

# **Where did banks expand abroad during the first globalization? Internal advantages VS gravity forces in pre-1914 multinational banking**

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## **Abstract**

During the first globalization era, the number of banks from financially advanced Western countries with branches and subsidiaries in emerging peripheries of the world almost tripled, from 56 to 146. What drove their expansion abroad and determined their foreign location choice? The paper empirically explores this issue thanks to a unique data set that allows a global quantitative assessment of the magnitude, scope and spatial pattern of multinational banking (MNB) before 1914. The predictions of competing explanatory theories are tested on the base of an augmented gravity-like specification, comparable to the approach of recent studies of foreign direct investment and international trade of financial assets. Three main factors emerge as pulling forces of entry and expansion into foreign markets: the exploitation of rents created by trade dependence and colonial relationships; high information and monitoring costs due to geographical distance and low informational development; and macroeconomic instability. The results suggest that pre-1914 MNB was not mainly driven by gravity forces. Banks expanded relatively less into rich neighboring markets than into distant and relatively poor locations. Their decisions were influenced less by proximity (geographical, social, institutional) than diversity. Forces of spatial dependence also contributed to shape the financial geography of the globalizing economy.

This preliminary draft: August 2007.  
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**Keywords:** augmented gravity models, multinational banking, pre-1914 globalization

**JEL Classification:** F21, F23, G21

The last quarter of the 20th century has witnessed a breath-taking internationalization of the financial service sector. Internationalization takes the form of both direct cross-border lending and foreign direct investment through greenfield investments (branches and subsidiaries) and the acquisition of local intermediaries. This process, driven by increasing financial integration and liberalization, finds its most direct historical antecedent in the pre-1914 era of globalization, when banks from financially advanced countries rapidly expanded their multinational presence in response to dramatic shifts in communication technology and an unprecedented growth of international trade and capital flows. A growing body of empirical literature has emerged in the last twenty years in order to explain the recent pattern of bank internationalization, on the base of a comparative and theoretically driven approach. Nothing comparable has been produced for multinational banking during the first globalization, in spite of the sheer volume of qualitative evidence provided by fresh research and some seminal contributions that pioneered the framing of this wealth of information into the theory of multinational enterprise (Jones 1990, 1992, 1993). This paper represents an attempt to frame the analysis of the historical episode of multinational banking into a methodological and empirical approach that hopefully sheds light on similarities and differences between the two eras of globalization. More specifically, the paper concentrates on the determinants of the foreign location decisions of multinational banks before 1914. For this purpose I have constructed a unique data set that allows for the first time a global quantitative assessment of its magnitude and geographical scope, as well as a first empirical analysis of its pattern. The paper is structured as follows. Section 1 briefly reviews the theoretical background and the empirical results of the recent literature on multinational banking, outlines the main hypothesis to be tested and discusses their relevance for the analysis of the pre-1914 period. Section 2 presents the original data set and outlines some characteristics of pre-1914 multinational banking in terms of organizational and spatial patterns. Section 3 presents the empirical strategy and the econometric specification, based on an augmented gravity-like approach comparable to that developed by the most recent literature. Sections 4 and 5 discuss the results of benchmark estimates for the basic determinants and additional factors. Section 6 concludes.

## **1. A review of benchmark empirical studies**

What factors determined the geographical pattern of multinational banking before 1914? In order to answer that question, the existing empirical literature on banking multinationalization in the last quarter of the 20<sup>th</sup> century represents a helpful benchmark. Most studies impinge on the theoretical and analytical perspective based on the so-called eclectic approach—in fact, an extension of the theory originally proposed by John Dunning for MNEs (Williams 1997). This approach, inspired by industrial organization theories, explains the emergence of multinational banks as the consequence of two basic factors: the existence of opportunities for profit in foreign markets and internal competitive advantages that multinational banks enjoy over local intermediaries.

Profit opportunities provided by foreign markets are usually considered the most basic determinant of banks' decisions to locate abroad. Especially in the case of financial services attached to trade in goods and assets, a physical presence in the host country is required if these services are not tradable or too costly to trade. As foreign direct investment in finance is basically market-seeking, they will be attracted into large and developed markets with high demand for financial services. The empirical relevance of this prediction has been generally tested by using total income, income per capita or some indicator of financial development as proxies for demand for financial services in host countries. The evidence provided, though not entirely conclusive, is consistent with the theory and by and large in favour of a positive impact (Brealey and Kaplanis 1996, Goldberg and Grosse 1991 and 1994, Goldberg and Johnson 1990, Claessens et al 2000, Focarelli and Pozzolo 2003). Qualifications have been recently added by taking directly into account the possible relevance of host-country risk factors such as macroeconomic and political instability, exchange rate volatility or exposure to banking crises, for expected return (thus for the entry decisions). Some studies found that host country's exchange rate volatility relative to home currency, by making expected returns from investments overseas more unpredictable, may act as a brake on banks' multinational expansion (Buch 2002, Wezel 2004).

The eclectic approach explains banks' decision to exploit such profit opportunities by creating branches or subsidiaries in foreign markets, rather than through alternative

modalities of cross-border lending such as direct international lending or correspondent banking, as a consequence of internal advantages stemming from ownership and internalization. Similarly to other multinational companies, MNB can reap increasing returns to geographic scope by leveraging home country- and firm-specific intangible assets across markets, such as location in financially developed countries, size, reputation, technology, product and service differentiation, managerial capabilities and human capital. Empirical studies confirm that banks from advanced countries enjoy competitive advantages over domestic incumbents in foreign markets as they are more efficient, can raise capital and mobilize resources more easily and enjoy cheaper access to international money markets. They also suggest that large banks have also stronger incentives geographically to diversify their activities. In addition, given the information-intensive feature of financial intermediation, banks accumulate over time non-tradable internal information on customers that can be exploited only by the banks themselves. Both internal information and intangible assets are easier to transfer internally than through markets (Buckley and Casson, 1976). Internalization is referred to as a contractual form through which hierarchical managerial allocation (or intermediate arrangements such as alliances) overcome external market failure and avoid excessive transaction costs. Thus, internalization favours the exploitation and transfer of advantages internal to the firm, such as information networks and commercial intelligence, efficiency and flexibility of internal fund transfers, and integration and coordination of business segments, whose return exceed the costs of operating in a foreign location. The classic case is the 'follow-the-client' interpretation of multinational banking (a cornerstone of the eclectic theory), in which internalization magnifies ownership-specific advantages in providing financial services abroad to national exporters or multinational corporations. In fact there exists considerable evidence in favour of a strong positive impact of bilateral integration, measured by trade and capital flows (Brealey and Kaplanis 1996, Yamori 1998).

Location in main international financial centres responds to similar motivations. Here the basic economic rationale is to internalize foreign-exchange and trade finance functions, which also allow enhanced access to information, economic intelligence, and network externalities, particularly valuable in information-oriented lines of business (Casson 1990; Cho 1985: 60).

The predictions of the ‘internal advantages’ approach are straightforward and easy empirically to test for the pre-1914 period: large banks based in financially developed countries would enter mainly into foreign markets characterized by fast growth, promising economic outlook and high degree of economic integration with the home country. Clustering of foreign banks into large international financial centres is also a predicted aspect of multinationalization.

However, recent studies emphasise the relevance of other characteristics of destination-country that may affect the benefits from intrafirm resource transfer and therefore determine location decisions. The major issue addressed here is that of proximity and its impact on information costs. This approach has the advantage of being coherent with modern financial theories. These model the behavior of banks as financial intermediaries that perform their functions in an environment characterized by asymmetric information and costly state verification. These functions—i.e. the screening of potential borrowers, the processing of the contractual terms, the administration of the contract and the monitoring of borrowers and projects—are information-intensive and require large flows of non-standardized information that are partly location-specific. However, the quality of information decays over distance due to the spatial separation of lenders and borrowers, whereas operating costs (including communication costs) and agency problems increase with the geographical scope of operations and the existence of physical and legal boundaries (Porteous 1995). Information is therefore a key determinant of the decision by banks to enter foreign markets either through greenfield investments (the creation of branches or subsidiaries) or the acquisition of existing local intermediaries.

The growing emphasis on geographical distance as a proxy for informational costs has led to the emergence of a new generation of studies based on gravity-like models. Some of them have found a clear negative correlation between geographic distance and entry by foreign bank (Buch 2000 and 2001, Focarelli and Pozzolo 2003, Galindo et al. 2003, Claessens and Van Horen 2006) and cross-border bank flows (Papaioannou 2005). However, the concept of proximity has been stretched to include linguistic and cultural similarities, which also are found to affect positively the location decision by foreign banks (Buch 2002). An appealing feature of this new approach is that its results are also consistent with those of a companion literature that emphasises the positive impact of

proximity on bilateral trade of financial assets (Portes et al 2001, Portes and Rey 2005, Aviat and Coeurdacier 2006) and cross-border mergers and acquisitions (Di Giovanni 2005).

Within the same framework, institutional characteristics have attracted most of the attention. Potential host countries differ in political stability, property rights protection and enforcement, protection of market participants, regulation of business and risk of expropriation by governments. The value and transferability of foreign banks' resources can be highly contingent on such characteristics. By instance, recent studies suggest that similarities in business environment, legal tradition, and institutional setup significantly enhance foreign banks' penetration (Galindo et al. 2003). In a similar vein, others suggest that, for host countries with comparable profit opportunities, good institutions and low levels of corruption may encourage cross-border lending by foreign banks (Papaioannou 2005). This is consistent with the idea that banks accumulate institutionally-intensive knowledge and intangible asset whose transferability is affected by the institutional characteristics of host countries. Since institutional diversity represents a significant entry barrier, similarities translate into an additional source of internal competitive advantage (Claessens and Van Horen 2006)

The prediction of this new 'proximity' approach are also empirically testable: in their decisions about foreign location, banks should privilege geographically proximate markets and/or markets with linguistic, cultural and institutional similarities.

## **2. Spatial patterns of pre-1914 multinational banking**

The next step is to outline a broad and possibly exhaustive quantitative picture of the geographical pattern of pre-1914 multinational banking. For such purpose, a unique data set has been constructed on the base of the number of branches of foreign banks and their subsidiaries in a large sample of host countries, both sovereign entities and colonies, at two benchmark dates (1880 and 1913).<sup>1</sup>

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<sup>1</sup> The number of foreign bank offices is used as dependent variables by Brealey and Kaplanis (1996). Other studies use total assets of foreign subsidiaries (Goldberg and Johnson 1990, Galindo et al. 2003), or foreign direct investments by banks (Buch 2000, Wezel 2004).

Multinational banks have been identified as banks with at least one positive observation (either a foreign branch or a subsidiary) in one of the two benchmark dates. The raw information has been extracted from the *Banking Almanac*, a specialized journal published in London since 1844. The Almanac published annually a complete directory of banks, both British and foreign, operating in banking places outside the UK (including British colonies). The directory occupied less than 60 pages in 1880, but had grown up to more than 400 pages by 1912, reflecting the increased magnitude of the multinational banking phenomenon. However the possibility of a British-biased, incomplete coverage of banks, countries and banking places in earlier cannot be ruled out, especially for issues prior to 1900. In order to address this problem, additional control information have been recovered from other primary sources, such as the “Statement of Bank Accounts in a Summarized Form”, a banking supplement regularly published twice a year by *The Economist* providing selected data on colonial and foreign banks with London offices. The exhaustiveness of the information, with particular attention to non-British banks, has been double checked on the base of contemporary secondary sources, including Baster (1929 and 1935), Blondel (1908), Caillez (1923), Goumain-Cornille (1902), Hauser (1906), Diouritch (1909), Riessers (1912), Strasser (1924).

These secondary sources, as well as the abundant existing historical literature, have proved most valuable in solving identification problems related to banks’ nationality. British multinational banks were not the offshoots of parent banks operating in Britain, but free-standing companies created by groups of merchants and financiers, usually with the purpose of operating in a geographically-specialized area. The degree of their Britishness was sometimes hard to ascertain.<sup>2</sup> In the case of Britain, therefore, the data

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<sup>2</sup> Contemporary British sources, such as *The Economist* and the *Banking Almanac*, used to categorize banks as “colonial” or “foreign” not in base of institutional (e.g. charter) or ownership characteristics, but according to their geographical specialization. So “colonial” and “foreign” were dubbed all banks specialized in doing business with British colonial possessions or with foreign countries, respectively. Although some of them—wrote *The Economist* in his 1913 Banking Number (October 18, 1913, p. 769)—“were originally British-owned, having being formed under English laws, with their head-office in London”, later on some “found it advisable to remove the seat of management to the territory from which the business is drawn, and the ownership of part of the share capital has sometimes followed this movement. Other banks have been registered in the colonies, but have raised capital over here [in London]....Then there are what may be called the “native” colonial banks, formed and owned in the colonies, which have opened offices in London for the purpose of facilitating business between the colony and the Mother Country.” Thus, some of the colonial banks (the “natives”) had never been British and their presence in London was comparable to that of any other foreign bank; others, originally established in London, had their Britishness gradually diluted by naturalization. In turn, among “foreign”

set includes only banks that could be proved to be registered under English law, maintained their head office in London and/or kept a dominant presence of British interests in their ownership structure. For the rest of home countries, only foreign branches of either parent banks or autonomous banks that could be identified unmistakably as fully controlled subsidiaries of major national banks or group of banks (“tochtergesellschaften” was a widely used German expression: Hauser 1906) have been included. In the case of foreign subsidiaries created by international consortia of banks, nationality has been assigned on the base of the nationality of the controlling shareholder bank, as it results from the best existing primary or secondary information.<sup>3</sup>

The final data set includes banks from 19 countries with at least one foreign branch (either directly or through a subsidiary) in 85 foreign sovereign and colonial entities, grouped in 8 different regional areas. Multinational banks identified on this procedure numbered 56 in 1880 (with 653 branches, or 13.7 per cent of all possible locations) and 146 in 1912 (with 2,369 branches, or 19 per cent of all possible locations). Details on banks, home- and host-countries are provided in the Appendix.

The national origin of multinational banks, is summarized in Table 1. As expected, Britain, thanks to its early mover advantage, had a crushing majority of banks and branches in 1880 (60.7 and 91.9 per cent respectively). By 1912 its dominance had been significantly eroded by the rise of French and German multinational banks, which now accounted jointly for 37 per cent of overall banks (vis-a-vis 28.8 per cent of British banks).

TABLE 1 HERE

The massive entry by French and German banks in markets traditionally dominated by British free-standing specialized intermediaries was in part motivated by their ambitions to emancipate the financing of national trade and create ‘naturalized’ acceptance

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banks were enlisted banks registered under British law and unequivocally owned or controlled by British interest.

<sup>3</sup> Another form of financial penetration widely used by European banks was the assumption of minority, though sometimes sizeable, shareholdings in host-country’s institutions. German banks’ participations in Austrian institutions and the involvement of French banks in the capital of many Russian banks provide clear examples of such strategy. In spite of their relevance for a comprehensive assessment of the phenomenon of banking internationalisation before WW1, these strategies have not been considered in this paper.



markets in their own national currencies (Einzig 1931: 26-48). By the early 1890s harsh rivalries between European banks had already given multinational banking an unprecedented competitive flavour. Regulatory constraints and the absence of a central bank prevented US banks from playing any significant role until the turn of the century, with the exception of the International Banking Corporation, a special-purpose venture created to promote the US presence in major international financial centres (Wilkins 1970, Carosso and Sylla 1991).

The presence of foreign banks was not evenly spread over regional areas. As Table 2 shows, almost 50 per cent of overall foreign branches was concentrated in Australasia and Africa. However, these figures give a strongly biased picture. They are heavily influenced by a limited number of British banks competing with local banks in settlement economies (Australia, New Zealand, South Africa—though Canada followed a similar pattern) characterized by very extensive branch networks.<sup>4</sup>

TABLE 2 HERE

Table 2 provides also a broad picture of the ‘within’-nationality geographical distribution of foreign branches. After netting out the already mentioned outliers, British banks expanded quite evenly across the rest of extra-European regions but remained virtually absent from the European scenario. The latter, and especially the South-East area, proved the preferred field of expansion of German banks, whereas the Mediterranean and Near East was the area privileged by French banks. South-East Europe and the Mediterranean basin accounted for the bulk of multinational expansion of French and German banks (68 and 57 per cent of their respective total), which also expanded significantly in South America. No banks from other country showed a global thrust comparable to that of the three main European powers: Dutch and Portuguese banks confined themselves to their own colonial territories, Russian and Japanese concentrated on China and the Far East, Canadian in North America and the Caribbean, and Italian in the Mediterranean basin.

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<sup>4</sup> By 1912, the largest 17 Australasian banks had developed an overall network of 2,300 branches. The five British banks operating in Australia and New Zealand accounted for 36 per cent of the total.

Table 3 gives further insights on the corporate patterns and the geographical specialization of multinational banks, both globally and by nationality. Direct multinationalization of parent banks dominate the sample, but was a marginal pattern for main countries. In the case of Britain, “free-standing” intermediaries prevailed, in which country or regionally specialized intermediaries were established by clusters of entrepreneurs (but with no corporate parent bank), with London-based headquarters and operative base overseas (Baster 1935, Wilkins 1988, Jones 1998). Subsidiaries created by parent banks (or by strategic alliances, as in the case of German banks) accounted for an additional quarter of the overall sample, but were the preferred pattern of multinationalisation of French and German banks (Hauser 1906, Diouritch 1909, Caillez 1923). The data show no clear pattern as for the incorporation of such subsidiaries either in the home- or in the host-country.

TABLE 3 HERE

Almost half of the banks included in the sample operated in one single country, whereas another quarter had branches in countries belonging to the same regional area. Regional specialization was more a characteristic of British banks, whereas single-country specialization prevailed among French and German banks. Conversely the concentration in world financial centres was a clear peculiarity of banks from peripheral countries.

An innovative outcome of the process of multinationalization was the emergence of international financial centres characterized by the presence of a high number of foreign banks, as illustrated in Table 4.

TABLE 4 HERE

The clustering of foreign banks into major world financial centres (with London in a clearly dominant role, followed by Paris and fast-growing New York) is a well known facet of pre-1914 globalization. As note by contemporary observers, “large numbers of these institutions before the War were obliged to be strongly represented in London whatever their own national origin, because fierce competition in the various parts of the world where they met forced them to use the facilities of the cheapest and most reliable money market available” (Baster 1935: 13). Discrimination against bills drawn

in currencies other than sterling (due to the fact that the sterling exchange market enjoyed an unrivalled depth) also provided continental banks with an additional strong incentive to locate in London (Diouritch 1909: 260-4). However another important phenomenon that shaped the spatial pattern of globalization was the emergence of international financial centres of regional relevance such as Calcutta, Bombay, Shanghai, Hong Kong, Singapore and Yokohama in Asia, Alexandria, Cairo and Constantinople in the Near East, and Buenos Aires, Rio de Janeiro and Mexico City in Latin America. The emergence of clusters of multinational banks critically shaped the spatial patterns of globalization, as recent studies on the geography of foreign exchanges demonstrate (Flandreau and Jobst 2005).

In order further to explore the spatial dynamics set in motion by the process of banking multinationalization, I estimate Moran's Indices of foreign banks presence for the benchmark years, 1880 and 1913. The Moran's I is a global indicator of spatial autocorrelation, meant to capture the systematic spatial variation of the variable by measuring the correlation among neighboring observations. The value of Moran's I is positive and increased from 0.104 to 0.152 between 1880 and 1912 (against an expected value of -0.012), suggesting an overall increase in spatial correlation over time.<sup>5</sup> A visual representation of spatial autocorrelation is provided in Figure 1, which presents Moran's scatterplots for both years.

FIGURE 1 HERE

The Moran's scatterplot depicts the standardized value of the variable (the number of foreign banks) for each country  $i$  versus its spatial lag, obtained as the sum of the standardized values of neighboring countries  $j$  multiplied by a spatial weights matrix based on the inverse of their geographical distance from country  $i$ . The slope of the fitting line is proportional to the global Moran's I for the dataset. The upper-right and lower-left quadrants reveal areas of positive autocorrelation, with countries with high (low) density of foreign banks surrounded by neighbor countries with the same

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<sup>5</sup> The Moran's Index is a spatially weighted correlation coefficient used in order to detect systematic departures from spatial randomness, i.e. whether neighboring countries are more similar than would be expected under the null hypothesis of spatially independent values (Anselin 1995). The weight matrix used here for its computation is the inverse of geographic distance between observed countries. The expected value is  $-1/(N-1)$ , where  $N$  is the number of observations.

characteristics. The lower-right (high-low) and upper-left (low-high) quadrants, in turn, reveal cases of negative autocorrelation, where countries with high (low) density of foreign banks were surrounded by countries characterized by the opposite characteristics. One interesting feature uncovered is the emergence of high density clusters along a continuum connecting Southern-Eastern Europe (Bulgaria, Roumania) and the Mediterranean basin (Ottoman Empire, Egypt). A similar pattern emerges in the Eastern Asia region comprised between India and China and running from Siam to the Philippines. On the contrary, the presence of foreign banks results much more dispersed in the case of Latin America, with a few hot spots in Argentina, Uruguay, Brazil and Mexico, surrounded by areas generally characterized by low densities (especially in Central America and the South American continent). These spatial characteristics must be taken into account when empirically estimating the determinants of foreign banks' location.

### 3. Empirical strategy and econometric specification

In order to explain the observed pattern of bilateral multinational banking, I follow the most recent literature in specifying a gravity-like model, augmented with additional geographical, social, institutional and othe control variables. Details on the explanatory variables and data sources are given in the Appendix.

The benchmark specification is as follows:

$$\log \text{MNB}_{xij} / (\text{Trade}_i \text{Trade}_j) = \alpha_{ij} + \sum_{y=1}^y \beta_y \text{ECLECTIC}_{y,ij} + \sum_{z=1}^z \beta_z \text{PROXIMITY}_{z,ij} + \varepsilon_{ij} \quad (1)$$

where  $\text{MNB}_{xij} / (\text{Trade}_i \text{Trade}_j)$  is the number of foreign branches of bank x from country i in country j normalized by the log of the product of total trade of the two countries in order to correct for market size effects.<sup>6</sup>

Figure 2 reports descriptive statistics of the normalized variable and plots its distribution along the whole sample by banks' nationality. In order to take into account the typical continental pattern of multinationalization through the creation of groups articulated on subsidiaries established by parent banks or strategic alliances, banks

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<sup>6</sup> Trade is preferred here to GDP because of its observable (not estimated) characteristics. However, normalizing by estimated GDPs produce very similar results.

whose control was clearly exercised by one parent or dominating bank have been merged into one single corporate group.<sup>7</sup>

FIGURE 2 HERE

The bottom graphs emphasise the increased density and the more even distribution of MNB' branches in 1913 compared to 1880. An interesting aspect is the overall stability of the normalized variable's level, which suggests that the dynamics of multinational banking expansion kept the pace of international trade between the two benchmark years.

In specification (1), ECLECTIC indicates a vector of up to  $y$  independent variables associated with the traditional explanation of MNB based on the eclectic theory and emphasising internal advantages. The vector includes:

- host-country GDP, GDP per capita, total trade, total trade per capita, and the compounded annual growth rate of GDP and trade in the period 1880-1913 as alternative proxies for demand for financial services and profit potential.<sup>8</sup> Demand for banking services in the host country—and consequently, the attractiveness to foreign banks—should be related to its income, so the theory predicts that international banks would tend to locate in relatively wealthy countries. However, these are also likely to have a more developed financial system, with higher entry costs, keener competition and lower spreads. They are also likely to have deeper markets for information-intensive assets, with relatively lower information costs. We should finally consider that the business of international banking, at least until the second half of the 20<sup>th</sup> century, used to be less a matter of competition than of cooperation, collusion and alliances between major international players. For these reasons, multinational banks may have relied preferentially on correspondents when dealing with developed markets—a hypothesis consistent with the historical evidence provided by Einzig (1970) about the

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<sup>7</sup> Five major groups can be identified for French banks, led by *Crédit Lyonnais*, *Société Générale*, *Comptoir, Paribas* and *Union Parisienne* (Caillez 1923). In the case of Germany, *Deutsche Bank* followed an autonomous strategy, whereas other major banks (*Diskonto*, *Dresdner*, *Darmstadter*) went multinational mainly through strategic alliances with other smaller German banks (Hauser 1906, Strasser 1924).

<sup>8</sup> Of course a variable capturing more precisely expected returns, such as loan rates or spreads, would be preferable. To date I have been able to collect this information only for a very limited number of countries.

fast rise of global interbank networks based on correspondent relationships before 1914. Instead, the establishment of branches or subsidiaries may have been used to enter peripheral countries, where the financial system was less complex and articulated, the position of incumbent banks more contestable, the rents and claims of cumbersome “friends” weaker, margins higher and access to information from arm’s-length inefficient and very costly. Thus, the expected sign of any proxy of host country’s development is ambiguous at least.

-bilateral trade between home country  $i$  and host-country  $j$  as a proxy for market integration.<sup>9</sup> This is the key ‘integration’ variable to test the ‘follow-the-customer’ hypothesis. Here I use not only the absolute value of total bilateral (dyadic) trade, but also the ratios of total bilateral trade to host- and home-country total trade. These two trade ratios represent indicators of trade partnership dependence, but their interpretation differs significantly. If a positive and significant relationship between MNB and host-country trade dependence is found, this would suggest that banks tended to locate in countries highly dependent on the home country, irrespectively of the magnitude of bilateral trade. In turn, if a positive relationship is found with home-country dependence, this could be interpreted as evidence that banks’ decisions were rather determined by the importance of the host country as a trade partner.

Additionally, a binary variable for world financial centres is added, taking the value of 1 in the case of countries with key-international currencies and in which main pre-1914 international financial centres were located (London, Paris, Berlin and New York).

The second term of specification (1), PROXIMITY, indicates a vector of up to  $z$  explanatory variables related to the new ‘proximity’-based interpretation of MNB. The vector includes:

-geographical distance between countries  $i$  and  $j$ , as a proxy for distance-related informational asymmetries. According to the recent literature, the predicted impact of distance on bilateral multinational banking should be negative. However some

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<sup>9</sup> An alternative indicator of bilateral economic integration would be the flow of capital between home and host country. However, to date the use of this variable is prevented by the poor quality of existing data for major source countries, with the notable exception of Britain.

important qualifications about the use of distance as a crude measure of information costs in this empirical exercise are warranted. First, since geographical proximity is found to be a critical determinant of bilateral trade in trade gravity models, distance may actually capture other costs such as transportation costs (Buch 2001). If both trade in goods and financial assets are positively influenced by geographical proximity, using the former as an explanatory variable of the latter may create endogeneity problems and bias the estimates. Two recent studies on bilateral bank flows deal with this problem. Papaioannou (2005) avoids it by dropping bilateral trade from the set of explanatory variables; Aviat and Coeurdacier (2006) address it by using instrumental variables and simultaneous equations. In our case, however, the problem appears to be less relevant, since we find that distance affected trade and MNB in opposite ways (see below). In fact, the case of multinational banking is not strictly comparable with that of trade of financial assets. As in other sectors, the impact of distance on foreign direct investment is ambiguous. In fact it can act as an impediment (by raising information, coordination and transaction costs) but also as an incentive, if returns from locating in a distant foreign markets are expected to exceed the costs of operating at distance, and alternative modalities, such as direct cross border lending or the establishment of a correspondent contract with local banks, are not viable. Thus, the predicted sign of the distance parameter remains ambiguous. As a preliminary check, Figure 3 shows a scatterplot of (log) bilateral distance versus bilateral trade and bilateral MNB. The opposite slope of the respective fitting lines confirms that distance (i.e. transport costs) acts as a brake on bilateral trade—a standard result of trade gravity models—but also suggests that it may represent an incentive to multinational expansion into foreign markets.

FIGURE 3 HERE

Other proximity binary variables included are:

- geographical contiguity (taking value of 1 when home- and host-countries share a common border), in order to control for possible border effects in addition to geographical proximity;
- colonial link (taking the value of 1 when the host-country is a colony of home-country: see details in the Appendix). Intuitively the existence of a colonial relationship enhanced the location of home-country banks into the host country, independently of other economic motivations, by reducing entry barriers and information asymmetries for

home-country banks and sheltering them from international competition. For the same reason, a colonial relationship may have acted as a powerful entry barrier for alien banks; thus, a different binary variable taking the value of 1 when the host country is a colony of countries other than the home country is tested.<sup>10</sup>

#### **4. Benchmark results**

Benchmark regressions are run by standard panel least squares, EGLS, or FGLS, with estimators robust to cross-section correlation, different error variance, and cross-section heteroskedasticity. Due to the extremely high number of zero observations in the dependent variable, log transformation implies that benchmark estimates are run by taking into account only positive (i.e. non-zero) observations.<sup>11</sup> Additional problems may render least squares not perfectly suitable to produce unbiased estimates. First, reverse causality may originate from the fact that the presence of foreign banks in host countries was likely to promote bilateral trade with home countries. To manage this problem I use lagged (i.e. 1890) data for bilateral trade and any other time-varying independent variable. Second, endogeneity problems may prove relevant if some explanatory variables is influenced by one or more of the other regressors. That would be the case in which ‘proximity’ variables such as geographical distance, colonial status or legal affinity, are likely to influence bilateral trade. This problem is dealt with by using as a proxy of bilateral market integration not the absolute volume of bilateral trade (the usual dependent variable in trade gravity models), but a trade dependence ratio not influenced by geographical variables.

I start by testing the predictions of alternative hypothesis (internal advantage vs proximity) separately. As shown in Table 5, total trade of host country per capita (as a proxy for business volume and profit opportunities) is negative and significant; any alternative indicator (GDP per capita, total trade, compounded annual growth rate of trade and GDP in the period 1880-1913) produces the same result.<sup>12</sup> Also bilateral trade, as a proxy for market integration, is negative and significant; the absolute volume of

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<sup>10</sup> I have also experimented with a language dummy (taking the value of 1 when the home- and host countries shared the same language), and a legal system binary variable, taking the value of 1 when the two countries belonged to the same legal family (La Porta et al. 1999, Berkovitz et al. 2003). Due to their high collinearity with the colony variable, however, these dummies have been dropped.

<sup>11</sup> In the future, as a robustness check, the dependent variable will be reformulated as the log of 1 plus the normalized bilateral MNB, and the specification re-estimated by Tobit.

<sup>12</sup> Results are not reported to save space, but are available upon request.



bilateral trade seems to reduce the incentives to banks to locate in host countries (col. 1). This is hardly surprising however, since trade of European main economies was largely intra-European, whereas, as seen in section 2, North-Western Europe was the regional area with the lowest density of foreign banks, apart from major financial centres.

TABLE 5 HERE

This however does not mean that bilateral market integration should be neglected. In fact, when measured in terms of trade dependence of host countries (the share of bilateral trade between countries  $i$  and  $j$  in country's  $j$  total trade), the sign on the integration variable is positive and significant (this result is robust for both 1890 and 1913 data) (col. 2).<sup>13</sup> This is one first interesting result: what seemed to matter for banks' location choice was the relative dominance of their home country in the trade relationships of host countries. This is definitely consistent with the internalization view, in which banks move abroad in order to exploit rents generated by domestic customers. An additional advantage of the trade dependence variable is that it makes the problem of possible endogeneity of market integration and bilateral distance easier to deal with. In fact, unlike absolute bilateral trade, trade dependence seems to be much less influenced by geographical distance, as suggested by estimates of a traditional trade gravity model for 1890 (whose results are presented in Table 6 for the sake of completeness).

TABLE 6 HERE

Proceeding with the benchmark estimates in the upper section of Table 5, the results for pure 'gravity' specifications based on proximity variables give consistently a positive and significant impact of bilateral distance (cols. 3 to 6). This is robust to the inclusion of the colonial relationship dummy, which also is found positive and strongly significant over different specifications (including cross section fixed and random effects, introduced in order optimally to use both between and within panel information). The overall fit of the 'pure gravity' specification is quite low, although it increases significantly with the inclusion of cross-section fixed effects. The middle section of the Table reports results for the full benchmark specification, including both 'internal

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<sup>13</sup> On the contrary, home-country dependence, measured as the ratio of home-country trade with the host country to the total home-country trade, give always insignificant results.

advantage' and 'proximity' variables, from which the insignificant variables have been dropped. Again, I present the results obtained by using bilateral trade (cols. 7 to 9) and trade dependence (cols. 10 to 12) as alternative proxies for bilateral economic integration. The results are consistent with the previous findings. Host country's trade per capita (our broad indicator of economic development) and bilateral trade are negative and significant throughout all specifications. Trade dependence instead confirms its positive and significant sign: together with distance, also positive and significant, it seems to represent a powerful inducement for banks to establish abroad. Again, cross-section fixed effects produce the best fit (0.41, col.11).

The bottom section of the table presents estimates obtained from different specifications after the inclusion of the colonial link binary variable. Home country dummies are tested to control for unobserved characteristics of source countries and their uneven impact on the MNB phenomenon. Cross section and destination country weights are also included in order to correct for heteroskedasticity. All specifications confirm the previous results. The colony variable is consistently positive but never significant: this is possibly due to its collinearity with trade dependence, which may already capture the colonial effect, as overseas colonies traded disproportionately with their mother country. The feasible GLS estimates achieve a far better fit of the model (0.78, cols. 17 and 18)

## **5. Additional determinants: information, risk and spatial dependence**

The relatively low explanatory power of the specifications tested in section 4 advise to control for additional possible determinants of banks' location decisions. For such purpose I test also a new vector of explanatory variables related to specific characteristics of multinational banking and, more generally, to the financial service sector: informational development, risk factors, and spatial dependency.

*Informational development.* As suggested by Portes et al. (2001), informational development may dampen the impact of distance-related information and transaction costs. For this reason, an original explanatory variable is constructed to capture the level of informational development of host countries. Data about the aggregate volume of postal traffic handled in each sample country (including items as different as letters, parcels and newspapers) have been collected, and normalized by population to remove size effects. In fact, the optimal solution would be to measure bilateral flow of

information between home and host countries—a kind of disaggregated information unfortunately not available for the pre-1914 period. Host country’s “information per capita” can be interpreted as an indicator of information integration, which in turn is likely to reflect a country’s level of modernization, urbanization and social development—all factors that go hand in hand with economic development.

As shown in Table 7 (col. 1), the information variable at its 1890 value has a negative sign and is also strongly significant (the 1913 value gives a similar result). Dropping the trade per capita variable (highly collinear with information and estimated GDP per capita: see Figure 4), the positive sign of trade dependence and geographical distance is confirmed.

FIGURE 4 HERE

This is consistent with the story that emerges from the data: peripheral economies, informationally underdeveloped but increasingly integrated into the trade network of major Western countries as minor partners, attracted the direct presence of foreign banks. Difficult access to information was an incentive, not a brake on MNB.

TABLE 7 HERE

*Risk factors.* Contemporary observers were convinced that banks’ decisions to settle down overseas were heavily influenced by macroeconomic risk considerations. One major element was the institutional stability and financial reputation of the host country. In a telling passage about Latin America, Baster (1935: 126-7) suggested that in the 19<sup>th</sup> century British banks’ penetration privileged “the richest and financially most stable regions” (the River Plate basin—i.e. Argentina and Uruguay—“though with records far from stainless”), and “after a long period of specialization in one area, gradually extended their interests” to the rest of the continent, where currency systems had proved “liable to collapse under strain”. Here I use a Gold Standard adherence dummy as a possible proxy for country risk, in line with the “good housekeeper seal of approval” literature (Bordo and Rockoff 1996).<sup>14</sup> However, since by 1913 the vast majority of

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<sup>14</sup> This interpretation has been subsequently challenged. The relationship between Gold adherence and country risk was not stable over time, as falling sovereign spreads since the late 1890s demonstrated

countries in the sample were on Gold, I have constructed an original indicator that indirectly reflects macroeconomic instability by weighting Gold Standard adherence by the years during which each country was on Gold during the 24 years between 1880 and 1914. Furthermore, macroeconomic instability is captured directly by two exchange rate variables: the cumulative depreciation and the volatility of the nominal exchange rate of host-country's currency vis-a-vis the British pound. Again, however, the predicted impact of multinational banking is far from unambiguous, as exchange volatility may act as a brake on location for some banks but also as an additional incentive and a source of profits for others.

Indeed, macroeconomic and exchange rate instability were the characteristics of countries in which foreign banks expanded more. As shown in Table 7 (cols. 2 to 4), all the risk variables have the expected sign: negative in the case of weighted Gold Adherence (banks were less attracted by macroeconomic stability), positive in the case of the other two. Macroeconomically unstable economies attracted foreign banks; or at least, their higher volatility was not perceived as a reason to keep out.

*Spatial dependence.* Standard gravity models consider bilateral relationships as independent from each others. This is not applicable to foreign direct investments, and even less in the banking sector. One major peculiarity has to do with clustering of a high number of foreign banks in a limited number of regional centres, as shown in section 2. In fact, contemporary observers referred to the rise of “destructive rivalries” between foreign banks, especially in South America, the Caribbean, Egypt and the FarEast (Baster 1935) As in the case of major world centres, clustering in regional centres was certainly driven by the attempt to get access to local foreign exchange markets and exploit information, intelligence and network externalities. However, other motivations may be relevant. Recent theories of economic geography suggest the possibility that firms may compete less in price than in location (according the the principle of minimum differentiation) by clustering at the centre of the relevant geographical or market area, since profits are an increasing function of the market share to which firms have privileged access (Ottaviano and Thisse 2004: 15) A complementary setting of

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(Obstfeld and Taylor 2003, Flandreau and Zumer 2004). Others (again Flandreau and Zumer 2004) convincingly argue that contemporary investors and observers attached a much higher value to debt sustainability when deciding about a country's probability of default.

location theory is based on feedback mechanisms, i.e. a circular causation of location decisions by different firms.

Related to the clustering effect is another possible relevant factor. Patterns of multinationalization can be based on platform strategies, in which firms invest directly into a host country to serve as a platform for servicing neighboring host countries (Blonigen 2005: 22). A wealth of historical evidence provided by corporate stories of multinational banks clearly support the sequential characteristics, both in time and space, of their entry and expansion. The sources of spatial dependence can be diverse. Once a bank developed its ability to operate in a specific foreign business environment and under given institutional constraints, it may tend to transfer this newly acquired internal knowledge to similar environments, hence, a rationale for regional specialization. Furthermore, spatial contiguity of branch networks was also considered as a necessary condition for success. A 1899 report by a Credit Lyonnais' manager visiting the two branches opened by the French bank in Bombay and Calcutta just four years before, sentenced:

'In order to give these two branches some vitality and justify their existence, we should follow the example of Eastern banks by establishing other footholds in the Indies and create in Asia a network or a group which should include China and Japan, as the Hongkong and Shanghai Bank did. But that would be perhaps too stretched an area of operations, and, by getting too vast, would go beyond the sphere of action [of the bank]. If that's the case, I can see no future for these two unfortunate branches which look like isolated and into exile here in Far East' (quoted in Rivoire 1989: 82-3).

Regional ramification can also be dictated by risk diversification. Risk was regarded as considerably higher in monocultural economies subject to wild fluctuations in the price of one single commodity, than in countries whose production and exports spanned a wider set of products. A widely quoted example was the dramatic fall in the price of sugar that badly hit the West Indies in the early 1890s, but other cases raised in the literature were rice in Indochina, nitrate in Chile, coffee and caoutchou in Brazil—let alone the African colonies. Argentina was deemed to be a much less riskier location than, say, Brazil from this point of view. Only by locating in different markets, at least within the same region, banks could diversify their risk (Caillez 1923, p. 36-40). As a consequence of all this possible forces at work, the location decisions by multinational banks could be affected by spatial dependence.

In order to test the existence of clustering effects at country level, I use the increase in the number of banks operating in each host country in 1913 relative to 1880 as a control variable. In order to capture possible spatial dependence effects, I have identified for a limited subsample of banks a ‘hot spot’ of foreign activities as the country in which they had the largest number of branches in 1880 or (in the case of new entrant) in 1913. The distance of the rest of other potential host-countries from the identified bank-specific main location overseas is then used in order to test whether proximity of other foreign countries to this market contributed to explaining bank’s pattern of foreign expansion (‘overseas spillover’). Other binary variables are used to capture entry barriers erected by colonial markets against banks from countries other than the mother country (1 if alien colony), and the possible spillover in locations along imperial borders (1 if common border with a own colony).

The results presented in Table 7 (col. 5 to 6) are quite inconclusive. Some estimates are significant but they exhibit the unwelcome characteristic of interfering with other well established parameters. Markets falling within the boundaries of European powers’ empires seem to have raised substantial entry barriers to banks of nationalities different from the mother country. The strong negative effect of countries along imperial borders may capture the same phenomenon, as Asian and African colonies of different powers used to sit side-by-side. Conversely, no significant clustering effect is found at host country level. The result of the ‘overseas spillover’ variable is interesting: a negative and significant sign suggests that banks with a well identifiable main market of operations abroad tended to expand more in neighboring areas—a regularity consistent with the qualitative evidence on MNB in Asia and Latin America.

To what extent was the pattern that emerges from the data really an outcome of globalization? Whereas there exists little doubt that French, German and other new entrants really responded to the deep forces of economic integration set in motion after the 1870s (as well as to the new colonial order inaugurated by the Berlin conference of 1878), in the case of the British banks a significant part of their foreign expansion observed in 1913 depended on decisions taken in the 1860s or even in the 1840s. How much did the inertia of such past decisions contribute to shape pre-1914 MNB? As a preliminary check, I reestimate some specifications by using the difference of (log) bilateral branches (normalized) between 1880 and 1913. The idea here is to capture

exclusively the entry and expansion dynamics that unfolded in the 35 years before WW1, on top of the level reached in 1880. The results are presented in Table 8.

TABLE 8 HERE

Compared to the previous estimates, important differences are noticeable. Three major factors seem to lose significance: trade dependence, distance and colonial relationship. This may imply that the pattern previously identified was significantly biased by the inheritance of the pre-1880 decisions of British banks. During the true era of globalization, the location decisions of multinational banks seemed to assume increasingly the characteristics of an expansion towards the outer peripheries of the global system—where peripheries should be interpreted not necessarily in geographical sense, but rather in an informational and economical perspective: countries more opaque, less accessible and more unstable.

## **6. Preliminary conclusion**

Three main factors seem to have acted as drivers of the locational choices of multinational banks before 1914. The first one is the internal exploitation of rents created by a) trade dependence of host countries and b) colonial relationships; the latter also enhanced access to information, provided language and legal proximity, and guaranteed entry barriers against alien challengers. The second driving force was a response to high information costs due to host country's geographical distance and low informational development. The expansion of banks was less dynamic in relatively neighbor and developed countries, in which deeper markets for information-intensive assets and reliable correspondent banks existed (but also banking systems were less contestable), than in distant and opaque markets, in which information was costly and local incumbents hard to monitor (or unsuitable for correspondent relationships). The third pulling force was macroeconomic instability, which provided profit opportunities; this may have reinforced the impact of previous factors by making access to local information a vital resource.

The results also suggest that the two first factors—bilateral trade and colonial links, typical of the early phase of British-dominated MNB—and possibly also distance-related information costs may have gradually lost their pulling force. Multinational

banking may have become at the end of the first globalization an increasingly competitive rush towards neighbor peripheries, informationally underdeveloped and emerging with difficulties from macroeconomica (and political) instability.

Apart from basic drivers, the paper also emphasises the importance of spatial dependence as a powerful factor influencing banks' locational decisions. Border effects, clustering dynamics, overseas spillovers emerge as crucial elements that shaped the global geography of finance prior to WW1. In spite of the relevance of this spatial dimension, however, gravity forces do not seem to have plaid according to predictions by recent models. Before 1914, multinational banks seemed to be attracted not by proximity (geographical, cultural, institutional) and stability, but by diversity (in broad terms) and risky business environments.

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## APPENDIX: DATA SET AND SOURCES

The data set includes 57 banks in 1880 and 146 banks in 1912. Banks with at least one foreign branch or subsidiary are listed according to their nationality, determined on the base of incorporation, headquarters' location and/or capital ownership. Banks discontinued between 1880 and 1912 are in italics; date and cause of liquidation is reported among brackets (if known). British, French and German banks are divided by main area of operations.

Countries included in regional groupings are as follows:

**A. Europe:** Austria-Hungary, Belgium, Bulgaria, Denmark, France, Germany, Italy, Netherlands, Norway, Portugal, Russia, Roumania, Servia, Sweden, Spain, Switzerland.

**B. Mediterranean and Near East:** Algeria, Cyprus, Egypt (incl. Anglo-Egyptian Sudan), Gibraltar, Greece, Malta, Morocco, Ottoman Empire, Tunis.

**C. Middle and Far East:** Arabia (Aden), Ceylon, China (incl. Honkong and other Western enclaves), Dutch East Indies (Borneo, Java, Sumatra), French Indochina (Annam, Cambodia, Cochinchina, Tonkin), British India (incl. Burma), Malay States (British protectorate), Japan, Korea, Persia, Philippines Islands, Siam, Straits Settlements.

**D. North America:** Dominion of Canada, USA.

**E. Central America, Caribbean and South America:** Argentina, Bolivia, Brazil, Colombia, Cuba and Puertorico, Chile, Costa Rica, Ecuador, El Salvador, Guatemala, Guyanas (British, Dutch, French), Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela, West Indies (British and French).

**F. Africa:** Angola (Portuguese), East Africas (British, French, German, Italian, Portuguese), Liberia, Madagascar, Mauritius Islands, South Africa (incl. Cape Colony, Natal, Orange Free State, Transvaal, Rhodesia), South West Africa (German), West Africas (Belgian: Congo; British: Gold Coast, Lagos, Nigeria, Sierra Leone; French: French Guinea, Gabon, Ivory Coast, Senegal; German: Togo, Cameroun)

**G. Australasia:** Commonwealth of Australia, New Zealand.

Banks included in the sample by origin country and regional specialization are:

### UK

**A:** *International Bank of Hamburg and London, Anglo-Universal Bank, Lloyds Bank (France), London County and Westminster (France)*

**B:** *Bank of Egypt, Commercial Bank of Alexandria, Anglo-Egyptian Banking Co., Ionian Bank, National Bank of Egypt, Anglo-Palestine Co., British Oriental Bank, Imperial Bank of Persia*

**C:** *Agra Bank (liq.1900), Oriental Bank Corporation (liq.1892), Hongkong and Shanghai Banking Co., Chartered Bank of India Australia and China, Chartered Mercantile Bank of India, London and China (later Mercantile Bank of India), Delhi and London Bank, National Bank of India, Eastern Bank, Grindlay & Co., Cox & Co., Anglo-Japanese Bank*

**D:** *Bank of British Columbia (amalg with Canadian Bank of Commerce 1902), London and San Francisco Bank (acq. by Bank of California 1905), Anglo-Californian Bank (merged with London-Paris National Bank of San Francisco 1890), Bank of British North America,*

**E:** *English Bank of the River Plate (liq. 1894), Mercantile Bank of the River Plate, Anglo-Peruvian Bank, Mercantile Bank of Peru, The Colonial Bank, New London and Brazilian Bank, English Bank of Rio de Janeiro (later British Bank of South America), London and River Plate Bank, Anglo-South American Bank (former Bank of Tarapaca and London), Cortes Commercial and Banking Co., London Bank of Mexico and South America, Banco de Londres y Mexico, Banco del Peru y Londres, Banco del Comercio Hispano-Argentino, Banco Mobiliario de Chile, Banco de la Habana, Banco de Bolivia y Londres*

**F:** Standard Bank of British South Africa, Bank of Africa, African Banking Co., Bank of British West Africa, Bank of Mauritius, Bank of Nigeria

**G:** Bank of Australasia, *Bank of South Australia (amalg. Union Bank of Australia 1892), Union Bank of Australia, London Chartered Bank of Australia, English Scottish and Australian Chartered Bank, Bank of New Zealand, National Bank of New Zealand.*

## **FRANCE**

Credit Lyonnais, Comptoir d'Escompte, Banque de Paris et des Pays Bas (Paribas), Société Générale

**A:** Bank of Roumania (reg in London, owned by Imperial Ottoman Bank), Crédit Franco-Portuguese, Banque de Crédit Serbe, Banque Franco-Serbe, Société Francaise de Banque et Depot, Balkanska Bank, Banca Comerciala Romana, Banque Comercial at Financier des Balkans, Banque Generale de Bulgarie, Crédit Foncier Franco-Bulgare

**B:** *Banque Hellénique de Crédit Générale, Banque de Constantinople, Imperial Ottoman Bank, Compagnie Algerienne, Banque de l'Algerie, Crédit Foncier d'Algerie et Tunisie, Banque Nationale de Turquie, Banque d'Athenes*

**C:** Banque de l'Indochine

**D:** Banque Franco-Americaine

**E:** Banque Francaise et Italienne pour l'Amerique du Sud (Sudameris), Banco Nacional Mexicano (Banamex), Banque Francaise du Bresil, Banco Frances del Rio de la Plata

**F:** Banque Francaise de l'Afrique du Sud, Banque de l'Afrique Occidentale

## **GERMANY**

Deutsche Bank, Diskonto Gesellschaft, Dresdner Bank

**A:** Banque Central Anversois, Crédit Anversoise, Banque de Bruxelles, Banque Internationale de Bruxelles, Banca Generala Romana, Banca Marmorosch Blank, Kreditna Bank Sofia, Bank Andrejevich, Banca Commerciale Italiana, Credito Italiano

**B:** Deutsch Orient Bank, Banque d'Orient, Deutsche Palaestina Bank

**C:** Deutsch-Asiatische Bank, Siam Commercial Bank

**E:** Deutsche Uberseeische Bank, Banco Mexicano de Comercio e Industria, Brasilianische Bank für Deutschland, Bank für Chile und Deutschland, Deutsch Sudamericanische Bank

**F:** Deutsch Ostafrikanische Bank, Deutsch Afrika Bank, Deutsch Westafrikanische Bank

Banks from other countries:

**ARGENTINA** Banco Español del Rio de la Plata

**AUSTRALIA AND NEW ZEALAND** Australian Joint Stock Bank, Bank of New South Wales, Commercial Banking Co. of Sydney, National Bank of Australasia, Queensland National Bank, Bank of Victoria, Mercantile Bank of Sydney, Australian

Bank of Commerce Insurance and Deposits, Bank of Adelaide, Colonial Bank of New Zealand, Bank of North Queensland, Royal Bank of Queensland  
**AUSTRIA-HUNGARY** Credit Anstalt, Anglo-Austrian Bank, Oesterreichische Länderbank, Wiener Bankverein, Banca de Credit Romanesc  
**BELGIUM** Banque Sino-Belge  
**CANADA** Bank of Montreal, Bank of Nova Scotia, Canadian Bank of Commerce, Royal Bank of Canada, Merchants Bank of Canada, Dominion Bank, Banque Nationale de Quebec  
**CHILE** Banco de Chile  
**INDIA** Indian Specie Bank  
**JAPAN** Yokohama Specie Bank, Bank of Taiwan, Daichi Ginko  
**ITALY** Banco di Roma, Società Coloniale Italiana  
**NETHERLANDS** Nederlandsche Handels Maat, Nederlandsche Indische Handel Maat, Nederlandsche-Indische Escompto, Javasche Bank, Borneo Sumatra Maat, Netherlands Bank of South Africa, Transvaalsche Bank en Handelsvereniging  
**PORTUGAL** Banco Nacional Ultramarino  
**RUSSIA** Banque Russo-Asiatique, Russian Bank for Foreign Trade, Russian Commercial and Industrial Bank, Banque Internationale de Commerce de Petrograd  
**SOUTH AFRICA** National Bank of South Africa, Natal Bank  
**SPAIN** Banco de Bilbao, Banco Español de Credito  
**SWITZERLAND** Swiss Bankverein  
**USA** International Banking Corp.

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Sources:

- *The Statesman's Yearbook*

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**Distance.** Great circle distance between capital cities, the only exception being the use of Rio de Janeiro for Brasil, and New York for the USA.

**Gold adherence**

Sources: Flandreau and Zumer (2004); Obstfeld and Taylor (2003); L. Officer's dataset. Flandreau and Zumer data set and Lawrence Officer's data on Gold adherence can be accessed through EH.NET's datasets: <http://eh.net/databases/finance/>.

Obstfeld and Taylor's database is available online at the Royal Economic Society's website: <http://www.res.org.uk/economic/datasets/datasetdefault.asp>.

**Exchange risk.**

Source: Schneider et al. (1991-99), *Währungen der Welt*, voll. 7 (Stuttgart)

Selected series obtained from Global Financial Data available at: <http://www.globalfinancialdata.com>).

## TABLES AND FIGURES

**Table 1**  
**Multinational banks and branches by country of origin, 1880 and 1912**

	1880		1912	
	Banks (branches)		Banks (branches)	
	n <sup>o</sup>	%	n <sup>o</sup>	%
	56 (653)	100 (100)	146 (2369)	100 (100)
<b>COUNTRY OF ORIGIN</b>				
Britain	34 (600)	60.7 (91.9)	42 (1525)	28.8 (64.4)
France	7 (36)	12.5 (5.5)	28 (419)	19.2 (17.7)
Germany	2 (4)	3.6 (0.6)	26 (169)	17.8 (7.1)
Netherlands	2 (2)	3.6 (0.3)	7 (73)	4.8 (3.1)
Canada	1 (1)	1.8 (0.2)	7 (46)	4.8 (1.9)
Japan	-	-	3 (36)	2.1 (1.5)
Russia	-	-	4 (25)	2.7 (1.1)
USA	-	-	1 (16)	0.7 (0.7)
Italy	-	-	2 (11)	1.4 (0.5)
Argentina	-	-	1 (11)	0.7 (0.4)
Australia and New Zealand	8 (8)	14.8 (1.2)	10 (10)	0.7 (0.4)
Portugal	-	-	1 (9)	0.7 (0.4)
Austria-Hungary	2 (2)	3.7 (0.3)	6 (8)	4.1 (0.3)
Belgium	-	-	1 (3)	0.7 (0.1)
Spain	-	-	2 (2)	1.4 (0.1)
South Africa	-	-	2 (2)	1.4 (0.1)
Chile	-	-	1 (2)	0.7 (0.1)
Switzerland	-	-	1 (1)	0.7 (0.05)
India	-	-	1 (1)	0.7 (0.05)

Source: see Appendix

**Table 2**  
**Foreign branches by country of origin and regional location, 1912 (per cent)**

1912	Total	British	French	German	Dutch	Russian
<b>World Financial Centres</b>	<b>4,67</b>	1,63	3,33	5,92	2,74	36,36
<b>Europe</b>	<b>5,01</b>	0,13	11,43	37,28	-	-
<b>Mediterranean and Near East</b>	<b>13,94</b>	3,19	57,38	20,12	-	4,55
<b>Africa</b>	<b>14,61</b>	20,44	3,10	4,14	9,59	-
<b>Middle and Far East</b>	<b>11,56</b>	7,94	5,00	8,88	86,30	59,09
<b>Australasia</b>	<b>33,93</b>	52,67	0,95	-	-	-
<b>North America</b>	<b>5,01</b>	6,71	0,24	-	-	-
<b>South America</b>	<b>11,27</b>	7,29	18,57	23,67	1,37	-
	<b>100,00</b>	100,00	100,00	100,00	100,00	100,00
		<b>Italian</b>	<b>Canadian</b>	<b>US</b>	<b>Japanese</b>	<b>Australian</b>
<b>World Financial Centres</b>		9,09	28,07	6,25	20,00	100,00
<b>Europe</b>		18,18	-	-	-	-
<b>Mediterranean and Near East</b>		63,64	-	-	-	-
<b>Africa</b>		9,09	-	-	-	-
<b>Middle and Far East</b>		-	-	68,75	70,00	-
<b>Australasia</b>		-	-	-	-	-
<b>North America</b>		-	19,30	-	10,00	-
<b>South America</b>		-	52,63	25,00	-	-
		100,00	100,00	100,00	100,00	100,00

Note: World Financial Centres include London, Paris, Berlin and New York.

Source: see Appendix

Table 3

## Multinational banks by corporate pattern and geographical specialization, 1912

	TOTAL	British	French	German	Dutch	Russian	Austrian	Italian	Canadian	US	Japanese	Australian
	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)	n <sup>2</sup> (%)
	148 (100)	43 (100)	28 (100)	26 (100)	7 (100)	4 (100)	6 (100)	2 (100)	7 (100)	1 (100)	3 (100)	10 (100)
<b>CORPORATE PATTERN</b>												
stand-alone	36 (24.3)	33 (76.7)	3 (10.7)	-	-	-	-	-	-	-	-	-
parent	57 (38.5)	2 (4.7)	5 (17.9)	3 (11.5)	7 (100.0)	3 (75.0)	5 (83.3)	2 (100.0)	7 (100.0)	-	3 (100.0)	10 (100)
subsidiary + inc. home	15 (10.1)	-	7 (25.0)	8 (30.8)	-	-	-	-	-	-	-	-
subsidiary + inc. host	25 (16.9)	8 (18.6)	8 (28.6)	9 (34.6)	-	-	-	-	-	-	-	-
consortium + inc. home	6 (4.1)	-	1 (3.6)	2 (7.7)	-	1 (25.0)	-	-	-	1 (100.0)	-	-
consortium + inc. host	9 (6.1)	-	4 (14.2)	4 (15.4)	-	-	1 (16.7)	-	-	-	-	-
<b>GEOGRAPHICAL SPECIALIZATION</b>												
country specialized	68 (46.0)	24 (55.8)	18 (64.3)	17 (65.4)	5 (71.4)	-	1 (16.7)	1 (50.0)	-	-	1 (33.3)	-
region specialized	40 (27.0)	19 (44.2)	6 (21.4)	6 (23.1)	2 (28.6)	1 (25.0)	-	1 (50.0)	1 (14.3)	-	2 (66.7)	-
global	7 (4.7)	-	4 (14.3)	1 (3.8)	-	-	-	-	-	1 (100.0)	-	-
world centres	33 (22.3)	-	-	2 (7.7)	-	3 (75.0)	5 (83.3)	-	6 (85.7)	-	-	10 (100)
<b>INTERACTION</b>												
stand alone + country	16 (10.8)	14 (32.6)	2 (7.1)	-	-	-	-	-	-	-	-	-
parent + country	9 (6.1)	2 (4.6)	-	-	5 (71.4)	-	-	1 (50.0)	-	-	1 (33.3)	-
subsidi (home) + country	10 (6.8)	-	6 (21.4)	4 (15.4)	-	-	-	-	-	-	-	-
subsidi (host) + country	23 (15.5)	8 (18.6)	7 (25.0)	8 (30.8)	-	-	-	-	-	-	-	-
consortium (home) + country	2 (1.4)	-	-	1 (3.8)	-	-	-	-	-	-	-	-
consortium (host) + country	8 (5.5)	-	3 (10.7)	4 (15.4)	-	-	1 (16.7)	-	-	-	-	-
stand alone + region	20 (13.5)	19 (44.2)	1 (3.6)	-	-	-	-	-	-	-	-	-
parent + region	9 (6.1)	-	1 (3.6)	-	2 (28.6)	-	-	1 (50.0)	1 (14.3)	-	2 (66.7)	-
subsidi (home) + region	5 (3.4)	-	1 (3.6)	4 (15.4)	-	-	-	-	-	-	-	-
subsidi (host) + region	2 (1.4)	-	1 (3.6)	1 (3.8)	-	-	-	-	-	-	-	-
consortium (home) + region	3 (2.0)	-	1 (3.6)	1 (3.8)	-	1 (25.0)	-	-	-	-	-	-
consortium (host) + region	1 (0.7)	-	1 (3.6)	-	-	-	-	-	-	-	-	-
stand alone + global	-	-	-	-	-	-	-	-	-	-	-	-
parent + global	6 (4.1)	-	4 (14.3)	1 (3.8)	-	-	-	-	-	-	-	-
subsidi (home) + global	-	-	-	-	-	-	-	-	-	-	-	-
subsidi (host) + global	-	-	-	-	-	-	-	-	-	-	-	-
consortium (home) + global	1 (0.7)	-	-	-	-	-	-	-	1 (100.0)	-	-	-
consortium (host) + global	-	-	-	-	-	-	-	-	-	-	-	-
stand alone + centre	-	-	-	-	-	-	-	-	-	-	-	-
parent + centre	33 (22.3)	-	-	2 (7.7)	-	3 (75.0)	5 (83.3)	-	6 (85.7)	-	-	10 (100)
subsidi (home) + centre	-	-	-	-	-	-	-	-	-	-	-	-
subsidi (host) + centre	-	-	-	-	-	-	-	-	-	-	-	-
consort (home) + centre	-	-	-	-	-	-	-	-	-	-	-	-
consort (host) + centre	-	-	-	-	-	-	-	-	-	-	-	-

Table 4

## Emergence of international financial centres: foreign banks, 1880-1912

Centre	1880	1912	ratio	s.d.
London *	12	42	3.50	16,15
Paris	6	20	3.33	7,29
New York	3	18	6.00	6,49
Calcutta	7	14	2.00	4,88
Bombay	7	13	1.86	4,48
Shanghai	7	12	1.71	4,07
Hong Kong	6	11	1.83	3,67
Brussels	2	9	4.50	2,87
Alexandria	6	9	1.50	2,87
Cairo	5	9	1.80	2,87
Constantinople	2	9	4.50	2,87
Yokohama	3	8	2.67	2,46
Singapore	4	8	2.00	2,46
Buenos Aires	2	8	4.00	2,46
Rio de Janeiro	2	8	4.00	2,46
Mexico City	1	8	8.00	2,46
Hankow	2	7	3.50	2,06
Tientsin	-	7	-	2,06
Batavia	5	7	1.40	2,06
Hamburg	1	7	7.00	2,06
Montevideo	3	7	2.33	2,06

Note. \*In London, 9 and 18 foreign banks from British colonies in 1880 and 1912 respectively. First seven locations exceed three standard deviations of the normalized variable.



**Table 5**  
**Basic determinants: benchmark estimates**

	Dependent variable: normalized bilateral MNB					
	(1)	(2)	(3)	(4)	(5)	(6)
	Internal Panel LS	Internal Panel LS	Proximity Panel LS	Proximity Panel LS	Proximity Panel LS	Proximity Panel EGLS
c	5.943*** (21.25)	3.912*** (10.27)	-0.940 (-0.49)	0.024 (0.02)	-2.237 (-1.63)	-0.782 (-0.51)
<b>trade p.c. (j)</b>	-0.304** (-2.93)	-0.622*** (-3.562)				
<b>bilateral trade (ij)</b>	-0.951*** (-8.32)					
<b>trade dependence (ij)</b>		3.010** (2.193)				
<b>distance (ij)</b>			0.591** (2.72)	0.413** (2.16)	0.676*** (4.00)	0.507** (2.92)
border (ij)			-0.043 (-0.07)	-0.010 (-0.02)	0.040 (0.06)	-0.035 (-0.07)
island (ij)			-1.147 (-1.28)	-1.315 (-1.54)	-1.076 (-1.21)	-1.311 (-1.55)
landlock (ij)			0.570 (1.44)	1.070* (2.20)	0.814 (1.50)	1.003** (2.19)
<b>colony (ij)</b>				1.591*** (3.59)	1.667** (3.17)	1.509*** (3.42)
Cross section fixed effects	no	no	no	no	yes	no
Cross section random effects	no	no	no	no	no	yes
Adj R2	0.47	0.23	0.10	0.19	0.34	0.20
Adj R2 weighted						0.23
Total panel obs (unbalanced)	317	317	330	330	330	330
	(7)	(8)	(9)	(10)	(11)	(12)
	Panel LS	Panel LS	Panel EGLS	Panel LS	Panel LS	Panel EGLS
c	4.385*** (3.36)	5.498*** (4.65)	3.917*** (3.27)	1.198 (0.94)	-1.792 (-1.51)	0.211 (0.182)
<b>trade p.c. (j)</b>	-0.293** (-2.75)	-0.271*** (-3.49)	-0.301*** (-3.445)	-0.584*** (-3.46)	-0.497** (-2.54)	-0.568*** (-3.44)
<b>bilateral trade (ij)</b>	-0.920*** (-7.42)	-0.998*** (-6.61)	-0.903*** (-7.13)			
<b>trade dependence (ij)</b>				2.731* (1.99)	4.109** (2.95)	3.153** (2.36)
<b>distance (ij)</b>	0.178 (1.26)	0.060 (0.48)	0.243 (1.88)	0.327** (2.25)	0.646*** (4.69)	0.436*** (3.29)
Cross section fixed effects	no	yes	no	no	yes	no
Cross section random effects	no	no	yes	no	no	yes
Adj R2	0.48	0.60	0.47	0.26	0.41	0.26
Adj R2 weighted			0.51			0.32
Total panel obs (unbalanced)	317	317	317	317	317	317
	(13)	(14)	(15)	(16)	(17)	(18)
	Panel LS	Panel LS	Panel EGLS	Panel LS	Feasible GLS	Feasible GLS
c	0.958 (0.78)	-1.925 (-1.46)	-0.041 (-0.03)	-2.331*** (-3.09)	0.597 (0.79)	0.638 (0.56)
<b>trade p.c. (j)</b>	-0.549*** (-3.83)	-0.446** (-2.05)	-0.542** (-2.91)	-0.431** (-2.59)	-0.603*** (-4.33)	-0.549*** (-5.20)
<b>trade dependence (ij)</b>	1.867 (1.23)	2.881 (1.25)	2.442 (1.16)	3.779* (2.13)	2.063** (2.46)	1.906*** (3.31)
<b>distance (ij)</b>	0.335** (2.40)	0.646*** (4.16)	0.448** (2.94)	0.619*** (4.43)	0.367*** (3.98)	0.368** (2.97)
border (ij)	0.505 (1.06)	0.292 (0.37)	0.446 (0.90)	0.103 (0.15)	0.731* (2.28)	0.534 (1.15)
<b>colony (ij)</b>	0.648 (1.14)	0.732 (0.89)	0.495 (0.71)	0.407 (0.61)	0.597 (1.36)	0.575 (1.52)
Cross section fixed effects	no	yes	no	no	no	no
Cross section random effects	no	no	yes	no	no	no
Home country dummies	no	no	no	yes	no	no
Cross section weights	no	no	no	no	yes	no
Destination country weights	no	no	no	no	no	yes
Adj R2	0.26	0.41	0.32	0.43	0.79	0.78
Adj R2 weighted			0.27		0.79	0.78
Total panel obs (unbalanced)	317	317	317	317	317	317

Note. T-statistics among brackets. Panel LS with White robust standard errors and covariance. EGLS and FGLS with PCSE robust standard errors and covariance.

**Table 6**  
**Bilateral trade gravity specifications, 1890**

	Dependent variable bilateral trade		Dependent variable: bilateral trade dependence	
c	2.575 (3.90)	2.654 (3.80)	0.141 (1.97)	0.199 (2.33)
log(areai*areaj)	0.008 (0.48)	0.017 (1.04)	-0.006 (-2.42)	-0.004 (-1.58)
log(popi*popj)	0.22 (7.61)	0.202 (6.95)	0.017 (5.95)	0.010 (2.47)
log(distij)	-0.331 (-4.14)	-0.351 (-4.21)	-0.004 (-0.47)	-0.012 (-1.26)
border	0.822 (3.77)	0.852 (3.80)	0.016 (0.56)	0.021 (0.75)
island	0.303 (1.75)	0.236 (1.48)	-0.008 (-0.41)	-0.028 (-1.38)
landlock	-0.272 (-1.95)	-0.213 (-1.55)	-0.048 (-2.47)	-0.035 (-1.63)
colony		0.738 (3.50)		0.209 (4.59)
Adj R2	0.414	0.458	0.043	0.157

Note. Bilateral trade:  $\log(1+(\text{imports}+\text{exports})_{ij})$ . Bilateral trade dependence:  $\log((1+(\text{imports}+\text{exports})_{ij}/\text{total trade}_j))$ . Estimated by Panel LS with White standard errors and covariance. T-stats among brackets.

**Table 7**  
**Additional determinants: benchmark estimates**

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel FGLS	Panel FGLS	Panel FGLS	Panel FGLS	Panel FGLS	Panel FGLS
<b>c</b>	3.830*** (13.32)	4.382*** (13.71)	3.861*** (17.31)	3.951*** (15.26)	3.980*** (7.63)	3.982*** (5.71)
<b>trade dependence (ij) 1890</b>	0.715** (2.48)	0.753** (2.55)	1.323*** (8.92)	1.134*** (6.72)	0.717 (1.55)	-0.560 (-0.94)
<b>distance (ij)</b>	0.140*** (5.02)	0.089** (2.84)	0.086*** (3.73)	0.096** (3.19)	0.181*** (3.67)	0.297*** (5.12)
<b>colony (ij)</b>	0.183** (2.69)	0.290*** (3.24)	0.254** (2.77)	0.255** (2.65)	-0.034 (-0.26)	-0.166 (-0.63)
<b>information p.c. 1890</b>	-0.819*** (-28.18)	-0.669*** (-19.69)	-0.760*** (-22.66)	-0.788*** (-23.95)	-0.861*** (-22.53)	-0.845*** (-13.85)
<b>gold weighted</b>		-0.851*** (-5.31)				
<b>exchange depreciation</b>			0.712*** (5.14)			
<b>exchange volatility</b>				0.586** (2.71)		
<b>alien colony</b>					-0.466** (-2.74)	-0.635** (-2.68)
<b>imperial border</b>					-1.345*** (-4.69)	-0.963*** (-4.57)
<b>cluster</b>					-0.153 (-0.97)	0.010 (0.04)
<b>overseas spillover</b>						-0.149*** (-4.07)
<b>Adj R2</b>	0.79	0.74	0.80	0.77	0.71	0.89
<b>Adj W2 weighted</b>	0.80	0.75	0.80	0.78	0.72	0.89
<b>Obs</b>	266	264	264	264	264	170

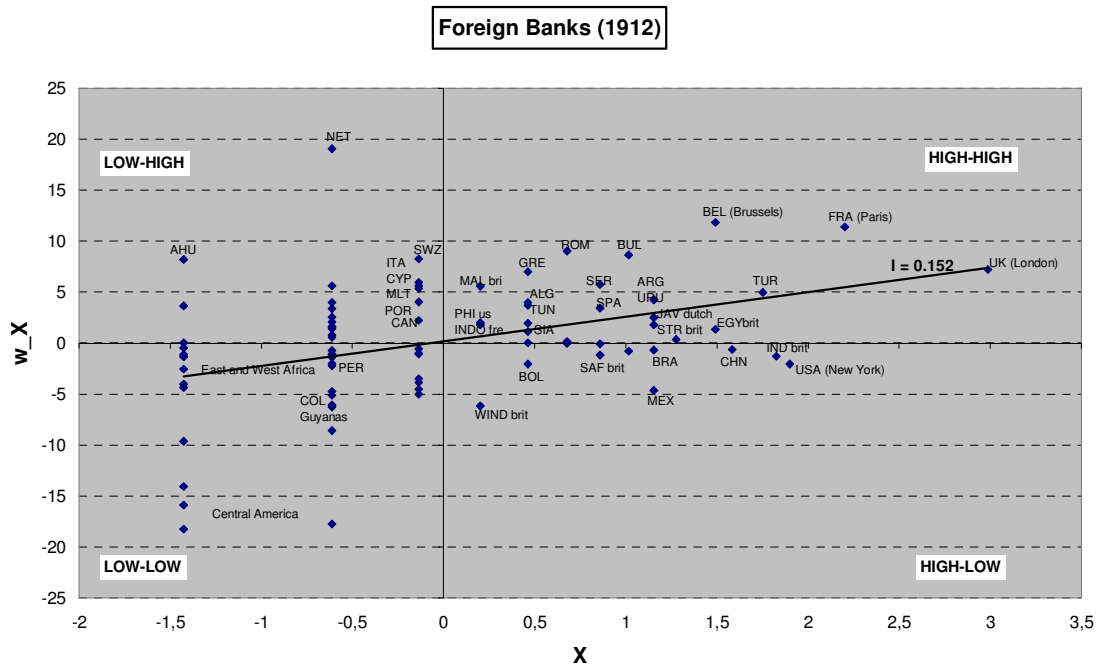
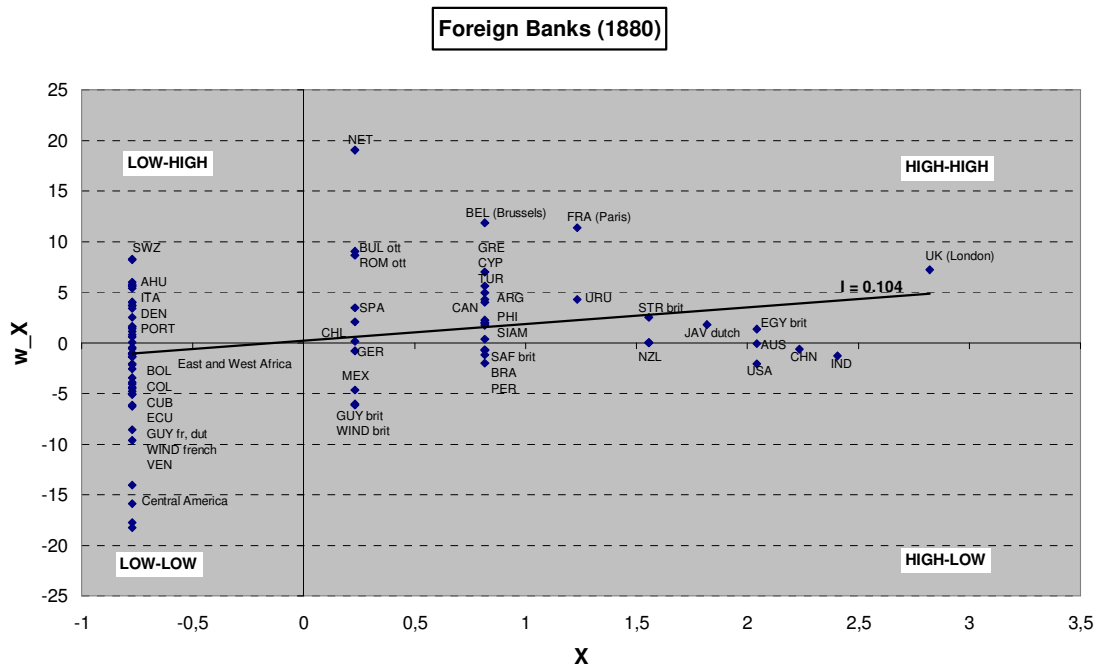
Note. All estimates run by Panel FGLS with cross-section weights and PCSE robust standard errors and covariance. T-stats among brackets.

**Table 8**  
**Post-1880 pattern**

	(1)	(2)	(3)	(4)	(5)	(6)
	Panel FGSL	Panel FGSL	Panel FGSL	Panel FGSL	Panel FGSL	Panel FGSL
<b>c</b>	3.865**	4.303***	4.147***	4.080***	3.290***	3.340***
	(12.67)	(10.16)	(12.57)	(12.94)	(7.67)	(5.32)
<b>trade dependence (ij) 1890</b>	-0.104	0.221	-0.197	-0.263	0.243	0.098
	(-0.24)	(0.47)	(-0.41)	(-0.59)	(0.52)	(0.21)
<b>distance (ij)</b>	0.047	-0.002	-0.031	0.001	0.144***	0.175***
	(1.38)	(-0.04)	(-0.71)	(0.04)	(3.16)	(3.32)
<b>colony (ij)</b>	-0.054	0.138	0.104	0.029	-0.314**	-0.360
	(-0.49)	(0.99)	(0.83)	(0.25)	(-2.35)	(-1.33)
<b>information p.c. 1890</b>	-0.708***	-0.539***	-0.654***	-0.687***	-0.739***	-0.761***
	(-22.67)	(-12.81)	(-17.98)	(-20.96)	(-22.28)	(-13.58)
<b>gold weighted</b>		-0.908***				
		(-4.50)				
<b>exchange depreciation</b>			0.650***			
			(3.29)			
<b>exchange volatility</b>				0.486**		
				(2.12)		
<b>alien colony</b>					-0.461***	-0.701**
					(3.30)	(-2.78)
<b>imperial border</b>					-0.674***	-0.428**
					(-4.42)	(-2.43)
<b>cluster</b>					0.024	0.385
					(0.19)	(1.65)
<b>overseas spillover</b>						-0.086**
						(-3.05)
<b>Adj R2</b>	0.62	0.64	0.62	0.63	0.65	0.74
<b>Adj W2 weighted</b>	0.64	0.66	0.64	0.65	0.66	0.74
<b>Obs</b>	260	260	260	260	260	167

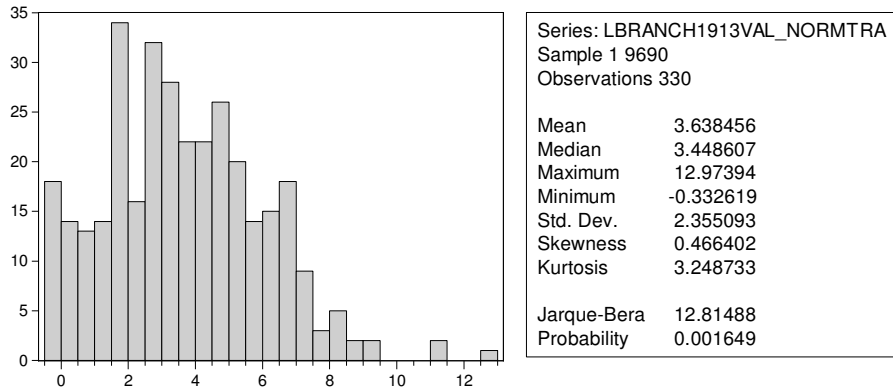
Note. Dependent variable is the log difference of normalized bilateral baking in 1880 and 1913. All estimates run by Panel FGLS with cross-section weights and PCSE robust standard errors and covariance. T-stats among brackets.

**Figure 1**  
**Spatial Autocorrelation of Foreign Banks: Moran's Scatterplot**

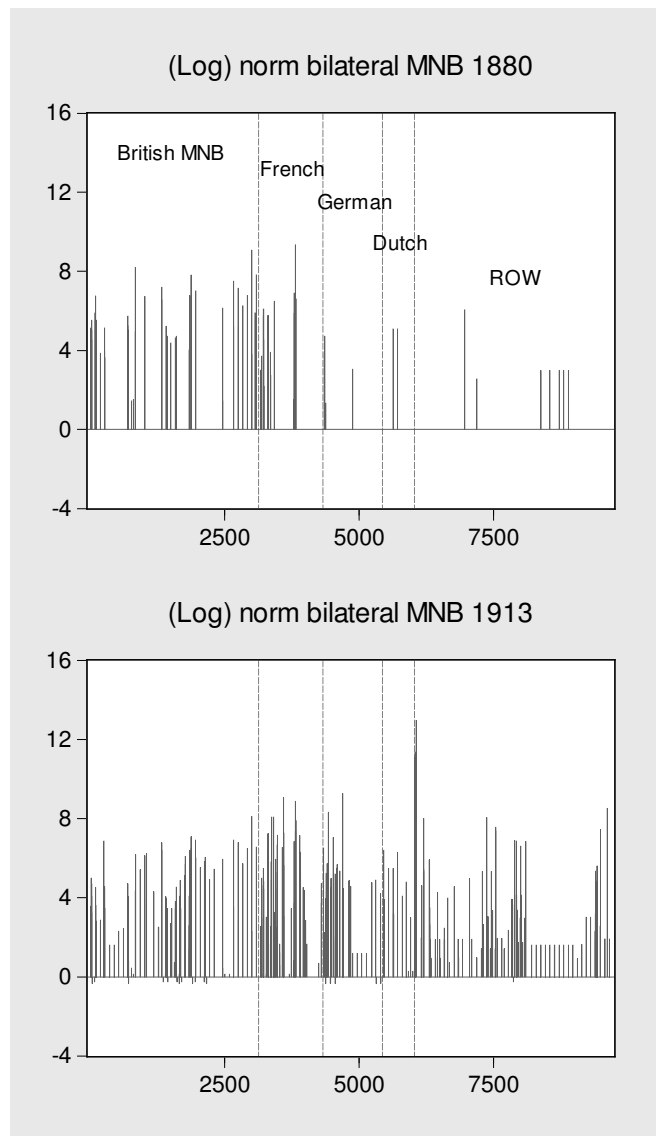


Note. X: Z-score of foreign banks in country i;  $w_X$ : weighted average of Z-scores of countries j; weight matrix based on inverse of distance between i and j.

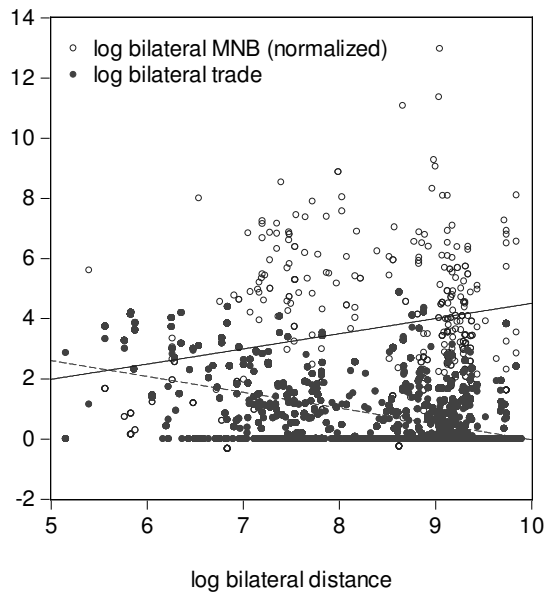
**Figure 2**  
**Dependent variable: normalized bilateral MNB, 1913**



Note. Positive (non-zero) observations only.

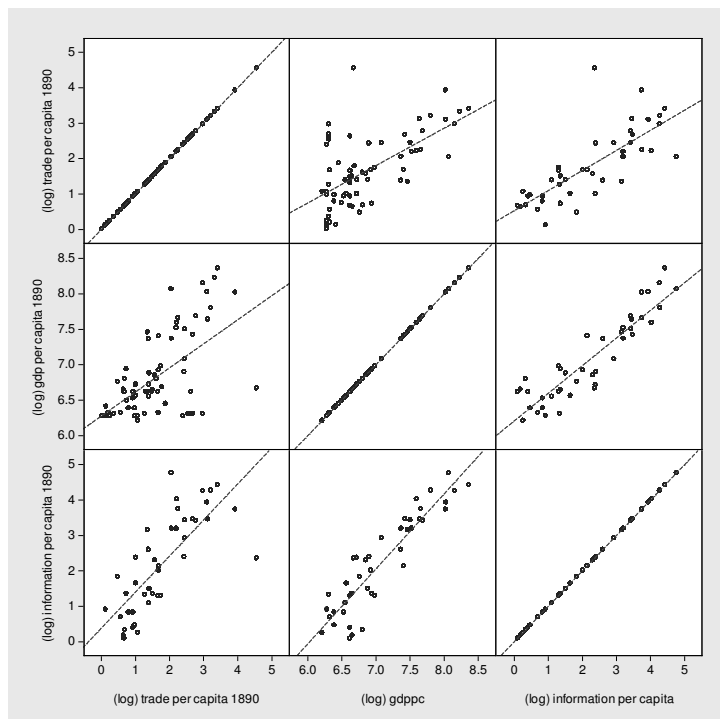


**Figure 3**  
**Geographic distance versus bilateral trade and MNB**



Note. Bilateral distance is the great circle distance between countries  $i$  and  $j$  (in km). Bilateral trade is total trade (imports + exports) between countries  $i$  and  $j$  (in mln pounds). Bilateral MNB is the number of branches of banks  $x,y,\dots,n$  from country  $i$  in country  $j$ , normalized by the product of total trade of the two countries.

**Figure 4**  
**Information, trade and GDP per capita, 1890**



Note. For details and sources about information and trade per capita, see Appendix. GDP per capita estimates are based on Angus Maddison's database.