analysis, would be an alternative method. However, research has shown that duration and logistic models are equivalent and produce very similar results (Lee and Urrutia, 1996).

4. Empirical findings

4.1. Baseline specification

We present the results relating to the estimation of a version of expression (1) in Table 3, denoted hereafter as the baseline specification. Amongst other relevant information, Table 3 contains coefficient estimates, p -values and odds ratios. Odds ratios are more informative than coefficient estimates because the former gauge the probability of continuation compared to the probability of withdrawal.

For the initial setup, holding *agency* as the control group, the results reveal a significant negative coefficient on the dummy for *rep. office* at the 99% level of confidence but a positive coefficient for *U.K. licensed* at the 99% level of confidence. The odds of continuation for *rep. offices* are 0.38 times the odds of continuation for other organizational forms. Analogously, the odds of continuation for *U.K. licensed* banks are 22.6 times the odds of continuation for other organizational forms. This suggests that the initial organizational form, indicative of the internalization advantages possessed by banks at the time of entry, are important with regard to ultimate continuity of operations: locally incorporated bank operations that begin with the aim of serving the local and global customers have a greater propensity to continue operating (*Hypothesis 1a*). Both *experience* and the *size* have positive coefficient estimates significant at the 99% level of confidence (*Hypotheses 1b, c*). Every additional year in the experience increase

⁷ For the importance of relaxing prior independence of irrelevant alternatives in logistic models, also referred to as non-iid models, see Hensher and Greene (2003), and Train (2003).

the odds of continuation by 12.7 (x 100) percentage points. An increase in the size by an additional staff member increases the odds of continuation by 5.0 (x 100) percentage points. This reflects the importance of acquiring familiarity and knowledge of doing business in the host market, and the potential flexibility to source different markets and products in the continuation of overseas operations. Insofar as *distance* is concerned, it is negatively related to continuation at the 99% level of confidence. For every unit increase in the distance, home country internalization advantage, the odds of continuation reduce by 95.8% which reflects the importance and influence of the costs of monitoring distant offices (*Hypothesis 2a*). Finally, *world GDP* and its *volatility* are both significant at the 90% level of confidence. *GDP* is positively correlated with continuation (*Hypothesis 3a*), while the estimate for *volatility* is negatively related to continuation (*Hypothesis 3b*). A 1-unit increase in the global GDP increases the odds of continuation by 17.5%. An increase of 1-unit in the volatility reduces the odds of continuation by 27.1%. A buoyant global economic environment increases the likelihood that overseas bank operations will continue operating overseas. An increase in global economic volatility however reduces the likelihood that a foreign bank will continue operating overseas.

Given that large banks may incur higher leaving costs than small banks, it is possible that a slighter change in *volatility* might have a larger impact upon smaller, less well-established banks. We address the eventual non-linearity by interacting *volatility* and *size* (column 2 of Table 3). The coefficient on the interactive variable is positive and significant at the 99% level of confidence. Every unit increase in the size interacted with volatility increases the odds of continuation by 42.0% highlighting the greater likelihood of continuation of large offices compared to small ones (*Hypothesis 3c*).

In both specifications, columns 1 and 2 in Table 3, we take *size* and *same origin* as random parameters. The likelihood ratio test comparing the fit of our model with the fit of a standard logit model is significant at the 99% confidence level. This suggests that the mixed-effects logit specification is a more appropriate for our dataset compared to the standard logit specification.

4.2. Robustness checks

Tables 4 and 5 present the results of the following ten (a-j) robustness tests. We: a) exclude 50 banks (13% of the sample) that experienced a change in their organizational form during their time in London (Panel 1 of Table 4; b) exclude 37 banks that entered London between 1945 and 1969 (Panel 2 of Table 4); c) exclude influential countries (the U.S., Japan and Switzerland, one

at a time and all three together) (Panels 3, 4, 5 and 6 of Table 4); d) use *bilateral trade* as an additional control: d.1) employ the standard measure of bilateral trade as the sum of exports and imports (Panels 1 of Table 5); d.2) control for imports and exports separately (Panels 2 and 3 of Table 5); e) control for *banking crises* and *world failures* (Panels 4 and 5 of Table 5); f) control for the deregulation that followed London's *big bang* in 1986 (Panel 6 of Table 5); g) control for banks that had more than one operation in London (Panel 1 of Table 6); h) control for mergers by including banks engaged in mergers and a dummy in the baseline model (Panel 2 of Table 6); i) control for consortia banks by including a dummy for consortium shareholders in the baseline model (Panel 3 of Table 6); j) run separate models aggregating representative offices, agencies and branches on one side, and subsidiaries and U.K. licensed banks on the other side, also including (findings reported in Table 7: in Panels 1 and 2 aggregating representative offices, agencies and branches; and 3 and aggregating subsidiaries and foreign but U.K. licensed banks).

Of the sampled banks, 13% changed their organizational form over the period of their stay in London (of which 10% continue operating and 3% withdrew). For example, Europaeische Hypo from Germany operated a subsidiary from 1994 to 1996 and changed to a U.K. licensed bank in 1997. We intended to investigate the impact of these changes by continued replacement of the dummies pertaining to the initial commitment in the baseline by as many dummies corresponding to the specific organizational form on a year-by-year basis, but the dummies turned out to be collinear. Thus, we ran the baseline specification excluding the 50 sampled banks that experienced changes in their organizational form and present the results in Panel 1 of Table 4. Our previous results are confirmed, namely, in that the initial organizational form dictates whether or not banks will continue operating overseas.

The exclusion of 37 banks that entered London between 1945 and 1969 left the results qualitatively unchanged (Panel 2 of Table 4), with the exception of *distance*. Panels 3 to 5 of Table 4 present the results of excluding, alternately, U.S., Japanese and Swiss banks from the sample, as they represent 14.96%, 7.98% and 5.86% of the sampled banks, respectively. The results suggest that these countries are not driving our results, as the signs and significance of the variables remain unaltered, with the exception of *Entry: subsidiary*, which becomes significant at the 95% (Panel 4, without Japan) and 95% (Panel 5, without Switzerland) levels of confidence but with mixed signs. In Panel 6, we exclude the three influential countries altogether, and our baseline results are reinforced.

In Panel 1 of Table 5, we use *bilateral trade* (computed as the sum of imports and exports on a yearly basis) to assess the post-entry role of the possession of information processing advantages with domestic customers (see, among others, Casu and Girardone, 2010). Bilateral trade data are available from 1985 onwards; this reduced the sample to 3,068 observations. Although significant at the 90% confidence level, *bilateral trade* has an economically insignificant coefficient estimate of 0.000 (and an odds ratio of 1.000), indicating a similar probability of continuation and withdrawal. Ursacki and Vertinsky (1992) also failed to find a significant influence of bilateral trade on the entry of foreign banks in Japan as a proxy for the traditional follow-the-customer hypothesis. We re-ran the model with *exports* and *imports* separately (Panels 2 and 3 of Table 5) since these two measures could have opposite impacts on the continuation of foreign banks in London. The results are similar but stronger – imports increases the odds of continuation by 6.0% and exports by 5.8%, much lower compared to other factors discussed earlier.

In Panels 4 and 5 of Table 5, and following Hryckiewicz and Kowalewski (2011), we control for *banking crises* in the domestic market and *world failures*, as they may influence the continuation of foreign banks in London. We collected data on *banking crises* on a yearly basis at the country level from Laeven and Valencia (2008). The data are available from 1970 onwards and pertain to systemic banking crises when financial sectors experience a large number of defaults and financial institutions and corporations face major solvency difficulties. We collected data on *world failures* from the same source and aggregated information on bank failures, including assistance, at a global level, computed as a fraction of failed banking institutions. Similar to Hryckiewicz and Kowalewski (2011), *banking crises* cause foreign banks to withdraw from London. The odd of continuation for banks from countries that suffered banking crisis compared to banks originating in countries that did not suffer banking crisis is 0.42. However, *world failures* do not influence continuation of operations of foreign banks in London, since the coefficient is not significantly different from zero. A possible explanation is that the percentage of bank failures around the world may influence continuation and withdrawal from less important markets but not from London due to its pre-eminence in the global financial system.

We also estimated the baseline specification of our model with a dummy for the influence of the *big bang* in 1986. The findings indicate a positive coefficient for this variable at the 10% level of significance (Panel 6 of Table 5). The signs of the other coefficient estimates and their

levels of significance remain relatively unchanged with the addition of this dummy variable, thus confirming our previous findings. Nevertheless, we ran an additional regression to test for differences between 1986 (*big bang*) and the rest of the period under observation. We constructed a new dummy variable (denoted by $(1 - \textit{big bang})$), which was assigned a 1 if the year of analysis is not 1986, while keeping the dummy for 1986 (denoted *big bang*) in the set of independent variables, as defined previously. We then ran a unified regression with the right-hand side of the baseline specification entering twice: once multiplied by the dummy for *big bang* (1986) and another time multiplied by $(1 - \textit{big bang})$ (see also Pozzolo and Focarelli, 2008). We performed F-tests for the equality of the coefficient estimates obtained in the unified model for *big bang* (1986) and for $(1 - \textit{big bang})$. Our results do not lead to the identification of a structural break attributable to the *big bang*.

In Panel 1 of Table 6 we present the findings for the baseline model augmented with banks with multiple operations in London. Our data showed that 53 banks had multiple operations in London (as we mention in Section 3). The findings are identical to those of the baseline model in general with the exception of the dummy on *subsidiary* that now appears to be negatively related to continuation with an odd of 0.54, since parents with more than one subsidiary tend to divest and focus their operations in fewer locally integrated shops. The variable *same origin* now appears negatively and significantly, at the 1% level, related to continuation; for every additional bank from the same domestic market reduces the likelihood of continuation by 14%, a finding consistent with our initial expectation.

In Panel 2 of Table 6 we present the findings for the baseline model controlling for merger activity. The findings are generally in line with those of the baseline model, with the exception of the dummy for *subsidiary* that now appears negatively related to continuation with an odd of 0.55 and the dummy for merger that is significantly related to continuation with a very high odd indicating that banks that bank mergers increase the likelihood of continuation. The negative sign for the dummy for subsidiaries should be related to the withdrawal of subsidiaries following mergers with other similar concerns. The variable *same origin* also appears negatively and significantly, at the 1% level, related to continuation; for every additional bank from the same domestic market reduces the likelihood of continuation by 15%, a finding consistent with our initial expectation.

In Panel 3 of Table 6 we present the findings for the baseline model controlling for banks that were previously shareholders in consortium banks created to engage in large infrastructure financing in the early 1970s. We constructed a dummy that takes the value 1 if the sampled bank is shareholder of a consortia bank, and 0 otherwise. In our sample 56 banks previously held stakes in a consortium bank. The dummy for consortium bank appears negatively and nonsignificantly related to continuation. Again the findings remain largely unchanged with the exception of the dummy for *subsidiary* that appeared negatively related to continuation with odds ratio of 0.62. The variable *same origin* now appears negatively and significantly, at the 1% level, related to continuation; for every additional bank from the same domestic market reduces the likelihood of continuation by 14%, a finding consistent with our initial expectation.

We also ran separate models aggregating representative offices, agencies and branches on the one hand and subsidiaries and U.K. licensed banks on the other hand. The results in Panels 1 and 2 of Table 7 confirm our previous findings in that bank operations through organizational forms integrated in the parent bank cause banks to withdraw from London. The results in Panels 3 and 4 of Table 7 are not conclusive in what concerns the organizational form since the coefficient for subsidiaries and locally licensed banks is not significantly different from zero. Nevertheless, the results for the other variables are consistent with our previous findings. Three of the four regressions reported in Table 7 also show that the variable, *same origin*, representing the number of banks from the home country is negatively related to continuation with odds around 15%, i.e. every additional bank from the home country reduces the odds of continuation by approximately 15%. The sign for the variable, *total banks*, representing potential agglomeration benefits is negatively related to continuation but the odds are very small, 0.2%.

4.3. Endogeneity

It is possible that continuation of operations of foreign banks in London hinges on the home country institutional environment. We address this potential endogeneity by estimating our baseline specification using instrumental variables (IV).⁸ We use *rule of law* (sources and descriptive statistics are indicated in Table 1), a composite measure of economic freedom in the home country, the enforceability of law and the absence of arbitrary action by citizens or institutions, as our instrument, as it proxies the institutional environment in the home country, which can favor continuation. Switzerland receives a very high score, and Nigeria receives a very

⁸ See also Laeven and Levine (2007) and Mercieca et al. (2007).

low score. Panels 1 and 2 of Table 8 present the results of the IV estimates. In the first stage, each variable of our baseline specification (the independent variables) is regressed on the exogenous variables of the model, including the instrument. We obtain the predicted values from this regression. In the second stage, the independent variables are replaced by their predicted values from the first-stage regression. *Rule of law* enters the first-stage regression at the 1% level of significance level. Our baseline model results are confirmed with the exception of distance, which becomes positive but with a lower coefficient estimate (0.02-0.03) suggesting that our results are not driven by reverse causality. Thus, the causal effect of our set of independent variables on continuation is confirmed.

We also test the problem of the self-selection using a Heckman two-step regression model.⁹ In the first-stage probit regression, in which our dummy (1: continuation; 0: withdrawal) is the dependent, produces a propensity score denoted by λ (λ , inverse Mill's ratio, Greene, 2008). This score is used to obtain the estimates of the self-selection correction. We use the λ to estimate the second-stage together with *rule of law*, as defined earlier; and *regulatory restrictiveness*, the degree to which national authorities allow banks to pursue non-traditional activities (sources and descriptive statistics indicated in Table 1). For example, Indonesia has more restrictions on banking activities than Switzerland. The second-stage involves the estimation of an OLS regression of the dependent on the independent variables and the aforementioned dummy in addition to the self-selection correction λ . We present the results in Panels 3 and 4 of Table 5; they show that the selection parameter λ is negative but not statistically significant. A negative coefficient of λ implies a downward bias in the estimated effect of the independent variables on continuation without the self-selection correction. Our results are thus confirmed and even reinforced.

5. Summary and conclusions

This paper contributes to the literature in two significant ways. First, we assemble a new dataset on overseas banking operations in London. Our data consists of information on 408 foreign banks from 77 countries since 1945 till 1999, giving us 4,643 observations; 2,795 of these represent banks that continue operating, and 1,848 represent banks that withdrew from London. Second, we extend the vast literature on bank entry to study the factors driving the continuation of foreign bank activity. Specifically, we draw on internalization theory, with its emphasis on the

⁹ We could alternatively have used the bootstrap method, a computer-based form of random sampling that uses the sample itself, but we prefer to look more closely at the data (Efron and Tibshirani, 1993).

role of information flows on domestic customers and intangible assets in the form of public goods that enable banks to compete on equal footing with their foreign peers; and the sequential entry model, which advocates the progressive commitment to markets to overcome the deterring effects of being foreign, to develop a set of hypotheses that are subjected to parametric tests.

Specifically, we develop hypotheses relating to bank characteristics (initial organizational form, experience and size), home-country characteristics (geographic distance, regulatory quality and presence of domestic competitors) and global market conditions (agglomeration of other multinational banks, global demand and volatility) to estimate a model of the decision to continue operating or withdraw from the market with the mixed-effects logistic regression technique. Our findings indicate that banks that established locally licensed operations, reflecting the initial strong internalization advantages in intangible assets that assume the form of public goods, exhibit higher probability of continuing operations. Local experience also significantly influences continuation, indicating that the liability of being alien in a market reduces over time. The size of local operations also determines continuation, suggesting that survivors may well have exploited their flexibility to cope with swinging demand conditions over time. Banks that established operations integrated into the parent, reflecting the initial strong internalization advantages in the form of information flows on domestic customers, exhibit lower probability of continuation in the market. Banks from distant countries also exhibit a lower probability of continuing in the market. World demand and volatility influence continuation, although in opposite directions—positive for demand and negative for volatility—but global economic volatility interacted with size indicates a higher probability of continuation of large operations compared to smaller operations.

The possession of internalization advantages in the form of information flows on previously established relationships with customers is considered an important driver of bank entry. Our findings indicate that these advantages play a secondary role in the decision to continue operating overseas. Other internalization advantages stemming from the possession of intangible technical, market-making and managerial assets that assume the form of public goods within multinational banks (alongside local experience and the size of local operation, home country internalization advantages and global market conditions) play a determining role in the decision to stay overseas. These latter advantages have received far less attention in the literature and are likely to drive the global consolidation of multinational banks.

Foreign bank entry has been explained by internalization, with its emphasis on the costs and difficulties of transacting information-intensive products in external markets, and the sequential expansion model, with its emphasis on the progressive commitment to the market to overcome hurdles associated with unfamiliarity of operating in alien markets. Our findings indicate that these two theories complement each other in the explanation of the reasons driving foreign banks to continue operating overseas. Internalization with its emphasis on bank and country advantages, and flexibility, explains the reasons why overseas banks can compete on an equal footing with local and other international competitors and adapt to changing demand conditions over time. The sequential expansion model explains how local experience further reinforces internalization, permitting long-term continuation in the overseas market.

From a bank managerial perspective, our results suggest that executives at banks' headquarters are likely to view the overseas presence of their subsidiaries and locally licensed banks very differently from representative offices, agencies and branches; they are also likely to view proximate, more experienced and larger overseas offices very differently than distant, recent and small operations. Managers may be likely to pull out of these latter operations, more so if they are in the form of representative offices, agencies or branches, especially amid global economic volatility. From a regulatory perspective, our results suggest that regulatory authorities that may be concerned about the behavior of foreign banks may want to monitor more closely the activity of subsidiaries and locally licensed banks in their markets because these banks are more likely to continue operating and, at the same time, are more likely to tap into the local markets and seek more central bank funding facilities rather than parent support amid global economic volatility.

Finally, we hope that our study will lead to similar investigations of other financial centers. Further investigations of this kind could yield different results that may ultimately help us understand better the reasons driving banks to continue operating in foreign markets.

References

Ball, C.A., Tschoegl, A.E., 1982. The decision to establish a foreign bank branch or subsidiary: an application of binary classification procedures. *Journal of Financial and Quantitative Analysis* 17(3), 411-424.

Barth, J.R., Caprio Jr., G., Levine, R., 2001. The regulation and supervision of banks around the world: a new database, in: Litan, E.R., Herring, D. (Eds.), *Integrating Emerging Market Countries into the Global Financial System*, Brookings Institution Press, Washington DC.

Berger, A.N., Buch, C.M., DeLong, G., DeYoung, R., 2004. Exporting financial institutions management via foreign direct investment mergers and acquisitions. *Journal of International Money and Finance* 23(3), 333-366.

Berlin, M., 1987. Bank loans and marketable securities: how do financial contracts control borrowing firms? *The Federal Reserve Bank of Philadelphia Business Review* (July-August), 9-18.

Brealey, R.A., Kaplanis, E.C., 1996. The determination of foreign banking location. *Journal of International Money and Finance* 15(4), 577-597.

Brewer, E., Kaufman, G., Wall, L., 2008. Bank capital ratios across countries: why do they vary? *Journal of Financial Services Research* 34(2-3), 177-201.

Buch, C., DeLong, G., 2004. Cross-border bank mergers: what lures the rare animal? *Journal of Banking and Finance* 28(9), 2077-2102.

Buckley, P., Casson, M., 1988. Models of the multinational enterprise. *Journal of International Business Studies* 29(1), 21-44.

Cameron, A.C., Trivedi, P.K., 2005. *Microeconometrics: Methods and Applications*, Macmillan, London.

Cameron A.C., Trivedi, P.K., 2009. *Microeconometrics Using Stata*, Stata Press Books.

Caprio, G., Laeven, L., Levine, R., 2007. Governance and bank valuation. *Journal of Financial Intermediation* 16(4), 584-617.

Casson, M.C., 2000. *Economics of International Business: A New Research Agenda*, Edward Elgar, Cheltenham.

Casu, B., Girardone, C., 2010. Integration and efficiency convergence in EU banking markets. *Omega* 38(45), 260-267.

Cerrutti, E., dell'Araccia, G., Martinez-Peria, M.S., 2007. How do banks go abroad: branches or subsidiaries? *Journal of Banking and Finance* 31 (6), 1669-1692.

Chen, S-H., Liao, C.C., 2011. Are foreign banks more profitable than domestic banks? Home- and host-country effects of banking market structure, governance, and supervision. *Journal of Banking and Finance* 35(4), 819-839.

Choi, S-R., Tschoegl, A.E., Yu, C-M., 1986. Banks and the world's major financial centers 1970-1980. *Weltwirtschaftliches Archiv* 122(1), 48-64.

Du, J., 2003. Why do multinational corporations borrow from local banks? *Economics Letters* 78(2), 287-291.

Efron, B., Tibshirani, R.J., 1993. *An Introduction to the Bootstrap*, Chapman and Hall, New York.

Esperanca, J.P., Gulamhussen, M.A., 2001. (Re)Testing the 'follow the customer' hypothesis in multinational bank expansion. *Journal of Multinational Financial Management* 11(3), 281-293.

Fisher, A., Molyneux, P., 1996. A note on the determinants of foreign bank activity in London between 1980 and 1989. *Applied Financial Economics* 6(3), 271-277.

Focarelli, D., Pozzolo, A.F., 2001. The patterns of cross-border shareholdings in OECD countries. *Journal of Banking and Finance* 25(12), 2305-2337.

Focarelli, D., Pozzolo, A.F., 2005. Where do banks expand abroad? An empirical analysis. *Journal of Business* 78(6), 2435-2464.

Focarelli, D., Pozzolo, A.F., 2008. Cross-border M&As in the financial sector: is banking different from insurance? *Journal of Banking and Finance* 32(1), 15-29.

Goldberg, L.G., Johnson, D., 1990. The determinants of US banking activity abroad. *Journal of International Money and Finance* 9(2), 123-37.

Goldberg, L.G., Saunders, A., 1980. The causes of U.S. bank expansion overseas: the case of Great Britain. *Journal of Money Credit and Banking* 12(4), 630-643.

Gray, J.M., Gray, H.P., 1981. The multinational bank: a financial MNC? *Journal of Banking and Finance* 5(1), 33-63.

Greene, W.H., 2008. *Econometric Analysis*, Pearson International, New York.

Grosse, R., Goldberg, L.G., 1991. Foreign bank activity in the United States: an analysis by country of origin. *Journal of Banking and Finance* 15(6), 1093-1112.

Grubel, H., 1977. A theory of multinational banking. *Banca Nazionale del Lavoro Quarterly Review* 123, 349-363.

Heinkel, R.L., Levi, M.D., 1992. The structure of international banking. *Journal of International Money and Finance* 11(3), 251-272.

Hensher, D.A., Jones, S., Greene, W.H., 2007. An error component logit analysis of corporate bankruptcy and insolvency risk in Australia. *Economic Record* 83(260), 86-103.

Hryckiewicz, A., Kowalewski, O., 2011. Why do foreign banks withdraw from other countries? *International Finance* 14(1), 67-102.

Hultman, C.W., McGee, L.R., 1989. Factors affecting the foreign banking presence in the U.S.. *Journal of Banking and Finance* 13(3), 383-396.

Johanson, J., Vahlne, J-E., 1977. The internationalization process of the firm: a model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies* 8(1), 23-32.

Jones, G., 1992. *Multinational and International Banking*, Edward Elgar Reference Collection, Aldershot.

Jones, S., Hensher, D.A., 2007. Modeling corporate failure: a multinomial nested logit analysis for unordered outcomes. *The British Accounting Review* 39(1), 89-107.

Jones, S., Hensher, D.A., 2004. Predicting firm financial distress: a mixed logit model. *Accounting Review* 79(4), 1011-1038.

Kaufman, D., Kraay, A., Mastruzzi, A., 2009. *Governance Matters VIII. Aggregate and Individual Governance Indicators 1996-2008*, Policy Research Working paper No. 4978, World Bank.

Khoury, S.J., 1979. International banking: a special look at foreign banks in the US. *Journal of International Business Studies* 10(3), 36-52.

Kindleberger, C.P., 1974. *The Formation of Financial Centers: A Study in Comparative Economic History*, Princeton Studies in International Finance No. 36, International Finance Section of the Department of Economics of Princeton University, Princeton.

Kostova, T., Zaheer, S., 1999. Organizational legitimacy under conditions of complexity: The case of the multinational enterprise. *Academy of Management Journal* 24(1), 64-81.

Laeven, L., Levine, R., 2007. Is there a diversification discount in financial conglomerates? *Journal of Financial Economics* 85(2), 331-367.

Laeven, L., Valencia, F., 2008. Systemic Banking Crises: A New Database, Working Paper No. 08/224, IMF.

Lee, S.H., Urrutia, J.L., 1996. Analysis and prediction of insolvency in the property-liability insurance industry: a comparison of logit and hazard models. *The Journal of Risk and Insurance* 63(1), 121–130.

Luo, Y., Peng, M., 1999. Learning to compete in a transition economy: experience, environment, and performance. *Journal of International Business Studies* 30(2), 269-295.

Manlagñit, M.C.V., 2011. The economic effects of foreign bank presence: evidence from Philippines. *Journal of International Money and Finance*. Forthcoming.

Mercieca, S., Shaeck, K., Wolfe, S., 2007. Small European banks: benefits from diversification. *Journal of Banking and Finance* 31(7), 1975-1998.

Morck, R., Yavuz, M.D., Yeung, B., 2011. Banking system control, capital allocation, and economy performance. *Journal of Financial Economics* 100(2), 264-283.

Nachum, L., 2003. Liability of foreignness in global competition? Financial service affiliates in the city of London. *Strategic Management Journal* 24(12), 1187-1208.

Pinheiro, J., Chao, E., 2006. Efficient laplacian and adaptive gaussian quadrature algorithms for multilevel generalized linear mixed models. *Journal of Computational and Graphical Statistics* 15(1), 58-81.

Qian, L., Delios, A., 2008. Internalization and experience: Japanese banks' international expansion, 1980-1998. *Journal of International Business Studies* 39(2), 231-248.

Rugman, A., Li, J., 2007. Real options and foreign direct investment. *International Business Review* 16(6), 687-712.

Seth, R., Quijano, A., 1993. Growth in Japanese lending and direct investment in the United States: are they related? *Japan and the World Economy* 5(4), 363-372.

Seth, R., Nolle, D.E., Mohanty, S.K., 1998. Do banks follow their customers abroad? *Financial Markets, Institutions and Instruments* 7(4), 1–25.

The Banker, issues from 1969 to 1999.

Train, K., 2003. *Discrete Choice Methods with Simulation*, University Press, Cambridge.

Tschoegl, A.E., 2002. Entry and survival: the case of foreign banks in Norway. *Scandinavian Journal of Management* 18(2), 131-153.

Tschoegl, A.E., 2004. Who owns the major U.S. subsidiaries of foreign banks? A note. *Journal of International Financial Markets, Institutions and Money* 14(3), 255-266.

Ursacki, T., Vertinsky, I., 1992. Choice of entry, timing and scale by foreign banks in Japan and Korea. *Journal of Banking and Finance* 16(2), 405-421.

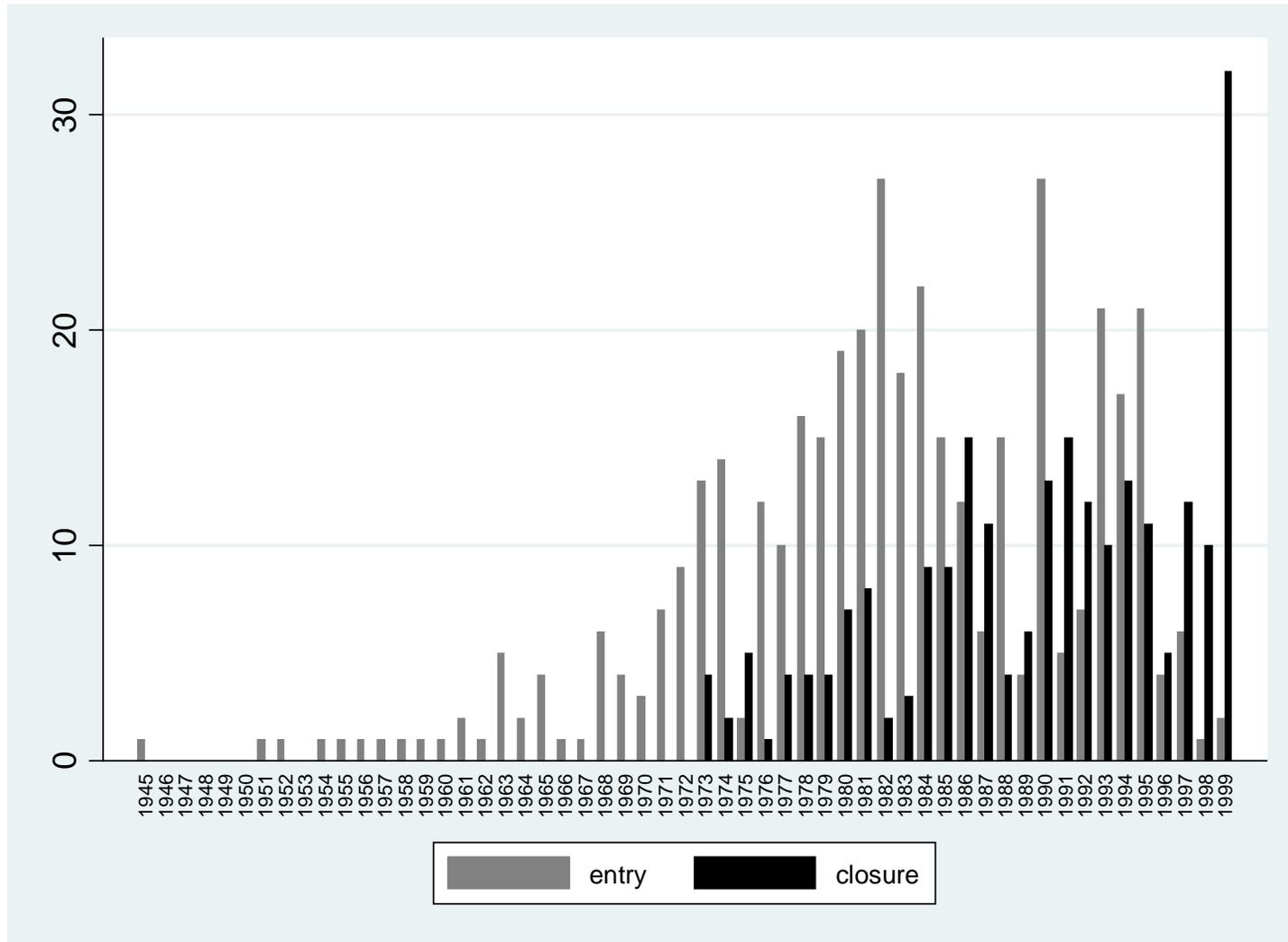
Yamori, N., 1998. A note on the location choice of multinational banks: the case of Japanese financial institutions. *Journal of Banking and Finance* 22(1), 109-120.

Williams, B., 1997. Positive theories of multinational banking: eclectic theory versus internalization theory. *Journal of Economic Surveys* 11(1), 71-100.

Wilson, J.O.S., Casu, B., Girardone, C., Molyneux, P., 2010. Emerging themes in banking: recent literature and directions for future research. *The British Accounting Review* 42(3), 153-169.

Wooldridge, J.M., 2009. *Introductory Econometrics: A Modern Approach*, Cengage Learning, U.S.

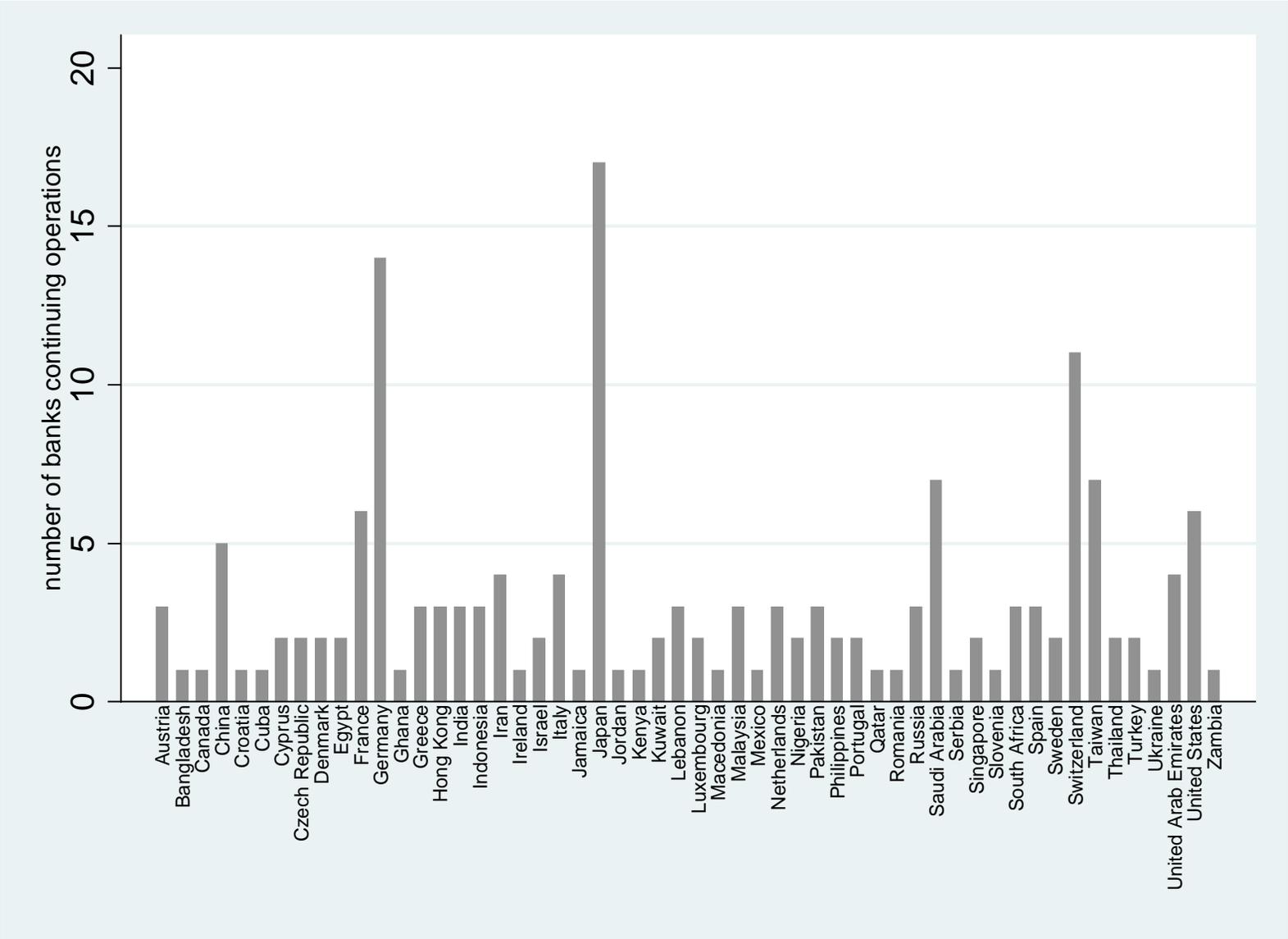
Figure 1: number of sampled foreign banks entering/leaving the City of London



Source: The Banker

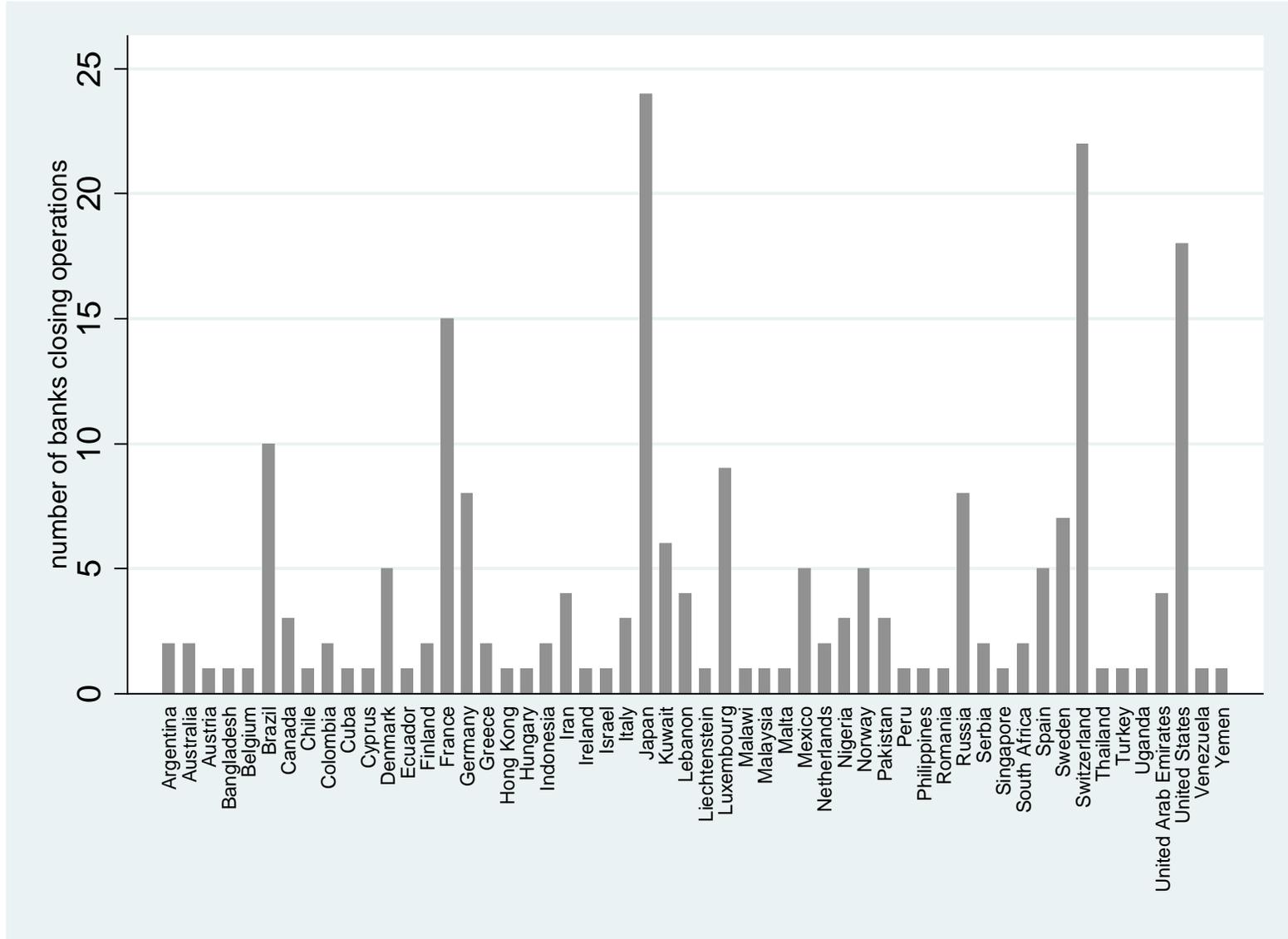
Notes: The majority of banks are European (approximately 43%), followed by Asian banks (35%). North and South Americas account for 10% and 6% of the sampled banks, respectively, and 6% are banks from Africa or the Caribbean.

Figure 2: continuation on a home-country by home-country basis



Source: The Banker

Figure 3: withdrawal from London on a home-country by home-country basis



Source: The Banker

Table 1: Summary statistics

variable	Units	mean	std. dev.	min.	max.	source
A- variables used in the baseline specification						
Y	binary	0.439	0.496	0	1	The Banker
Bank characteristics						
<i>entry: office</i>	binary	0.339	0.473	0	1	The Banker
<i>entry: agency</i>	binary	0.003	0.057	0	1	The Banker
<i>entry: branch</i>	binary	0.198	0.399	0	1	The Banker
<i>entry: subsidiary</i>	binary	0.097	0.296	0	1	The Banker
<i>entry: U.K. licensed</i>	binary	0.015	0.121	0	1	The Banker
<i>experience</i>	log(number)	2.423	0.839	0	3.989	The Banker
<i>size</i>	log(number)	2.638	1.531	0	8.006	The Banker
Home country						
<i>distance</i>	log(Km)	8.014	1.095	5.775	9.739	http://chemical-ecology.net/ http://www.worldbank.org/wbi/governance
<i>regulatory quality</i>	number	0.802	0.730	-2.706	1.880	governance
<i>same origin</i>	number	18	17.562	0	88	The Banker
World						
<i>Total banks</i>	number	410	87.567	187	488	The Banker IMF/World Bank
<i>GDP</i>	trillions USD	13.131	10.683	1.352	32.209	http://www.worldbank.org/wbsite/external IMF/World Bank
<i>σ(GDP)</i>	trillions USD	0.799	0.652	0.079	2.412	http://www.worldbank.org/wbsite/external IMF/World Bank
<i>σ(GDP)*log size</i>	number	2.262	2.262	0	18.976	http://www.worldbank.org/wbsite/external
B- variables used in robustness tests (*)						
Bank characteristics						
<i>mergers (dummy)</i>	binary	0.173	0.379	0	1	The Banker
<i>consortia banks (dummy)</i>	binary	0.110	0.313	0	1	The Banker
Home country (*)						
<i>log bilateral trade</i>	log(millions USD)	6.890	2.262	0.249	12.145	OECD Statistics http://stats.oecd.org/Index.aspx
<i>log exports</i>	log(millions USD)	6.326	2.322	0	12.056	OECD Statistics http://stats.oecd.org/Index.aspx
<i>log imports</i>	log(millions USD)	6.326	2.935	0	10.779	OECD Statistics http://stats.oecd.org/Index.aspx
<i>banking crises</i>	binary	0.044	0.205	0	1	Laeven and Valencia (2008)
<i>rule of law</i>	number	0.984	0.896	-1.576	1.986	http://www.heritage.org/Index/
<i>regulatory restrictiveness</i>	number	2.267	0.696	1	3.5	Barth et al. (2001)
World (*)						
<i>world failures</i>	percent	0.006	0.010	0	0.042	Laeven and Valencia (2008)
<i>big bang</i>	binary	0.022	0.147	0	1	authors' calculations

(*) these variables are used in Tables 5 -8.

Table 2: Correlations between pairs of explanatory variables

variable	<i>entry: office (dummy)</i>	<i>entry: agency (dummy)</i>	<i>entry: branch (dummy)</i>	<i>entry: subsidiary (dummy)</i>	<i>entry: U.K. licensed (dummy)</i>	<i>experience</i>	<i>size</i>	<i>distance</i>	<i>regulatory quality</i>	<i>same origin</i>	<i>total banks</i>	<i>world GDP</i>	<i>world σ(GDP)</i>	<i>world σ(GDP) x log size</i>
	V1a	V1a	V1a	V1a	V1a	V1b	V1c	V2a	V2b	V2c	V3a	V3b	V3c	V3d
V1a <i>entry: office (dummy)</i>	1													
V1a <i>entry: agency (dummy)</i>	-0.041	1												
V1a <i>entry: branch (dummy)</i>	-0.357	-0.029	1											
V1a <i>entry: subsidiary (dummy)</i>	-0.235	-0.019	-0.162	1										
V1a <i>entry: U.K. licensed (dummy)</i>	-0.088	-0.007	-0.060	-0.040	1									
V1b <i>experience</i>	-0.070	-0.004	0.011	-0.008	0.000	1								
V1c <i>size</i>	0.003	-0.024	-0.043	0.010	0.027	0.336	1							
V2a <i>distance</i>	-0.259	-0.022	0.067	-0.209	-0.011	0.112	-0.114	1						
V2b <i>regulatory quality</i>	0.009	-0.042	-0.149	0.053	0.011	-0.075	0.007	-0.335	1					
V2c <i>same origin</i>	-0.226	-0.018	-0.183	-0.102	0.003	-0.052	0.045	0.154	0.365	1				
V3a <i>total banks</i>	0.000	-0.000	-0.000	-0.000	0.000	0.000	-0.016	-0.000	0.000	0.112	1			
V3b <i>world GDP</i>	0.000	0.000	0.000	0.000	-0.000	-0.000	0.092	0.000	0.050	0.478	0.534	1		
V3c <i>world σ(GDP)</i>	-0.000	-0.000	0.000	-0.000	0.000	0.000	0.035	-0.000	0.000	0.050	0.478	0.3534	1	
V3d <i>world σ(GDP) x log size</i>	-0.068	-0.000	-0.017	0.008	0.007	0.259	0.567	-0.021	0.033	0.082	0.313	0.376	0.704	1

Correlations significant at the 1% level are in bold (2-tailed).

Table 3: Mixed-effects logit estimation – baseline specification

Y: Dependent (1: continuation; 0: withdrawal)								
	(1)				(2)			
	baseline				baseline with interaction term			
	coef.	sig.	p-value	odds	coef.	sig.	p-value	odds
Bank								
<i>entry: representative office</i>	-0.968	***	0.000	0.380	-0.963	***	0.000	0.38
<i>entry: branch</i>	0.139		0.467	1.149	0.184		0.334	1.20
<i>entry: subsidiary</i>	0.256		0.294	1.292	0.152		0.530	1.16
<i>entry: U.K. licensed</i>	3.116	***	0.000	22.552	3.120	***	0.000	22.64
<i>experience</i>	2.615	***	0.000	13.662	2.653	***	0.000	14.19
<i>size</i>	1.797	***	0.002	6.031	1.558	**	0.010	4.75
Home country								
<i>distance</i>	-3.169	***	0.003	0.042	-3.235	***	0.002	0.04
<i>regulatory quality</i>	-1.668		0.231	0.189	-1.725		0.209	0.18
<i>same origin</i>	-0.124		0.131	0.884	-0.043	**	0.015	0.96
World								
<i>total banks</i>	0.002		0.166	1.002	0.001		0.279	1.00
<i>GDP</i>	0.161	***	0.000	1.175	0.165	***	0.000	1.18
<i>$\sigma(GDP)$</i>	-0.315	***	0.000	0.729	-1.226	***	0.000	0.29
<i>$\sigma(GDP)*\log size$</i>					0.351	***	0.000	1.42
<i>intercept</i>	15.752	*	0.084		16.703	*	0.061	
Random-effects parameters								
<i>size</i>	coef.		std. err.		coef.		std. err.	
<i>size</i>	3.358		0.545		3.429		0.556	
<i>same origin</i>	0.291		0.120		0.026		0.018	
<i>intercept</i>	7.024		1.139		7.064		1.104	
Observations	4,643				4,643			
degrees of freedom	12				13			
log likelihood	-1,460				-1,432			
LR test – Chi-square	1,546				1,567			
LR test – p-value	0.000				0.000			
sensitivity (% survivals identified)	90%				88%			
specificity (% closures identified)	61%				70%			

We present the results of regressing the dependent taking the value 1 if the bank continues in London and the value 0 if the bank withdraws from London on the correspondent bank characteristics, home country factors and world factors. Significance at the 1%, 5%, and 10% level is denoted by ***, **, and *, respectively.

Table 4: Robustness tests – excluding influential observations

	Y: Dependent (1: continuation; 0: withdrawal)																							
	(1)				(2)				(3)				(4)				(5)				(6)			
	excluding banks that experienced changes in organizational form				excluding 37 banks entering London in 1945-1969				without banks from the U.S.				without banks from Japan				without banks from Switzerland				without banks from the U.S., Japan or Switzerland			
	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds
Bank																								
<i>entry: representative office</i>	-1.222	***	0.000	0.295	-0.372	**	0.038	0.70	-0.973	***	0.000	0.378	-1.639	***	0.000	0.194	-1.373	***	0.000	0.25	-2.751	***	0.000	0.064
<i>entry: branch</i>	-0.432		0.122	0.649	0.270		0.154	1.31	0.140		0.469	1.150	-0.364		0.234	0.695	0.116		0.564	1.12	-0.790	**	0.023	0.454
<i>entry: subsidiary</i>	0.743	**	0.025	2.102	0.559	**	0.014	1.75	0.249		0.314	1.283	-0.613	*	0.079	0.541	0.574	**	0.036	1.77	-0.940	**	0.026	0.390
<i>entry: U.K. licensed</i>	3.427	***	0.000	30.784	2.476	***	0.000	11.87	3.239	***	0.000	25.518	7.629	***	0.002	2,057.126	2.930	***	0.000	18.73	8.065	***	0.002	3,183.272
<i>experience</i>	3.120	***	0.000	22.654	2.503	***	0.000	12.22	2.747	***	0.000	15.597	2.940	***	0.000	18.915	2.550	***	0.000	12.81	3.162	***	0.000	23.626
<i>size</i>	1.242	**	0.013	3.462	0.126	***	0.000	1.13	1.906	***	0.002	6.727	2.023	***	0.001	7.561	1.973	***	0.001	7.19	2.300	***	0.000	9.978
Home country																								
<i>distance</i>	-3.314	***	0.000	0.036	-0.519		0.186	0.60	-3.330	***	0.004	0.036	-3.692	***	0.001	0.025	-3.289	***	0.005	0.04	-4.190	***	0.001	0.015
<i>regulatory quality</i>	-2.349	**	0.038	0.095	-1.010	*	0.055	0.36	-1.859		0.216	0.156	-1.900		0.192	0.150	-1.802		0.227	0.17	-2.308		0.161	0.099
<i>same origin</i>	-0.032		0.218	0.969	-0.031	***	0.000	0.97	-0.157	*	0.097	0.854	-0.117		0.237	0.890	-0.136		0.142	0.87	-0.141		0.255	0.869
World																								
<i>total banks</i>	0.001		0.564	1.000	0.001		0.531	1.00	0.003	*	0.054	1.003	0.001		0.423	1.000	0.002	*	0.083	1.00	0.000		0.830	1.000
<i>GDP</i>	0.184	***	0.000	1.202	0.149	***	0.000	1.16	0.162	***	0.000	1.175	0.206	***	0.000	1.228	0.141	***	0.000	1.15	0.191	***	0.000	1.211
<i>σ(GDP)</i>	-0.467	***	0.000	0.627	-0.361	***	0.000	0.17	-0.319	***	0.000	0.727	-0.516	***	0.000	0.587	-0.300	***	0.001	0.74	-0.541	***	0.000	0.582
<i>intercept</i>	17.672		0.016		-3.310		0.332		16.440	*	0.091		20.264	**	0.037		16.976	*	0.086		23.832	**	0.031	
Random-effects parameters																								
<i>size</i>	2.615		0.471						3.536		0.582		3.750		0.612		3.493		0.575		4.180		0.699	
<i>same origin</i>	0.043		0.026						0.351		0.129		0.378		0.127		0.363		0.119		0.485		0.143	
<i>intercept</i>	5.482		0.904		-3.310		0.332		7.432		1.237		7.575		1.258		7.397		1.224		8.694		1.495	

Table 4: Continued

	Y: Dependent (1: continuation; 0: withdrawal)																	
	(1)			(2)			(3)			(4)			(5)			(6)		
	excluding banks that experienced changes in organizational form			excluding 37 banks entering London in 1945-1969			without banks from the U.S.			without banks from Japan			without banks from Switzerland			without banks from the U.S., Japan or Switzerland		
	coef.	sig.	p-value	coef.	sig.	p-value	coef.	sig.	p-value	coef.	sig.	p-value	coef.	sig.	p-value	coef.	sig.	p-value
Observations	3,040			3,842			4,374			4,056			4,339			3,483		
degrees of freedom	12			12			12			12			12			12		
log likelihood	-884			-1,497			-1,342			-1,103			-1,314			-838		
LR test - Chi-square	1,181			706			1,555			1,545			1,567			1,581		
LR test - p-value	0.000			0.000			0.000			0.000			0.000			0.000		
sensitivity (% survivals identified)	88%			83%			96%			96%			95%			88%		
specificity (% closures identified)	72%			62%			90%			92%			90%			72%		

We present the results of regressing the dependent taking the value 1 if the bank continues in London and the value 0 if the bank withdraws from London on the correspondent bank characteristics, home country factors and world factors, excluding potentially influential observations. Significance at the 1%, 5%, and 10% level is denoted by ***, **, and *, respectively.

Table 5: Robustness tests – additional controls (bilateral trade; imports; exports; banking crises; world failures; Big Bang)

Y: Dependent (1: continuation; 0: withdrawal)																								
	(1)				(2)				(3)				(4)				(5)				(6)			
	with bilateral trade				with imports				with exports				controlling for banking crisis				controlling for world failures				controlling for the Big bang			
	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds
Bank																								
<i>entry: representative office</i>	-0.644	***	0.005	0.525	-0.966	***	0.000	0.381	-0.970	***	0.000	0.379	-0.954	***	0.000	0.385	-0.969	***	0.000	0.380	-0.966	***	0.000	0.381
<i>entry: branch</i>	0.412	*	0.066	1.509	0.145		0.447	1.156	0.141		0.461	1.151	0.144		0.450	1.155	0.141		0.460	1.152	0.142		0.459	1.152
<i>entry: subsidiary</i>	0.885	***	0.003	2.423	0.272		0.264	1.313	0.259		0.288	1.296	0.270		0.268	1.310	0.255		0.297	1.290	0.261		0.286	1.398
<i>entry: U.K. licensed</i>	2.543	***	0.000	12.722	3.105	***	0.000	22.316	3.100	***	0.000	22.193	3.040	***	0.000	20.908	3.133	***	0.000	22.937	3.124	***	0.000	22.740
<i>experience</i>	1.902	***	0.000	6.702	2.609	***	0.000	13.590	2.605	***	0.000	13.525	2.631	***	0.000	13.888	2.616	***	0.000	13.678	2.620	***	0.000	13.736
<i>size</i>	2.808	***	0.000	16.584	1.783	***	0.002	5.947	1.790	***	0.002	5.987	1.809	***	0.002	6.104	1.796	***	0.002	6.025	1.798	***	0.002	6.036
Home country																								
<i>distance</i>	-3.238	**	0.010	0.039	-3.197	***	0.003	0.041	-3.196	***	0.003	0.041	-3.113	***	0.003	0.044	-3.160	***	0.003	0.042	-3.168	***	0.003	0.042
<i>regulatory quality</i>	-4.170	**	0.020	0.015	-1.704		0.220	0.182	-1.722		0.214	0.179	-1.630		0.237	0.196	-1.668		0.229	0.189	-1.658		0.234	0.191
<i>same origin</i>	-0.083	***	0.000	0.921	-0.128		0.108	0.880	-0.118		0.131	0.889	-0.106		0.177	0.899	-0.120		0.140	0.887	-0.125		0.129	0.883
<i>bilateral trade</i>	0.000	*	0.058	1.000																				
<i>imports</i>					0.058	**	0.012	1.060																
<i>exports</i>									0.056	**	0.025	1.058												
World																								
<i>total banks</i>	-0.021	***	0.003	0.979	0.001		0.257	1.001	0.002		0.208	1.002	0.001		0.299	1.001	0.002		0.122	1.002	0.001		0.312	1.001
<i>GDP</i>	0.094	***	0.000	1.098	0.159	***	0.000	1.172	0.153	***	0.000	1.166	0.171	***	0.000	1.187	0.158	***	0.000	1.172	0.165	***	0.000	1.180
<i>σ(GDP)</i>	-0.110		0.329	0.896	-0.322	***	0.000	0.724	-0.335	***	0.000	0.715	-0.390	***	0.000	0.677	-0.289	***	0.002	0.749	-0.338	***	0.000	0.713
<i>banking crisis</i>													-0.857	***	0.001	0.424								
<i>world failures</i>																	-0.039		0.466	0.962				
<i>big bang</i>																					0.459	*	0.061	1.58
<i>intercept</i>	30.934	***	0.005		16.194	*	0.076		16.144	*	0.075		15.318	*	0.090		15.569	*	0.087		15.868	*	0.082	0.38
Random-effects parameters	coef.		std. err.		coef.		std. err.		coef.		std. err.		coef.		std. err.		coef.		std. err.		coef.		std. err.	
<i>size</i>	3.750		0.701		3.349		0.544		3.341		0.542		3.39		0.55		3.354		0.545		3.360		0.545	
<i>same origin</i>	0.023		0.030		0.280		0.116		0.269		0.115		0.26		0.13		0.288		0.118		0.292		0.120	
<i>intercept</i>	8.355		1.527		7.028		1.135		7.014		1.129		7.04		1.13		7.005		1.136		7.029		1.140	

Table 5: Continued

	Y: Dependent (1: continuation; 0: withdrawal)					
	(1)	(2)	(3)	(4)	(5)	(6)
	with bilateral trade	with imports	with exports	controlling for banking crisis	controlling for world failures	controlling for the Big bang
Observations	3,068	4,613	4,613	4,643	4,643	4,643
degrees of freedom	13	13	13	13	13	13
log likelihood	-995.37	-1,456	-1,457	-1,455	-1,460	-1,458
LR test – Chi-square	1,014	1,549	1,543	1,506	1,535	1,544
LR test – p-value	0.000	0.000	0.000	0.000	0.000	0.000
sensitivity (% survivals identified)	96%	89%	90%	96%	96%	95%
specificity (% closures identified)	92%	67%	69%	90%	92%	90%

We present the results of regressing the dependent taking the value 1 if the bank continues in London and the value 0 if the bank withdraws from London on the correspondent bank characteristics, home country factors and world factors, controlling for additional factors that could influence banks' response. Significance at the 1%, 5%, and 10% level is denoted by ***, **, and *, respectively.

Table 6: Robustness tests – baseline augmented with banks with multiple operations; with additional control for mergers; with additional control for consortia banks

Y: Dependent (1: continuation; 0: withdrawal)												
	(1)				(2)				(3)			
	Including 53 banks with multiple operations				control for mergers				control for consortia banks			
	coef.	sig.	p-value	odds	coef.	sig.	p-value	odds	coef.	sig.	p-value	odds
Bank												
<i>entry: representative office</i>	-0.568	***	0.000	0.567	-0.138		0.307	0.871	-0.111		0.399	0.895
<i>entry: branch</i>	-0.081		0.548	0.922	0.001		0.993	1.001	0.103		0.457	1.109
<i>entry: subsidiary</i>	-0.622	***	0.000	0.537	-0.592	***	0.000	0.553	-0.473	***	0.003	0.623
<i>entry: U.K. licensed</i>	1.263	***	0.001	3.536	1.521	***	0.000	4.578	1.332	***	0.000	3.790
<i>experience</i>	2.810	***	0.000	16.610	2.486	***	0.000	12.013	2.837	***	0.000	17.069
<i>size</i>	1.282	***	0.000	3.604	1.408	***	0.000	4.089	1.399	***	0.000	4.052
<i>mergers (dummy)</i>					4.655	***	0.000	105.089				
<i>consortia banks (dummy)</i>									-0.120		0.274	0.887
Home country												
<i>distance</i>	-1.020	**	0.048	0.000	-1.080	**	0.044	0.340	-1.075	**	0.040	0.341
<i>regulatory quality</i>	-0.688		0.296	0.503	-0.992		0.147	0.371	-0.848		0.204	0.428
<i>same origin</i>	-0.157	***	0.006	0.855	-0.168	***	0.007	0.845	-0.150	***	0.005	0.861
World												
<i>total banks</i>	-0.001		0.112	1.000	0.000		0.929	1.000	-0.001		0.186	0.999
<i>GDP</i>	0.131	***	0.000	1.140	0.122	***	0.000	1.129	0.129	***	0.000	1.138
<i>σ(GDP)</i>	-0.306	***	0.000	0.736	-0.304	***	0.000	0.738	-0.331	***	0.000	0.718
<i>intercept</i>	-0.089		0.984		0.854		0.851	2.348	0.208		0.963	1.231
Random-effects parameters					coef.		std. err.		coef.		std. err.	
<i>size</i>					2.653		0.400		2.594		0.394	
<i>same origin</i>					0.245		0.077		0.186		0.061	
<i>intercept</i>					3.485		0.479		3.448		0.471	
Observations	7,240				6,547				6,547			
degrees of freedom	16				17				17			
log likelihood	-3,599				-2,780				-3,206			
LR test – Chi-square	1,703				1,754				1,710			
LR test – p-value	0.000				0.000				0.000			
sensitivity (% survivals identified)	96%				94%				94%			
specificity (% closures identified)	65%				62%				62%			

We present the results of regressing the dependent taking the value 1 if the bank continues in London and the value 0 if the bank withdraws from London on the correspondent bank characteristics, home country factors and world factors. In Panel 1 we extend the baseline to include banks entering London from 1925 to 1944 In Panels 2 and 3 we control additionally for mergers and consortia banks. Significance at the 1%, 5%, and 10% level is denoted by ***, **, and *, respectively.

Table 7: Robustness tests – separate models, aggregating representative offices, agencies and branches on one side, and subsidiaries and UK licensed banks on the other side

	Y: Dependent (1: continuation; 0: withdrawal)															
	(1)				(2)				(3)				(4)			
	Model 1: aggregating representative offices, agencies and branches								Model 2: aggregating subsidiaries and U.K. licensed							
	coef.	sig.	p-value	odds	coef.	sig.	p-value	odds	coef.	sig.	p-value	odds	coef.	sig.	p-value	odds
Bank																
<i>entry: representative office; agency; branch</i>	-0.182	**	0.033	0.834	-0.172	*	0.045	0.842								
<i>entry: subsidiary; U.K. licensed</i>									-0.037		0.731	0.964	-0.076		0.483	0.926
<i>experience</i>	2.743	***	0.000	15.535	2.724	***	0.000	15.239	2.758	***	0.000	15.761	2.739	***	0.000	15.473
<i>size</i>	1.425	***	0.000	4.158	1.195	***	0.003	3.305	1.415	***	0.000	4.118	1.185	***	0.003	3.271
Home country																
<i>distance</i>	-1.022	**	0.045	0.360	-1.082	**	0.040	0.339	-1.013	**	0.048	0.363	-1.078	**	0.042	0.340
<i>regulatory quality</i>	-0.655		0.307	0.519	-0.729		0.270	0.482	-0.649		0.315	0.523	-0.724		0.277	0.485
<i>same origin</i>	-0.154	***	0.008	0.857	-0.132	**	0.015	0.876	-0.154	***	0.008	0.858	-0.132	**	0.015	0.876
World																
<i>total banks</i>	-0.001	*	0.058	0.999	-0.002	***	0.004	0.998	-0.001	*	0.069	0.999	-0.002	***	0.006	0.998
<i>GDP</i>	0.131	***	0.000	1.140	0.138	***	0.000	1.148	0.131	***	0.000	1.140	0.138	***	0.000	1.148
<i>$\sigma(GDP)$</i>	-0.298	***	0.000	0.743	-1.268	***	0.000	0.281	-0.297	***	0.000	0.743	-1.273	***	0.000	0.280
<i>$\sigma(GDP)*\log size$</i>					0.335	***	0.000	1.398					0.336	***	0.000	1.400
<i>Intercept</i>	-0.113		0.979		1.253		0.778		-0.325		0.940		1.086		0.808	
Random-effects parameters																
<i>Size</i>		coef.	std. err.		coef.	std. err.		coef.	std. err.		coef.	std. err.		coef.	std. err.	
<i>same origin</i>		0.230	0.397		0.204	0.3585		0.229	0.396		0.203	0.396		0.203	0.396	
<i>intercept</i>		3.239	4.321		3.400	4.4889		3.266	4.352		3.440	4.352		3.440	4.352	
Observations	10,081				10,081				10,081					10,081		
degrees of freedom	13				14				13					14		
log likelihood	-3,573				-3,505				-3,576					-3,507		
LR test – Chi-square	1,679				1,715				1,707					1,744		
LR test – p-value	0.000				0.000				0.000					0.000		
sensitivity (% survivals identified)	96%				96%				96%					96%		
specificity (% closures identified)	68%				67%				68%					61%		

We present the results of regressing the dependent taking the value 1 if the bank continues in London and the value 0 if the bank withdraws from London on the correspondent bank characteristics, home country factors and world factors, pertaining to two separate models. Model 1 aggregates representative offices, agencies and branches, while Model 2 aggregates subsidiaries and U.K. licensed banks. Significance at the 1%, 5%, and 10% level is denoted by ***, **, and *, respectively.

Table 8: Controlling for endogeneity with instrumental variables and Heckman selection model

Y: Dependent (1: continuation; 0: withdrawal)

	(1)				(2)				(3)				(4)			
	Instrumental variables (IV)				Instrumental variables (IV)				Heckman				Heckman			
	coef.	sig.	P-value	odds	coef.	sig.	P-value	odds	coef.	sig.	p-value	odds	coef.	sig.	P-value	odds
Second-stage regressions																
Bank																
<i>entry: representative office</i>	-0.122	***	0.000	0.885	-0.118	***	0.000	0.889	-0.039	*	0.065	0.961	-0.042	**	0.046	0.959
<i>entry: branch</i>	0.017		0.432	1.017	0.037		0.256	1.038	0.012		0.577	1.012	0.011		0.615	1.011
<i>entry: subsidiary</i>	-0.024		0.443	0.976	0.024		0.621	1.025	-0.021		0.474	0.980	-0.025		0.378	0.975
<i>entry: U.K. licensed</i>	0.099	***	0.001	1.104	0.096	*	0.088	1.101	0.221	***	0.000	1.247	0.218	***	0.000	1.244
<i>experience</i>	0.023		0.633	1.024	-0.026		0.755	0.973	0.284	***	0.000	1.328	0.281	***	0.000	1.325
<i>size</i>	0.262	***	0.000	1.299	0.680	***	0.000	1.974	0.044	***	0.000	1.045	0.008		0.324	1.008
Home country																
<i>distance</i>	0.022	*	0.055	1.023	0.035	*	0.073	1.036	-0.018	*	0.060	0.982	-0.017	*	0.078	0.983
<i>regulatory quality</i>	-0.026	**	0.013	0.974	-0.027	*	0.068	0.973	0.111	***	0.000	1.117	0.108	***	0.000	1.114
<i>same origin</i>	0.004	***	0.000	0.996	0.005	***	0.000	0.995	0.004	***	0.000	1.000	0.004	***	0.000	1.000
World																
<i>total banks</i>	0.000	*	0.078	1.000	0.001	**	0.014	1.001	0.000		0.162	1.000	0.000	*	0.062	1.000
<i>GDP</i>	0.015	***	0.000	1.015	0.099	**	0.033	1.099	0.021	***	0.000	1.117	0.021	***	0.000	1.021
<i>$\sigma(GDP)$</i>	-0.039	***	0.001	0.962	0.911	***	0.001	2.488	-0.040	***	0.000	0.960	-0.138	***	0.000	0.871
<i>$\sigma(GDP)*size$</i>					-0.364	***	0.001	0.695					0.036	***	0.000	1.037
intercept	-0.561	***	0.000		-1.75	***	0.000		-0.360	**	0.016		-0.258	*	0.083	
lambda									-0.147		0.248		-0.130		0.304	
Observations	4,643				4,643				4,917				4,917			
degrees of freedom	12				13				12				13			

We present the results of regressing the dependent taking the value 1 if the bank continues in London and the value 0 if the bank withdraws from London on the correspondent bank characteristics, home country factors and world factors, controlling for endogeneity (instrumental variables method) and sample selection bias (Heckman estimator). Significance at the 1%, 5%, and 10% level is denoted by ***, **, and *, respectively.