

The determinants of multinational banking during the first globalisation 1880–1914

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Despite a stream of information from recent research, as well as analytical interpretations, we still lack a general picture of pre-1914 multinational banking based on a unifying empirical approach comparable to that recently developed by financial economists for the wave of banks' multinational expansion in the late twentieth century. The main purpose of this article, based on a unique dataset covering the foreign branches of British, French and German banks from 1880 to 1913, is to test in a similar theoretically-driven fashion the determinants of multinational banking during the first globalisation. The empirical strategy is based on an augmented gravity model in which geography and institutions interact with economic factors in determining the patterns of multinational banking. Contrary to what has emerged from recent studies on present multinational banking, I find that the 'fundamentals' of pre-1914 foreign branching cannot easily be fitted into a gravity-like model, and that no unifying pattern of foreign expansion can be inferred from the data.

1. Introduction

The multinational expansion of banks from financially advanced, core countries of Western Europe was a highly visible facet of the first globalisation. The foreign branches of major European joint-stock banks numbered 525 in 1880; by the eve of World War I they had tripled to more than 1,610. Where did European banks go and what drove their foreign branching decisions? There is an enormous amount of qualitative and quantitative information provided by contemporary studies (such as Baster 1929 and 1935, Feis 1930) as well as by a rich historical narrative (surveyed in Cameron and Bovykin 1991). At the same time an analytical interpretation based on the theory of multinational enterprise has emerged thanks to the seminal stream of historical research either carried out or coordinated by Geoffrey Jones (1990, 1992, 1993). By adopting a unifying empirical approach based on a gravity-like model, this article aims at testing the 'fundamentals' behind banks' decisions to branch abroad prior to 1914.

The article is structured as follows. Section 2 surveys the basic characteristics of pre-1914 multinational banking (MNB) as outlined by the historical narrative and presents new evidence on its time and geographical pattern. Section 3 proposes the empirical strategy, discusses its theoretical underpinnings and surveys the explanatory variables. Section 4 presents the main results both for the whole sample and for individual 'source' countries. Section 5 concludes.

2. The multinational expansion of European banks: conventional narrative and new evidence

There exists little doubt in the conventional narrative that the foreign expansion of European banks was basically driven by the deep forces of globalisation. As authoritatively stated, banks expanded their cross-border and cross-currency business, opened branches and launched new ventures in foreign countries as a reaction to epoch-making shifts in communication technology, international trade and capital flows (Cameron 1991, pp. 12–14). At the same time, however, the relationship between the pattern of banks' multinational expansion and the geographical distribution of trade and capital flows is not straightforward. For instance, Jones observes that 'British trade was heavily biased towards North America and the rest of Europe, the two regions in which British banks had the least direct investment'; similarly, he stresses 'the disparity between the importance of the United States and Canada as recipients of British capital and their unimportance in British multinational banking' (Jones 1993, pp. 28–9). How then was multinational banking related to other facets of globalisation?

In fact, globalisation reshaped but did not invent multinational banking. Since the 1850s, the global expansion of British trade, the consolidation of the Empire and the frequent booms in new minerals and commodities gave merchants and financiers strong incentives to establish new 'free-standing' international banks, usually specialised along geographical lines (Jones 1993, p. 24; 1998).¹ 'Financial pioneering' (Baster 1935, p. 126) in financially underdeveloped overseas peripheries thrived on the global ramifications of the London acceptance market and was critical in ensuring the availability of trade finance and related facilities, such as collection of debts and information and enhancement of business opportunities, as well as foreign exchange services related to sovereign and corporate loans issued in London.

¹ On the contrary, British joint-stock banks entered trade finance business only reluctantly. By the early 1900s, they were slow in responding to increasing competition. A couple of deposit banks opened branches and subsidiaries in Continental Europe, but 'the caution and hesitant progress was due to the general fear that continental branches of the deposit banks would become mobilier banks on the continental model, and lock up English deposits in long-term loans abroad' (Baster 1935, p. 58).

Only in large settlement economies did British banks become gradually naturalised and engage systematically in local retail banking – an evolution characteristic of banks that operated extensive branch networks in Australia, New Zealand, South Africa and, to a lesser extent, Canada (Jones 1995).

Emerging as an almost exclusively British phenomenon,² multinational banking underwent a radical change in the 1880s with the generalised move of French and German banks abroad. Motivated by the ambition to emancipate the financing of national trade from British dominance and create ‘naturalised’ acceptance markets in their own national currencies, their overseas expansion was often politically supported by their respective governments. This shift gave multinational banking an unprecedented competitive hedge, especially in Latin America and the Far East (Chapman 1984, pp. 121–5). The era of globalisation was ridden with increasing rivalries for world economic leadership. In their ‘fight for financial supremacy’ (Einzig 1931, pp. 26–48), German banks proved particularly aggressive in replicating the British model of overseas banks (which nonetheless – unlike their British competitors – were outgrowths of major *Grossbanken*: Hauser R. 1906; Riesser 1912; Strasser 1924) as part of an aggressive international strategy to promote German business and trade. Their activism created a ‘German craze’ in the British and French press, and attracted thorough scrutiny by contemporary observers (Hauser H., 1917; Hoffman 1933). By contrast, French banks seemed to lack a comparable dynamism overseas. Their attitude was explicitly blamed as responsible for the stagnation of French international trade, to the point that it used to raise severe criticism among contemporary observers and politicians.³ As a matter of fact, this did not prevent French commercial banks, such as Credit Lyonnais and Société Générale, from setting up in major European financial centres and chasing after the rich business provided by foreign securities for the benefit of French investors, as other ‘banques d’affaires’ such as Paribas did (Blondel 1908; Caillez 1923, pp. 216–18).

Also instrumental to their overseas expansion was banks’ clustering into major European financial centres. Banks with multinational ambitions had to rely on flexible access to resources, large working capital, and the support

² Only one French bank, the Comptoir d’Escompte de Paris, showed a comparable pattern of overseas expansion, creating a small network of foreign branches in the Near and Far East.

³ ‘Impressed’ – wrote Caillez (1923, p. 204) – ‘by the influence achieved by foreign banks, especially German, in promoting the foreign trade of their respective country, the opinion emerged that the weakness of our foreign relationships was due to the insufficient support provided by our banks to our merchants. (...) That caused a number of campaigns directed against our banking institutions, especially in 1907 (and) 1909. Commercial banks used to justify their lack of activism in trade finance overseas with their characteristic of deposit banks, which discouraged them from engaging in what they deemed as a “special”, illiquid and highly risky business.’

of a well-developed money market. It was therefore vital for them to be strongly represented in London – and to a lesser extent in Paris – whatever their own national origin, for ‘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, pp. 13).⁴ Discrimination against bills drawn in currencies other than sterling (due to the fact that the sterling exchange market enjoyed an unrivalled depth) also provided banks with an additional strong incentive to locate in London: in fact the emancipation of German trade from the intermediation of British banks required that German banks be fully and efficiently integrated in the City (Diouritch 1909, pp. 260–4).

The real novelty of multinational banking in the globalisation period was therefore the emergence of competition on a global scale between British incumbents and new entrants, within the broader framework of a more general rivalry between national economic systems characterised by a strong outward thrust. The dominant organisational pattern of multinational expansion was based less on foreign branching than on greenfield investments undertaken by individual banks or small groups of allied banks. These stand-alone joint initiatives, typical of German and French banks, can be considered strategic alliances through which partner banks jointly pursued advantages and opportunities (such as risk sharing, cost reduction, strategic positioning, access to markets or customer bases, organisational learning) which were deemed too difficult or expensive to achieve individually.⁵ A few large consortia enjoyed the active support of their respective political authorities. That was the case of the Banque de l’Indochine, which obtained from the French government the monopoly of national trade financing in Asia, and the Deutsch-Asiatische Bank, created as an instrument of German penetration in East Asia. Apart from attempting to countervail the British dominance in Asia and Latin America, German and French banks pursued autonomous strategies of multinational expansion in nearer peripheries (Eastern Europe, the Mediterranean basin, the Near East), often through joint ventures with other foreign and local bankers. While specialising their overseas activities along British lines (foreign exchange and trade-related operations, with occasional spillovers into financing railways and public

⁴ In fact, foreign banks had only limited access to the London money market. The Bank of England did not normally take foreign banks’ acceptances for discount or as security for loans, and foreign banks had no clearing house seat. ‘With their rights thus limited’ – Baster (1935, pp. 55–6) argued in response to those alarmed by the ‘foreign invasion’ – ‘they bring resources which, before the War at any rate, made the London market the cheapest in the world. They increase banking competition to the benefit of the trader doing foreign business; and they introduce high-class foreign investments. Before 1914 there does not seem any reason to doubt that the advantages of their presence on balance far outweighed the disadvantages.’

⁵ On the issue of strategic alliance in the business literature see Spekman *et al.* (1998).

utilities: see Levy 1991, Briones and Villela 2006), they tended to transplant abroad a universal and ‘credit-mobilier’ type of banking, thus participating in large consortia floating sovereign debt, engaging – typically through joint subsidiaries – in a much wider range of services to local industry, and occasionally acting also as vehicles and promoters of home-country industrial interests (Hertner 1990, Bonin 1991, Tilly 1991).⁶

Pre-1914 multinational banking emerges therefore as a composite process: on one hand, a ‘surface’ phenomenon functionally linked to the global waves of trade and capital flows; on the other hand, a ‘deep process’ of penetration in peripheral financial systems linked, in the British case, to the deepening of national banking systems in settlement economies, and, in the German and French case, to the outward projection of economic and political interests. In order to assess the magnitude of these qualitatively different, though obviously related phenomena, and provide a robust quantitative base for their empirical investigation, a new database has been constructed on the basis of the overall number of foreign branches operated, either directly or through subsidiaries, by British, French and German banks, observed at decennial intervals between 1880 and 1913.⁷ In the British case, the sample includes only banks registered under English law which either maintained an head office in London or kept a dominant presence of British interests in their ownership structure. In the German and French case, only foreign branches of parent banks and autonomous banks that could be identified unmistakingly as fully controlled subsidiaries (*tochtergesellschaften*, to use a widely used German expression: Hauser R., 1906) of major national banks or group of banks have been included.⁸ The basic information has been extracted from the *Banking Almanac*, a specialised English journal which published annually a complete

⁶ The strategy of *unternehmergeschäft* systematically used by German banks in coordination with major electromechanical concerns (such as Siemens and AEG) is the most telling example.

⁷ Recent studies use either the number of foreign bank offices (Brealey and Kaplanis 1996), the total assets of foreign subsidiaries (Goldberg and Johnson 1990, Galindo *et al.* 2003), or foreign direct investments by banks (Buch 2000, Wezel 2004). As an alternative, a probit approach can be used, with the endogenous variable taking a positive value when banks have foreign branches and/or subsidiaries in the host country (Focarelli and Pozzolo 2003). However, the probit method fails to give any indication of the magnitude of banks’ involvement in a host country. In turn, more sophisticated proxies, such as assets of foreign subsidiaries, either are not available or, due to banks’ multi-country area of activity, can be allocated to individual countries only with difficulty.

⁸ Another form of financial penetration widely used by French and German banks was the assumption of minority shareholding participations in foreign banks. German banks’ participation in Austrian institutions and the involvement of French banks in the capitalisation of Russian banks provide clear examples of such strategy. This aspect has not been investigated in this study because of insurmountable difficulties in the collection of reliable and exhaustive data.

directory of banks, both British and foreign, operating in banking centres worldwide. Based on such information, an international banking matrix reporting the number and location of international banks worldwide has been constructed, and its exhaustiveness subsequently checked on the base of complementary sources (see Appendix).⁹ An important qualification related to the characteristics of the sample has to do with survivor bias. Since foreign banks' branches are observed at different points in time (1880, 1890, 1900 and 1913), the dataset misses out all banks and branches established and closed between one benchmark year and the following one, so that in fact we are empirically analysing the determinants of 'successful' bank multinationalisation. Another qualification is related to selection bias, as the sample does not include all countries which actually engaged in multinational banking. Although this aspect certainly implies some loss of generality, the minor relevance of source countries not considered here suggests that this loss should not be fatal.¹⁰

Table 1 outlines the time pattern and the spatial dimension of the multinational banking phenomenon in the period 1880–1913 as it emerged from the dataset.

The expansion of foreign branches was mainly directed towards the peripheries of the emerging global economy, leaving core North-Western European banking systems virtually unaffected, and reached its peak after the turn of the century: by 1914 foreign branches worldwide had increased by 70 per cent relative to 1900. The timing of such a take-off, which coincided with the peak in the growth rate of trade and capital flows, suggests the existence of a causal relationship between these three facets of globalisation. British banks maintained a globally dominant position (92 per cent of branches in 1880, 81 per cent in 1913), although not spread homogeneously across regions. British banks remained uncontested dominant players in Australasia, sub-Saharan Africa, North America (almost exclusively Canada), the Caribbean and Central America; in fact Australia, New Zealand and South Africa accounted for 70 per cent of total British foreign branches in 1913, and Canada for another 8 per cent. In turn, the French

⁹ The *Almanac* was published in London by Waterlow and Sons from 1844. It also contained additional information about foreign banks' London offices, agents or correspondents. The scope and ambitions of Palgrave's colonial and foreign directory increased noticeably over time and went hand in hand with the growing size of the international banking phenomenon. The directory used to occupy less than 60 pages in the early 1880s, but had grown to more than 400 pages by 1912. The British origin of this source may partially have biased the information provided on non-British banks. However a systematic check of this information conducted on secondary sources suggests that this bias, if any, is small.

¹⁰ International banking was in fact an almost exclusively European phenomenon, since regulatory constraints and the absence of a central bank prevented US banks from playing any significant role in it until the turn of the century (Wilkins 1970, Carosso and Sylla 1991). Other marginal players were Dutch banks operating in Asian colonies, and a handful of Italian and Spanish banks locating in Latin America to capture the business of migrants' remittances.

Table 1. *Distribution of foreign banks' branches by regional area and main country, 1880–1913.*

	British banks 1880–1913	French banks 1880–1913	German banks 1880–1913
Regional areas	%	%	%
NW and Central Europe	1.0–0.8	13.2–4.8	60–3.8
South and Eastern Europe	2.0–0.7	21.2–11.1	0–15.4
Mediterranean and Near East	2.0–4.0	52.6–55.6	0–29.8
Subsaharian Africa	13.0–23.7	0–3.9	0–0
North America	5.6–8.1	2.6–0	0–0
Caribbean and Central America	3.1–2.1	0–0	0–2.9
South America	4.5–5.2	0–10.1	0–34.6
East Asia	16.4–7.7	10.5–14.5	40–13.5
Australasia	52.3–47.7	0–0	0–0
Total branches	482–1,302	38–207	5–104
Growth index (1880 = 1)	2.70	5.45	20.8
Main host countries	n°	n°	n°
Bulgaria	0–0	3–6	0–3
Rumania	2–1	2–2	0–10
Ottoman Empire	1–7	12–83	0–20
Egypt	7–29	5–18	0–10
South Africa	61–287	0–0	0–0
Canada	20–95	0–0	0–0
USA	7–10	1–0	0–0
Argentina	4–16	0–9	0–6
Brasil	10–22	0–11	0–6
Chile	1–10	0–0	0–16
Peru	4–11	0–0	0–4
Uruguay	3–6	0–1	0–1
China	13–18	2–14	1–9
India	36–47	1–5	0–1
Japan	4–5	0–2	1–3
Australia	226–581	0–0	0–0
New Zealand	26–40	0–0	0–0

Source: Appendix.

enjoyed a dominant position as foreign bankers in peripheral Europe and the Near East, areas in which 70 per cent of their foreign branches were concentrated. Only in two regions was the established British supremacy successfully challenged, namely in East Asia and Latin America. Here French and Germans became significant players, jointly owning 30 and 45 per cent of foreign branches in the two regions. German foreign expansion accelerated dramatically after 1890, focusing mainly on the one hand on Southern and Eastern Europe and the Near East (thus competing with the French), and on the other hand in South America, where they adopted an aggressive strategy to erode the established British dominance.

3. An augmented-gravity approach to the ‘fundamentals’ of multinational banking

In order empirically to assess the determinants of MNB, I adopt the perspective of a recent empirical literature based on a gravitational approach. The gravity model represents a successful tool for theoretically-driven empirical studies of international flows, including trade patterns (Eichengreen and Irwin 1998, Feenstra *et al.* 2001, Evenett and Keller 2002), foreign direct investment (Chakrabarti 2003, Mody *et al.* 2003, Di Giovanni 2005), international trade in financial assets (Portes *et al.* 2001, Portes and Rey 2005) and sovereign lending (Rose and Spiegel 2004). In its baseline specification, a gravity approach models bilateral flows as a negative function of geographical distance between two economies (a proxy for frictions such as transport and transaction costs or informational asymmetries) and a positive function of their size (such as population or GDP). Gravity models are frequently augmented in order to accommodate a wider set of friction and attraction forces (common language, political and colonial ties, other geographical characteristics such as whether the source and destination countries share common borders, are landlocked or islands) as well as economic, policy and institutional variables selected on the basis of specific theoretical motivations. In historical studies of the pre-1914 period gravity-like specifications have been recently used in order to investigate the impact of early monetary unions and gold-standard adherence on late nineteenth century commercial integration (Flandreau 2000, Estevadeordal *et al.* 2003, Lopez-Cordova and Meissner 2003).

Similar models, in which market size and geographical distance are ‘augmented’ with variables that measure the intensity of economic relationships, as well as host-country informational and institutional development, have also proved rather successful in explaining the recent pattern of banks’ foreign assets or investments (Buch 2000, Wezel 2004, Papaioannou 2005). These studies generally find that banks’ foreign activities are positively related to geographical proximity, the development of the host-country financial system (a measure of the potential demand for banking services),¹¹ the existence of externalities created by international financial centres,¹² and the degree of integration between the home- and host-country measured either by bilateral trade or foreign direct investments. The positive relationship between integration variables and banks’ expansion abroad is usually interpreted as strong evidence in favour of the classical ‘follow-the-client’ motivation – a

¹¹ For an early definition of the ‘gravitational pull effect’ exercised by economic and financial development of the host country, see Metais 1979.

¹² Externalities may arise from economies of scale either external to markets (infrastructures, human capital, regulatory attitude of monetary authorities) or internal to markets – that is the existence of deep, liquid and informationally efficient markets thanks to a high number of participants.

cornerstone of the eclectic theory of multinational banking (Williams 1997).¹³ This stream of research also suggests that host-country institutions can represent an important ‘pull’ factor (such as in the case of legal affinities: Galindo *et al.* 2003) but also discourage foreign banks’ entry due to macroeconomic instability, systematic corruption, weak rule of law or extensive regulation of the financial system by the government (Focarelli and Pozzolo 2003, Wezel 2004, Papaioannou 2005).¹⁴ Is the ‘augmented’ gravitational model equally useful for the understanding of banks’ foreign expansion before the First World War? In order to answer this question, I have constructed a data panel based on a wide set of variables, selected on theoretical grounds (compatible with available data) and capturing specific characteristics of potential destination countries (full details of all data sources are provided in the Appendix). The sample covers up to 56 countries, both sovereign entities and colonies, for the period 1880–1913 and includes a high number of countries in which European banks neither opened branches nor created subsidiaries. The maximum available annual data for any time-varying variable has been transformed in multi-year averages that capture its level in the period prior to each benchmark year for which data on branches of foreign banks have been collected.¹⁵

Following the recent gravity literature, geographical distance is used as our main proxy for informational frictions associated with cultural differences, asymmetric information and transaction costs.¹⁶ Unlike in the case of international trade, however – but similarly to the case of foreign direct investment – distance can have an ambiguous impact on multinational banking. In fact, due to the information-intensive characteristic of banking,

¹³ According to the eclectic theory, large banks from advanced countries expand multinationally in order to exploit ownership-specific advantages (based on intangible assets of the parent bank such as reputation, internal information, customer base, service differentiation, human capital, better and cheaper access to international markets). The eclectic theory underpins the empirical research on the multinational expansion of US and Japanese banks in the 1970s and 80s: see Goldberg and Johnson 1990, Brealey and Kaplanis 1996.

¹⁴ This is broadly consistent with the importance of location-specific advantages (and disadvantages) also emphasised by the eclectic theory.

¹⁵ The use of decennial averages reduces the effect of outlier years, minimises the impact of missing annual data, obtains a right-hand matrix of significant variance and avoids encountering too many invalid observations in the dependent variable (Clemens and Williamson 2000).

¹⁶ Entry costs could also be raised by government regulation or intervention (either formal or informal) on the banking system. The USA is the most widely quoted example of regulation adverse to international banking (both at entry and exit level), but it is not the only one. In fact we can find in the historical literature plenty of anecdotal evidence of host governments’ heavy interference either on foreign banks’ entry or on their business conduct once a foothold had been established. The absence of a quantitative indicator able to capture this aspect represents a significant limitation of the empirical specification.

remoteness could represent either a barrier to economic interaction, or an incentive to foreign branching, as long as the advantages of proximity to overseas markets and customers exceeded the costs of operating in distant locations. At the same time, geographically-dependent informational frictions were certainly declining during the four decades before World War I as a consequence of advances in information technologies as well as the rapid increase in trade and factor flows. In order to capture informational developments that may have partially offset barriers over time, I used data provided by the *Statesman's Yearbook* to construct an original variable, that is the aggregate volume of postal traffic handled in each host country (including items as different as letters, parcels and newspapers), normalised by population to remove size effects.¹⁷ This 'post *per capita*' variable can be considered an approximation to the level of the host country's informational development, which reflects its level of urbanisation, modernisation and socioeconomic development. In fact, 'post *per capita*' proved strongly correlated to existing estimates of GDP *per capita* (correlation 0.858). Since the latter is usually assumed as a standard proxy for financial development and the demand for banking services, we can use these two variables as alternative indicators of informational and financial development.¹⁸ Their expected effect on multinational banking is ambiguous. On one hand, a positive sign can be interpreted as evidence that informational and financial development of host countries enhanced foreign banks' entry and expansion by offsetting frictions related to geographical and cultural remoteness, thus 'pulling' them into markets with higher business potential. On the other hand, a negative sign would suggest that informational and financial development, by favouring the emergence of local markets for information-intensive assets, actually reduced the incentives for foreign banks to locate abroad and favoured 'arm's length' transactions with customers, either directly or through correspondents. The world of pre-1914 international finance was in fact characterised not only by the rapid growth of multinational banks, but also by the emergence of global interbank networks based on correspondent relationships, as well as epoch-making financial innovations in international liquidity management, such as overdrafts, telegraphic transfers and finance bills (Bloomfield 1963, Einzig 1970, Nishimura 1971). A negative sign therefore would be consistent with the Coasian view of multinational banking as mainly driven by

¹⁷ In fact, an optimal variable would be a measure of the bilateral flow of information between home and host countries – a kind of disaggregated information unfortunately not available. Host country's 'information *per capita*' can be interpreted as an indicator of information integration.

¹⁸ There exists a growing literature providing ample evidence of a positive relationship between financial development and economic growth: see Levine 1997. Of course, a more direct measure of host countries' financial development would be preferable.

internalisation motivations, according to which banks' foreign branching and greenfield investments represent contractual devices through which managerial hierarchies (but also intermediate contractual arrangements such as alliances) successfully overcome excessive transaction costs.¹⁹ Of course, other 'pull' factors that have to be empirically tested include 'size' effects, measured by the joint product of home- and host-country GDP (capturing the potential attractiveness of host countries as determined by their market size). In the same fashion, bilateral trade and capital flows are used as measures of the degree of economic integration between country pairs, in order to test the 'follow-the-client' motivation – that is, whether banks expanded abroad in order to compete with local incumbents in providing services related to trade and portfolio investments (largely prevailing before 1914) to domestic customers and investors. Moreover, both trade and capital flows can be interpreted as informational variables, so that we should expect them to have a partial offsetting impact on distance-related costs. Theory also suggests the opportunity to test factors that are typical of foreign direct investments and more difficult to model than trade. For instance, a bilateral gravity model assumes that the decision by banks to branch in a particular host country is independent of its decision about any other country. However banks (like manufacturing firms) can locate in one country which also serves as a 'platform' for servicing a group of neighbouring markets (Blonigen 2005, p. 27). If that's the case, major business centres such as ports of regional or international relevance could be used as 'platforms' that allowed banks to operate in regional foreign exchange markets and access regional economic intelligence (Casson 1990). Finally, additional pulling factors are tested by including among the regressors institutional characteristics which may have enhanced the adaptation of foreign banks to host-country environments, such as legal affinities and political integration through colonial relationships.²⁰

Taking into account the elements outlined above, the baseline equation for each home-host country pair takes the following form:

$$\text{BRANCH}_{iy,t} = a_{it} + \sum_{w=1}^W \beta_w \ln \text{FRICTIONS}_{w,iy,t} + \sum_{x=1}^X \beta_x \ln \text{PULL}_{x,iy,t} + e_{iy,t}$$

¹⁹ For the debate between supporters of the eclectic theory and the internalisation school of thought, see Williams (1997, pp. 82–4).

²⁰ Profitability of banking business in host countries should also be taken into account as a potential 'pull' factor. Unfortunately, information on the financial development and market structure of too many sample countries is unavailable for the pre-1914 period. By the same token, no specific indicator of the quality of institutions could be constructed, in spite of the importance assigned by contemporary observers to 'low standards of commercial morality' and the corruptibility of local courts of justice, especially in South America and the Near East (Baster 1935, pp. 17 and 131–7).

where:

- $BRANCH_{iy}$, the dependent variable, is the log of 1 plus the total number of foreign branches and/or subsidiaries of banks from home country i in the host country y .
- $FRICTIONS_{w,iy}$ is a vector of up to w explanatory variables that measure frictions and entry barriers stemming from information asymmetries and transaction costs. They include:
 - *Distance*, the geographical distance between home and host country measured as the 'great circle' distance between capital cities or main centres, capturing information costs related to remoteness;
 - *Information*, the log of total volume of postal traffic *per capita*, reflecting barriers created by the general informational underdevelopment of host countries;
- *Gdppc*, the estimated GDP *per capita* of host countries (as from Maddison 2006), used as a proxy for financial development, demand for banking services and depth of markets for informational intensive assets.
- $PULL_{x,iy}$ is a vector of up to x economic and institutional variables measuring the attractiveness of the host country for home country banks. They include:
 - *Size*, the log of the product of home- and host-country GDP (from Maddison 2006);
 - *Colony*, a dummy variable taking the value of 1 if the host country had a colonial link with the home country, and 0 otherwise. In the case of semi-colonial regimes such as the Ottoman Empire and Imperial China, in which foreign powers (and their bankers and financiers) enjoyed substantial extra-territorial rights, the dummy was assigned the value of 1 for all home countries.
 - *Legal*, a dummy variable taking the value of 1 if the host country shared common legal origins with the home country, and 0 otherwise (determined on the base of La Porta *et al.* 1999, and Berkowitz 2003).²¹ We use this variable in order to capture the impact of legal affinities independent of the 'transplanting' of legal codes through colonisation.
- *Trade*, the log of total bilateral trade (imports plus exports) between host and home country.²² Trade is used here as the main indicator of economic integration between home and host countries.

²¹ No legal family could be assigned to Russia on the base of these two sources, so that a zero has been reported for the dummy in all cases. For a critical assessment of the 'law and finance' literature, see Sgard 2006 in this issue of the Review.

²² I have experimented with an alternative trade variable by estimating an indicator of host-country dependence on trade with the home country (the ratio of total bilateral trade to host-country total trade). Since however total host-country trade is little more than an informed guess-estimate for a significant number of sample countries, I preferred a more robust, though conventional, indicator.

- *Centre*, a dummy variable taking the value of 1 if a trade centre of regional relevance (identified on the base of Schwarzer 1991) was based in the host country, and 0 otherwise.

4. What drove European banks abroad? Empirical results

Unlike the majority of recent empirical studies of multinational banking, which tend to use standard OLS to analyse only the cross-sectional dimension of the phenomenon,²³ I estimate the benchmark equation by using panel-pooled data.²⁴ An instrumental variable approach based on two-stage least squares is adopted to address obvious endogeneity problems caused by simultaneity and reverse causality.²⁵ In order to obtain unbiased results, I estimate all specifications by two-stage least squares using as instruments lagged dependent and independent variables and the log of host-country's geographical latitude, which is found to be robustly correlated with higher economic development and higher quality institutions (Hall and Jones 1999).²⁶ The specification also includes time dummies to address possible biases due to composition effects created by the unbalanced characteristic of the panel, and also to account for common shocks affecting all countries at a point in time and the increasing magnitude of the multinational banking phenomenon over time. On the contrary, no country-pair fixed effects are estimated, for they are likely to be already picked up by time-invariant variables. All specifications are estimated in levels and give White-corrected, heteroskedasticity-consistent standard errors.

Table 2 reports the results of benchmark estimates. In the stripped version of the 'augmented' baseline equation including institutional variables (col. 1), both distance and the 'pull' variables (size, colonial link, legal affinity) are positively signed and significant. The strong and positive effect of distance suggests that informational barriers actually represented an incentive to banks' foreign expansion. These results are not altered by the inclusion

²³ Notable exceptions are Buch (2000) and Papaioannou (2005).

²⁴ The panel approach exploits changes over time in time-varying determinants while retaining identifying variance for time-invariant characteristics in cross section. This is particularly helpful since some variables have little 'within' variation in each benchmark year. Here I follow Estevadeordal *et al.* (2003).

²⁵ The presence of foreign banks could obviously enhance bilateral trade. Similarly, size, geographical distance and institutional variables such as colonial status or legal affinity were likely to influence bilateral trade and capital flows, which in turn could affect each other. A 2SLS estimate of a gravity equation for bilateral trade using my panel data shows an adjusted R^2 of 0.646 and the following coefficients (all significant at 1 per cent): GDP 0.397, GDP *per capita* 0.600, colony 1.737, distance -0.267 , capital 0.108.

²⁶ Distance from the equator shows a significant positive correlation (between 0.35 and 0.55) with GDP, GDP *per capita*, bilateral trade, capital stock and informational development of host countries. Correlation with the dependent variable (foreign branches) is 0.10.

Table 2. *Determinants of MNB: benchmark estimates.*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
'Friction' variables												
distance	0.300 <i>18.76***</i>	0.345 <i>7.43***</i>	0.434 <i>12.12***</i>	0.216 <i>1.91*</i>	0.261 <i>2.70***</i>	0.324 <i>1.28</i>	0.380 <i>2.08**</i>	0.236 <i>1.70*</i>	0.239 <i>2.29**</i>	0.294 <i>1.96**</i>	0.287 <i>2.12**</i>	0.264 <i>3.39***</i>
information		-0.051 <i>-1.20</i>	-0.202 <i>-3.85***</i>	-0.194 <i>-4.13***</i>		-0.105 <i>-0.82</i>		-0.237 <i>-6.87***</i>		-0.237 <i>-5.98***</i>	-0.237 <i>-6.01***</i>	-0.195 <i>-3.17***</i>
gdppc					-0.204 <i>-34.56***</i>		-0.122 <i>-0.78</i>		-0.142 <i>-3.07***</i>			
'Pull' variables												
size	0.221 <i>15.83***</i>	0.198 <i>7.38***</i>	-0.023 <i>-0.82</i>	-0.086 <i>-1.91*</i>	0.036 <i>2.23**</i>	-0.218 <i>-2.21**</i>	-0.019 <i>-0.31</i>	-0.071 <i>-1.64*</i>	0.025 <i>1.01</i>	-0.082 <i>-0.88</i>	-0.090 <i>-1.26</i>	-0.126 <i>-2.88**</i>
colony	2.250 <i>37.74***</i>	2.550 <i>9.97***</i>	2.029 <i>6.14***</i>	2.021 <i>5.57***</i>	1.946 <i>15.57***</i>	1.678 <i>8.56***</i>	1.764 <i>12.09***</i>	2.002 <i>5.62***</i>	2.000 <i>14.91***</i>	1.634 <i>4.64***</i>	1.658 <i>5.34***</i>	1.949 <i>5.32***</i>
legal	0.205 <i>4.43***</i>	0.236 <i>6.52***</i>	0.171 <i>2.01**</i>	0.163 <i>1.83*</i>	0.207 <i>2.56**</i>	0.103 <i>0.74</i>	0.181 <i>1.33</i>	0.169 <i>1.96**</i>	0.193 <i>2.94***</i>	0.279 <i>6.48***</i>	0.269 <i>4.47***</i>	0.147 <i>1.35</i>
trade			0.317 <i>38.84***</i>	0.282 <i>16.61***</i>	0.231 <i>4.93***</i>	0.213 <i>2.21**</i>	0.106 <i>1.79*</i>	0.277 <i>12.55***</i>	0.228 <i>4.98***</i>	0.296 <i>20.05***</i>	0.306 <i>50.84***</i>	0.342 <i>14.15***</i>
centre				0.570 <i>2.37**</i>	0.529 <i>2.08**</i>	0.590 <i>2.75***</i>	0.571 <i>6.18***</i>	0.523 <i>2.07**</i>	0.582 <i>1.94*</i>	0.644 <i>2.16**</i>	0.660 <i>2.52**</i>	0.566 <i>2.81***</i>
capital						0.183 <i>4.32***</i>	0.158 <i>4.17***</i>					
'Risk' variables												
gold								0.249 <i>11.16***</i>	-0.151 <i>-0.981</i>			
exrate1										-0.149 <i>-0.91</i>		
exrate2											-0.003 <i>-1.48</i>	
exvol												0.011 <i>1.24</i>
Time dummies												
Year = 1900	0.005 <i>0.76</i>	0.030 <i>6.51***</i>	0.132 <i>62.79***</i>	0.153 <i>16.73***</i>	0.073 <i>10.03***</i>	-0.075 <i>-1.59</i>	-0.068 <i>-2.69***</i>	0.133 <i>18.61***</i>	0.087 <i>4.11***</i>			
Year = 1913	0.111 <i>7.22***</i>	0.181 <i>10.02***</i>	0.351 <i>13.99***</i>	0.432 <i>7.61***</i>	0.225 <i>5.02***</i>	-0.038 <i>-0.23</i>	-0.178 <i>-1.99**</i>	0.351 <i>7.20***</i>	0.271 <i>3.05***</i>	0.229 <i>1.53</i>	0.253 <i>2.51**</i>	0.371 <i>5.53***</i>
Country paire	159	117	101	101	128	68	87	101	128	86	86	89
Total pool (unbal obs.)	477	285	246	246	336	119	166	246	336	163	163	225
Adjusted R2	0.462	0.413	0.454	0.478	0.530	0.661	0.686	0.477	0.525	0.460	0.470	0.491
Jarque Bera (prob)	0.00	0.00	0.031	0.099	0.00	0.764	0.394	0.169	0.00	0.195	0.208	0.130

Note. Dependent variable: branch. Benchmark regressions (1–5). Control for capital flows (6–7) limited to British and French banks. Control for risk variables (8–12). Estimates by panel two-stage least squares with White cross-section standard errors and covariance (d.f. adjusted). Instruments are lagged endogenous and exogenous variables and the log of host countries' latitude. T-statistics in italics. Asterisks*, ** and *** denote significance at 10, 5 and 1 per cent levels.

Jarque-Bera statistics test normality of residuals.

of host country informational development, which has a negative sign but is insignificant (col. 2). Once we control for the effect of bilateral trade, which is positive and significant, the pulling effect of economic size disappears, suggesting that it actually picked up trade links (col. 3). When strategic location in trade platforms of international relevance is added, the coefficient on geographical distance is almost halved (col. 4). In both specifications host countries' informational development shows a negative and significant effect on banks' foreign expansion. This finding is robust to the substitution of GDP *per capita* for the 'post *per capita*' variable (col. 5). With a total of seven explanatory variables, specifications (4) and (5) capture approximately half of the variance of bilateral foreign branching. In specification (4), political integration through colonial relationships (with impact $(e^{2.021}-1) \sim 650$ per cent) and economic integration through trade, both in terms of bilateral links (impact $(e^{0.282}-1) \sim 33$ per cent) and platform strategies $((e^{0.570}-1) \sim 77$ per cent), emerge as the main 'pull' determinants of pre-1914 multinational banking. At the same time, legal affinities seem to have a positive impact independent of their natural overlapping with colonial links. After controlling for this set of 'pull' variables, the incentives to foreign expansion created by informational barriers related to remoteness decrease significantly but are still relevant. The negative coefficients on 'post' and GDP *per capita* give the results a strong 'anti-gravity' flavour, by suggesting that banks responded to host countries' informational and financial underdevelopment by increasing by approximately $(e^{0.200}-1) \sim 22$ per cent their expansion there. This lends some support to the 'internalisation' view according to which banks resorted more to foreign branching and greenfield investments in response to the absence of local markets for informational-intensive assets – a response possibly magnified for more remote countries. One interesting aspect, nicely captured by the time dummies, is that banks' foreign expansion was higher by 15 (in 1900) and 43 per cent (in 1913) than accounted for by the rest of explanatory variables (col. 4). It is tempting, and perhaps not too unreasonable, to interpret such 'overshooting' of multinational banking in the decade before World War I as related to the generalised sentiment of 'greater stability and order' in the development of the world peripheries which favoured the unprecedented deepening of global capital markets after the turn of the century.²⁷

We want now to check whether these results are robust to different specification tests. First, we assess whether bilateral capital flows had any independent impact on multinational banking by augmenting the baseline

²⁷ The obvious reference is a famous passage in Feis (1930, pp.12) linking the deepening of global capital markets after 1900 with the widespread belief among investors that 'those distant lands to which the capital had been going in earlier periods, seemed to have overcome the risk and crashes of their first growth'. The issue is dealt with also in Flandreau and Zumer 2004.

specification with a new variable, *Capital*, the log of the cumulated bilateral capital flow in the case of Britain (data from Stone 1999); and the log of the estimated stock of foreign investment into host countries (available only for 1900 and 1913 and reconstructed from different sources: see Appendix) for France. (Country-pairs including Germany had to be dropped from the sample, due to the lack of reliable and sufficiently disaggregated data.) In spite of these serious limitations and possible bias and measurement errors, the estimates, presented in cols 6 and 7, are suggestive. The explanatory power jumps close to 70 per cent of variance, both informational and financial development become insignificant and the 'overshooting' effect captured by time dummies disappears or even turns into 'undershooting'. This result suggests that, after controlling for political and cultural integration, bilateral trade and platform strategies, the informational flow generated by the rapid deepening of global capital markets increasingly accessible by relatively underdeveloped peripheries, significantly enhanced British and French banks' multinational expansion in the two decades before World War I. As a second test, we want to assess whether, as suggested by contemporary observers, host countries' macroeconomic instability and financial reputation influenced banks' foreign expansion.²⁸ The losses experienced by European banks operating in the East during the fall in the gold value of silver in the 1890s, and in South America in the last half of the nineteenth century as a consequence of 'wild currency experiments of some of the governments there', were in fact quoted as examples of how exchange fluctuations 'introduce(d) an undesirable speculative element into international business, for which the banks (we)re, in any case, liable to suffer' (Baster 1935, pp. 19–20).²⁹ Following the 'good housekeeper seal of approval' literature, which interprets Gold convertibility as a commitment to macroeconomic stability (Bordo and Rockoff 1996), the host-country's adherence to the Gold Standard (*Gold*) is added to the specification. The use of such an indicator is not entirely uncontroversial, however. Apart from

²⁸ In the case of Latin America, Baster (1935, pp. 126–7) suggested that in the nineteenth century British banks initially privileged 'the richest and financially most stable regions' (the River Plate basin), 'though with records far from stainless', and only gradually extended their interests to the rest of the region, where currency systems had proved 'liable to collapse under strain'.

²⁹ As to exchange rate fluctuations, according to the same source losses were usually suffered not on acceptance business, but on long-term investments. The widely held idea that protection against exchange risk could be obtained by capitalising banks in terms of foreign currencies was regarded as a delusion: 'the majority of the owners of such institutions as the Hongkong Bank, capitalised in silver dollars, have been Europeans, resident in . . . some gold standard country. Their main interest is . . . in the gold value of dividend payments. The fact of their capital being stated in the balance sheet in terms of silver dollars makes no difference whatever to its sterling earning capacity. Such banks can claim no unique exemption from exchange fluctuations, any more than their sterling competitors' (pp. 20–21).

identification problems and possible measurement errors,³⁰ the relationship between Gold adherence and country risk was not stable over time, as falling sovereign spreads since the late 1890s demonstrated (Obstfeld and Taylor 2003), and investors attached a much higher value to debt sustainability, rather than to monetary rules, when assessing a country's default risk (Flandreau and Zumer 2004).³¹ As a further check, I have therefore experimented with different indicators of exchange rate instability, namely the decennial average and cumulative changes in the nominal exchange rate of the host country's currency *vis-à-vis* the British pound (*Exrate1* and *Exrate2*), and an indicator of nominal exchange rate volatility that captures the exposure of banks to depreciation of the host-country's currency (*Exvol*). In any case, whether we should expect macroeconomic instability to act as a brake on multinationalisation is not straightforward. For instance, exchange rate fluctuations could also provide an important source of profits for experienced banks that engaged systematically in foreign exchange business. Moreover, the asymmetric structure of the pre-1914 network of international exchange, with peripheral currencies rarely quoted in the main financial hubs of the globalising economy (Flandreau and Jobst 2005), could provide an additional rationale for opening branches in major peripheral countries.³² The results presented in col. 8 suggest that Gold adherence may have enhanced the attractiveness of host countries for foreign banks; however, unlike the rest of the variables, the coefficient of Gold is not robust to the substitution of GDP *per capita* for 'post *per capita*.' The fact that none of the exchange rate variables proved significant, nor affected the coefficients on the main explanatory variables (cols 10–12), casts additional doubts on the robustness of a 'commitment' interpretation of the Gold dummy. The absence of any detectable impact of exchange fluctuations also suggests that multinational banking was basically driven by long-run economic and geographical fundamentals hardly affected by short-run contingencies: a conclusion not only in line with the evidence provided by other studies on the absence of any significant influence of 'good housekeeping' variables on British capital flows (Clemens and Williamson 2000) or trade in international currencies (Flandreau and Jobst 2006), but also consistent with the fact that, due to high entry and exit fixed costs, banks' foreign expansion tend

³⁰ For the debate on the *de facto* vs the *de jure* approach to Gold Standard adherence, see Obstfeld and Taylor 2003 and Flandreau and Zumer 2004.

³¹ Unfortunately their indicator is unavailable for almost the totality of extra-European countries, which precluded its use in this empirical exercise. A similar problem (too small a sample with a strong Western bias) rendered problematic the use of host countries' sovereign spread over British consols, reported by Obstfeld and Taylor (2003) as an alternative 'good housekeeping' variable.

³² I owe this point to Marc Flandreau, whose comments I gratefully acknowledge.

to be subject to hysteresis, which also makes it not particularly responsive to temporary business fluctuations.³³

Table 3 reports the results of further robustness checks. One may wonder whether the estimates are driven by particular countries. As outlined in Section 2, almost two-thirds of the foreign branches included in the sample accrued to 'naturalised' British banks operating in large settlement economies under Imperial rule. Thus, I re-estimate the basic specification for a reduced sample from which these cumbersome outliers have been dropped. The main results are robust to this exercise (columns 1–6), with a noticeable exception: the distance variable becomes insignificant, suggesting that the strong positive effect previously observed could in fact be driven by the hundreds of British branches located in Australia, New Zealand and South Africa. Another interesting test is whether benchmark estimates are sensitive to the specification of the dependent variable. Since multinational banking predated globalisation, foreign branches observed in 1880–1913 included a significant number of branches established before 1880. Thus, we want to test whether the baseline specification gives consistent results when used to explain the expansion of multinational banking in the period 1880–1913 above its initial level and beyond its initial geographical span. For this purpose, I run new estimates for the whole sample by using as an alternative dependent variable the difference between foreign branches in each benchmark year and their level in 1880. In addition, I include as an additional explanatory variable the log of 1 plus the total number of foreign branches and/or subsidiaries of banks from home country i in the host country y at the initial period, $Branch(1880)$. This is justified by the fact that foreign branches established prior to our observation period represented an informational endowment that certainly contributed to enhance bilateral transactions between home and host countries.³⁴ As reported in cols (7–10), the explanatory power falls substantially and quite different results emerge. Variables such as geographical distance, colonial links, legal affinities and 'platform' location seem to have played no significant role in determining the post-1880 multinational growth of European banks. On the contrary, banks seem to have focused their foreign expansion on countries characterised by informational and financial underdevelopment and strong economic links through bilateral trade and capital flows. Interestingly, we find also that initial branches are negatively signed and generally significant throughout, suggesting that banks expanded more in countries in which they had accumulated little or no prior direct knowledge or expertise. This finding

³³ Banks may postpone entry until sufficient information on non-traditional markets is accumulated; once entered, high fixed exit costs tend to render the investment decision virtually irreversible: see Buch 2000.

³⁴ The use of foreign banks' branches as informational links in empirical studies has been pioneered by Portes and Rey 2005.

Table 3. *Determinants of MNB: robustness checks.*

	Dependent variable: Branch						Dependent variable: Branch(t)–Branch (1880)					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
‘Friction’ variables												
distance	0.100 <i>0.77</i>	0.168 <i>1.91*</i>	0.224 <i>0.74</i>	0.350 <i>1.43</i>	0.127 <i>0.82</i>	0.169 <i>1.72*</i>	0.105 <i>1.17</i>	0.102 <i>1.47</i>	0.142 <i>0.97</i>	0.161 <i>1.54</i>	0.100 <i>1.65*</i>	0.056 <i>1.28</i>
information	–0.238 <i>–7.55***</i>		–0.190 <i>–1.46</i>		–0.275 <i>–7.69***</i>		–0.118 <i>–3.06***</i>		–0.090 <i>–1.30</i>		–0.112 <i>–1.34</i>	
gdppc		–0.281 <i>–5.81***</i>		–0.286 <i>–2.06**</i>		–0.282 <i>–4.18***</i>		–0.123 <i>–9.20***</i>		–0.092 <i>–1.03</i>		–0.0001 <i>–0.01</i>
branch1880							–0.066	–0.032	–0.133	–0.107	–0.061	–0.028
‘Pull’ variables												
size	–0.113 <i>–2.18**</i>	0.017 <i>0.73</i>	–0.210 <i>–2.14**</i>	–0.003 <i>–0.05</i>	–0.093 <i>–2.00**</i>	–0.017 <i>0.62</i>	–0.067 <i>–1.50</i>	–0.005 <i>–0.28</i>	–0.152 <i>–2.21**</i>	–0.032 <i>–0.57</i>	–0.077 <i>–2.91***</i>	–0.027 <i>–1.37</i>
colony	0.853 <i>5.58***</i>	1.189 <i>12.40***</i>	0.841 <i>66.01***</i>	1.180 <i>17.54***</i>	0.848 <i>5.93***</i>	1.188 <i>11.60***</i>	0.067 <i>0.31</i>	–0.002 <i>–0.02</i>	0.050 <i>0.27</i>	0.101 <i>1.46</i>	0.064 <i>0.31</i>	0.094 <i>1.03</i>
legal	0.062 <i>1.00</i>	0.121 <i>2.15**</i>	0.048 <i>0.38</i>	0.161 <i>1.54</i>	0.066 <i>1.13</i>	0.121 <i>2.34***</i>	–0.057 <i>–0.70</i>	–0.058 <i>–0.71</i>	0.911 <i>1.74*</i>	0.039 <i>0.67</i>	–0.079 <i>–0.96</i>	–0.081 <i>–1.05</i>
trade	0.254 <i>8.28***</i>	0.192 <i>3.36***</i>	0.202 <i>2.58***</i>	0.129 <i>3.35***</i>	0.244 <i>7.17***</i>	0.192 <i>3.42***</i>	0.086 <i>6.28***</i>	0.063 <i>3.60***</i>	0.074 <i>1.22</i>	–0.004 <i>–0.06</i>	0.093 <i>7.08***</i>	0.054 <i>5.62***</i>
centre	0.787 <i>2.60***</i>	0.691 <i>2.09***</i>	0.751 <i>2.65***</i>	0.572 <i>2.26***</i>	0.735 <i>2.37***</i>	0.689 <i>1.95</i>	0.355 <i>1.46</i>	0.293 <i>1.11</i>	0.261 <i>1.17</i>	0.209 <i>0.99</i>	0.365 <i>1.82*</i>	0.396 <i>1.48</i>
capital			0.145 <i>4.21***</i>	0.113 <i>3.61***</i>					0.089 <i>4.71***</i>	0.076 <i>4.53***</i>		
‘Risk’ variable												
gold					0.252 <i>4.00***</i>	0.005 <i>0.08</i>					–0.045 <i>–0.17</i>	–0.294 <i>–2.46**</i>
Time dummies												
Year = 1900	0.251 <i>11.35***</i>	0.111 <i>12.32***</i>	–0.023 <i>–0.28</i>	–0.081 <i>–3.07***</i>	0.220 <i>12.61***</i>	0.111 <i>7.33***</i>	0.148 <i>88.81***</i>	0.123 <i>21.15***</i>	–0.050 <i>–2.47**</i>	–0.026 <i>–1.70*</i>	0.171 <i>14.74***</i>	0.143 <i>12.48***</i>
Year = 1913	0.581 <i>7.94***</i>	0.312 <i>6.71***</i>	0.084 <i>0.46</i>	–0.117 <i>–1.63</i>	0.486 <i>9.15***</i>	0.310 <i>4.53***</i>	0.488 <i>15.72***</i>	0.392 <i>14.62***</i>	0.243 <i>4.40***</i>	0.170 <i>7.15***</i>	0.542 <i>12.72***</i>	0.471 <i>12.06***</i>
Country pairs	89	116	61	79	89	116	101	128	68	87	101	128
Total pool (unbal.) obs.	228	301	110	150	228	301	246	336	119	166	246	336
Adjusted R2	0.368	0.392	0.543	0.540	0.367	0.390	0.208	0.146	0.260	0.150	0.202	0.112
Jarque–Bera (prob)	0.177	0.00	0.343	0.330	0.369	0.00	0.00	0.00	0.449	0.00	0.00	0.00

Note. Dependent variable: branch (1–6); branch–branch 1880 (7–12). Specifications (1–6) based on reduced sample excluding settlement economies under British Imperial rule (Canada, Australia, New Zealand, South-Africa). Specifications including capital flows (3–4, 9–10) limited to British and French banks. Estimates by panel two stage least squares with White cross-section standard errors and covariance (d.f. adjusted). Instruments are lagged endogenous and exogenous variables and the log of host countries’ latitude. T-statistics in italics. Asterisks*, ** and *** denote significance at 10, 5 and 1 per cent levels. Jarque–Bera statistics test normality of residuals.

is robust to the inclusion of foreign investment as explanatory variable, and lends further support to an internalisation interpretation of post-1880 bank multinationalisation.

Of course, some variables may turn out to be insignificant in the whole sample because they are significant for some countries and insignificant for others. In order to assess to what extent the behaviour of each home country is consistent with the overall regression, I re-estimated the main specification separately for Britain, France and Germany.³⁵

The results, presented in Table 4, show that in fact, differences outweigh similarities. The baseline specification is quite successful in explaining British banks' pattern but much less so in the French and German cases.³⁶ As far as British banks were concerned (cols 1–8), colonial links gave a major boost to their multinational expansion (col. 2) and remained important even after 1880 (cols 6–7). After controlling for the impact of the Empire, the data suggest that remote and informationally developed economies, hosting regional trade hubs and foreign exchange markets, and receiving British foreign investments, were the preferred destination of British banks (cols 1–2). These results are robust to the exclusion of settlement economies under Imperial rule from the sample (col. 3), although the pulling effect of platform strategies seem to vanish after 1880. Interestingly, the post-1880 expansion of British banks privileged 'new' countries belonging to different legal traditions and in which the initial informational endowment provided by existing branches was lower (cols 6–7). The inclusion of a dummy for the USA measures indirectly the negative impact of US regulation on multinational banking by showing that the presence of British banks there was substantially lower than accounted for by the rest of the explanatory variables (col. 4). The results also show a positive interaction with German banks (beyond clustering in major international trade hubs), particularly after 1880, confirming the existence of the strong Anglo-German competition emphasised by the conventional narrative (col. 5 and 8). The negative coefficients on time dummies correctly capture British banks' relative lack of dynamism at the turn of the century. The French pattern (cols 9–12) could be well characterised as opposed to the British. In their foreign expansion, mainly outside their Imperial borders (as expected, due to the minor economic relevance of most French colonies), French banks were driven by bilateral trade and platform strategies (with coefficients of 0.365 and 0.909 respectively). They also privileged informationally and financially underdeveloped proximate areas (as seen previously,

³⁵ I have also tested the specifications including 'risk variables', generally finding insignificant or inconsistent results.

³⁶ This suggests that the model may miss out some fundamental determinants of the foreign expansion of continental banks, perhaps strategic commodities (see the entry of German banks in Chile and Rumania) or geopolitical motivations (see the attraction of French banks for Russia, Egypt or the Ottoman Empire).

Table 4. *Determinants of MNB: estimates by home country.*

Dependent variable:	British banks								French banks				German banks			
	Branch				Branch–Branch 1880				Branch–Branch 1880				Branch–Branch 1880			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Friction/variables			+		+			+		+		+		+		+
distance	0.948	0.699	0.631	0.640	0.634	0.553	0.328	0.435	−0.483	−0.714	−0.018	−0.018	−0.081	−0.063	−0.096	−0.076
Information	6.39***	3.30***	3.07***	2.96***	3.81***	6.00***	1.93*	3.01***	−4.47***	−12.55***	−0.25	−18.36***	−1.01	−0.52	−1.18	−0.59
branch 1880	0.151	0.118	0.001	0.118	0.034	0.048	0.011	0.029	−0.317	−0.389	−0.173	−0.192	−0.036	−0.016	−0.046	−0.022
	2.43**	1.65*	0.01	1.51	0.39	0.93	0.20	−0.38	−2.49**	−4.62***	−2.45**	−3.13***	−0.55	−0.19	−0.86	−0.28
						−0.154	−0.195	−0.234			−0.085	−0.145			−0.273	−0.317
						−13.17***	−5.36***	−4.44***			−1.14	−1.99**			−3.98***	−4.94***
‘Pull’ variables																
host size	0.091	−0.037	−0.059	−0.035	0.011	0.042	−0.075	−0.018	−0.138	−0.172	−0.093	−0.121	−0.029	−0.060	−0.047	−0.074
	1.57	−0.39	−0.72	−0.36	0.19	1.08	−0.83	−0.31	−1.52	−2.05**	−1.62	−1.39	−0.64	−1.56	−1.58	−3.19***
colony [†]	1.920	1.714	1.072	1.066	1.016	0.543	0.451	0.329	−0.395	−0.322	0.180	0.015	−0.418	−0.565	−0.220	−0.338
	7.75***	11.68***	19.40***	6.93***	9.90***	2.17**	2.24**	6.46***	−1.13	−1.46	0.54	0.07	−2.66***	−2.19**	−1.20	−1.21
law [‡]	0.007	0.244	0.191	0.081	0.802	−0.479	−0.329	0.012	0.046	−0.051	−0.137	−0.104	0.444	0.306	0.569	0.442
	0.12	4.98***	2.37**	7.12***	3.99***	−5.65***	−3.68***	0.31	2.30**	−0.436	−1.20	0.61	−3.94***	1.88*	5.75***	2.71***
trade	0.011	−0.018	0.033	−0.030	−0.06	0.006	−0.016	−0.063	0.308	0.365	0.246	0.283	−0.044	0.011	−0.055	−0.008
	0.36	−0.78	2.16**	−1.08	−1.34	0.17	−0.69	−1.24	2.49**	4.57***	4.75***	4.49***	−0.50	0.21	−0.68	−0.15
centre	0.641	0.573	0.554	0.701	0.132	0.115	0.013	−0.120	0.967	0.909	0.321	0.512	0.767	0.575	0.751	0.588
	3.48***	3.33***	2.64***	4.09***	0.71	0.66	0.09	−0.59	5.89***	2.77***	2.15**	1.71*	2.34**	2.51**	2.22**	2.51**
capital		3.32***	2.70***	2.36**	2.45**		0.138	0.044								
							2.17**	1.53								
‘Interaction’ variables																
British banks									0.139		0.041		0.118		0.100	
									1.84*		0.64		2.45**		2.05**	
French banks				−0.011				−0.049					0.151		0.140	
				−0.19				−0.86					0.61		0.53	
German banks				0.692				0.459	0.117		−0.137					
				2.57**				4.49***	0.51		−1.05					
Control dummies																
Years 1900	−0.200	−0.191	−0.177	−0.170	−0.400	−0.101	−0.038	−0.266	0.272	0.405	0.197	0.333	0.0320	0.335	0.336	0.349
	−27.61***	−18.38***	−9.74***	−15.77***	−3.33***	−15.49***	−1.08	−4.07**	6.81***	3.52***	11.05***	4.47***	67.00***	3.84**	55.84***	3.84***
Years 1913	−0.071	−0.022	−0.043	−0.002	−0.583	0.113	0.172	−0.289	0.657	0.782	0.500	0.738	0.807	0.761	0.844	0.808
	−2.10**	−0.50	−0.54	−0.05	−2.13**	5.59***	4.94***	−1.94*	8.00***	3.09***	10.63***	4.62***	12.50***	4.89***	12.62***	4.85***
USA				−1.175												
				−11.51***												
Country pairs	35	35	31	35	31	35	35	35	34	30	34	30	32	28	32	28
Total pool (unbal.) obs.	86	86	60	86	80	86	86	86	84	78	84	78	76	70	76	70
Adjusted R2	0.770	0.780	0.683	0.784	0.631	0.316	0.354	0.336	0.425	0.470	0.198	0.168	0.347	0.386	0.387	0.428
Jarque–Bera (prob.)	0.055	0.130	0.593	0.135	0.913	0.00	0.233	0.00	0.341	0.987	0.106	0.086	0.337	0.007	0.124	0.00

Note. Specifications including capital stock limited to British banks. + denotes specifications based on reduced sample excluding settlement economies under British Imperial rule (Canada, Australia, New Zealand, South Africa). Estimates by panel two stage least squares with White cross-section standard errors and covariance (d.f. adjusted). Instruments are lagged endogenous and exogenous variables and the log of host countries' latitude. T-statistics in parenthesis. *, ** and *** denote significance at 10, 5 and 1 per cent level. Jarque–Bera statistics test normality of residuals. For German banks (cols 13–16) the row *colony*[†] denotes British law, and the row *law*[‡] denotes French law.

South-Eastern Europe and the Mediterranean Basin accounted for almost half of French foreign branches), possibly because their centralised organisational structure was ill-suited to deal effectively with operations in remote locations, as the failure of their early investments in the Far East in the 1870s would suggest. The time dummies confirm their strong responsiveness to post-1900 improvement in global financial stability. Their dynamism was shared by German banks, whose expansion however reveals apparently very weak relationships with any of the ‘fundamentals’ identified so far (distance, informational development, trade) and seems to rely exclusively on ‘platform’ strategies complemented by entry into markets dominated by British banks (other than settlement economies within Imperial borders: cols 13–16). This suggests that, in building up their multinational network virtually from scratch, German banks did not follow existing bilateral trade links but possibly used strategically foreign branching as an instrument of promoting new trade relationship.

5. Conclusion

Our empirical analysis suggests that, unlike its modern counterpart, pre-1914 multinational banking cannot be easily fitted into an augmented gravity-like model. Indeed, the panel estimates return a rather ‘anti-gravity’ message. After controlling for the positive impact of colonial links, bilateral trade integration and the pulling effect of regional trade hubs, the model suggests that information asymmetries and costs, captured by geographical distance, acted as a booster, not a brake, on banks’ foreign branching (although its positive impact seemed to vanish around the turn of the century). No positive influence of country-pairs’ economic size can be detected other than the impact indirectly exercised through bilateral trade, while in a number of estimates negative size effects can be found; and host countries’ informational and financial development (proxied by post and GDP *per capita* respectively), which in principle should enhance banks’ foreign expansion by offsetting distance-related transaction costs, is found to have had a negative impact on banks’ multinationalisation. These results can be interpreted as evidence in favour of an ‘internalisation’ story in which informational asymmetries and costs gave banks significant incentives to expand abroad, especially when local markets for information-intensive assets remained underdeveloped and correspondent relationships proved unfeasible. This view is further strengthened by the evidence that during the first globalisation banks’ multinational expansion was mainly directed towards ‘new’ countries which had remained at the margins of the pre-1880 spread of (mainly British and French) multinational banks. The use of time dummies to identify common shocks also suggests that, at the turn of the century, banks’ growth abroad went well beyond the level that can be

accounted for by the fundamentals identified by the model. This suggests the existence of a ‘globalisation bonus’ for multinational banking, possibly related to the same sentiments of ‘greater stability and order’ that explain the fast deepening of global capital markets in the same period. Of course, these conclusions demand far more robustness checks than those attainable on the base of the existing dataset. Better data on foreign investment are particularly vital. In fact, the estimates run for British and French banks (whose robustness is undermined by the poor quality of the French data) suggests that the ‘anti-gravity’ message, and even the ‘globalisation premium’, may vanish once we control for the impact of capital flows. At the same time, the different responses of British, French and German banks to the fundamentals identified by the gravity approach reveal the existence of different national patterns difficult to accommodate into one single model.

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Appendix: the data

Data were collected for the following countries:

Western and Central Europe: Austria-Hungary, Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom. *Eastern and Southern Europe:* Bulgaria, Greece, Portugal, Romania, Russia, Serbia, Spain. *Mediterranean Basin and Near East:* Algeria, British Possessions (Cyprus, Malta, Gibraltar), Egypt, Morocco, Tunisia, Turkey (European and Asian). *Middle and South-East Asia:* Ceylon, China, Cochinchina (French), India (British and French), Japan, Java, Persia, Philippines Islands, Siam, Straits Settlements. *Australasia:* Commonwealth of Australia, New Zealand. *North America:* Dominions of Canada, United States. *Caribbean and Central America:* Costa Rica, Cuba/Santo Domingo (Spanish West Indies up to 1898), Republica de Guatemala, Haiti, Honduras, Mexico, Nicaragua, El Salvador. *South America:* Argentina, Bolivia, Brasil, Colombia, Chile, Ecuador, Peru, Uruguay, Venezuela. *Sub-Saharan Africa:* British colonies of East Africa, South Africa and West Africa, and Madagascar (French). In many cases missing data for a number of important variables proved the rule rather than the exception, especially for the period prior to 1900. As a consequence, the nature of the sample is very unbalanced.

Branches of multinational banks. The basic information is from the *Banking Almanac*, a specialised British journal published since 1844. Complementary information on British banks is from the ‘Statement of Bank Accounts in a Summarized Form’, a banking supplement regularly published twice a year by *The Economist*. Other secondary sources used to double-check data were Baster (1935), Hauser (1906), Diouritch (1909), Riesser (1912), Strasser (1924), Blondel (1908) and Caillez (1923).

Post per capita. As a growing number of countries joined the International Post Union, data on the volume of mail became widely available. The figures are from the *Statesman’s Yearbook*, which also provides population data.

Bilateral trade flows. Data on bilateral trade of sovereign entities with the United Kingdom, Germany and France are from the *International Trade Database* maintained by Kathy Barbieri as part of the COW (Correlates of War) Project. The database is available online at: <www.correlatesofwar.org/>. Data on the colonial trade of Britain and France were collected from primary sources, such as the *Statistical Abstract for the Several Colonial and Other Possessions of the United Kingdom*, and *Tableau général du commerce de la France avec ses colonies et les puissances étrangères*, respectively. Bilateral trade figures used in the regressions are 5-year averages ending in the benchmark years converted into millions of current US dollars.

Capital flows. Data on the absolute volume of British capital flows (net of banking foreign investments) and its geographical distribution are from Stone (1999). Data on volume and geographical distribution of the estimated French stock of foreign investments for 1900 and 1913 are from Moulton and Lewis (1925, pp. 11–21), Feis (1930, pp. 50–51), White (1933, pp. 87–123), and Lévy-Leboyer (1977, pp. 116–18). Data on Latin America were checked with figures provided by Michael Twomey on his personal web-page at the university of Michigan. Figures are converted into millions of current US dollars.

GDP and GDP per capita. Data are from Angus Maddison's database (Maddison 2006), available online at: <www.eco.rug.nl/~Maddison/>. Data for Western Europe and settlement economies are complete. GDP *per capita* for Austria-Hungary is estimated as a weighted sum of GDP *per capita* of Austria and Hungary, using their share of the aggregate GDP as weights. In the case of Southern and Eastern Europe, as well as developing countries of Africa, Asia and Latin America, estimations do not cover the entire period 1870–1913. In these cases, missing years have been estimated by geometric interpolation. GDP *per capita* for Peru and Chile before 1900 is estimated by assuming a growth rate equal to that of Argentina in the same period. GDP *per capita* for Colombia before 1900 is estimated by assuming a growth rate equal to that of Brazil in the same period. For Caribbean countries, Maddison provides an individual estimation of GDP and GDP *per capita* for Jamaica, but only an aggregate estimation of GDP *per capita* for the rest of the Caribbean islands. East Africa, Madagascar and West Africa are assumed to have the same GDP *per capita* as Ghana as reported by Maddison. Costa Rica, Guatemala, Honduras, Nicaragua, Salvador, Bolivia, Ecuador are assumed to have the same GDP *per capita* as Jamaica. In all cases in which only GDP *per capita* is available, total GDP has been obtained by multiplying GDP *per capita* by the estimated population.

Business centres. On the base of the information provided by Schwarzer (1991), the following extra-European trade centres of regional relevance have been identified: New York, Buenos Aires and Rio de Janeiro for the Atlantic area; Cairo and Constantinople for the Mediterranean area; Hong Kong/Shanghai, Bombay, Yokohama, Sydney and Valparaiso for East Asia and the Pacific Basin.

Years on gold and exchange rate. Data are from Flandreau and Zumer (2004) and Obstfeld and A. Taylor (2003), accessible online respectively at <eh.net/databases/finance/> and <www.res.org.uk/economic/datasets/datasetdefault.asp>. For countries not included in either, the information provided by the *Statesman's Year Book* and other secondary sources has been used. Annual data on average exchange rates are from the series *Währungen der Welt*, edited by O. Schneider *et al.* Nominal exchange rates of the Turkish lira and the Egyptian pound have been downloaded from Global Financial Data <www.globalfinancialdata.com>. In the absence of official quotations, the nominal exchange rate variation of currencies on silver or bimetallic standard has been proxied by the change in the Pound price of silver.

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