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Bondholders vs. bond-sellers? Investment banks and conditionality lending in the London market for foreign government debt, 1815-1913

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Abstract

This paper offers a theory of conditionality lending in 19th-century international capital markets. We argue that ownership of reputation signals by prestigious banks rendered them able and willing to monitor government borrowing. Monitoring was a source of rent, and it led bankers to support countries facing liquidity crises in a manner similar to modern descriptions of “relationship” lending to corporate clients by “parent” banks. Prestigious bankers’ ability to implement conditionality loans and monitor countries’ financial policies also enabled them to deal with solvency. We find that, compared with prestigious bankers, bondholders’ committees had neither the tools nor the prestige required for effectively dealing with defaulters. Hence such committees were far less important than previous research has claimed.

JEL codes: N20, F34

Keywords: Bondholders, Investment Banks, Certification

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This paper develops an analysis of conditionality lending during the long era of London-based “globalized” foreign government debt markets that ended at the start of World War I. The argument we make is that the concepts and insights from modern relationship banking theory provide powerful tools for understanding how international capital markets could exact “structural adjustment” from borrowing governments. In a nutshell, this occurred because of market *structure*. A few prestigious intermediaries owned the ability to “certify” a borrowing government, which enabled them to influence the terms of market access. The intermediaries thus had a measure of monopoly power over borrowers and used it to obtain adjustments that increased the likelihood of repayment. Conditionality lending was an investment in the prestigious bankers’ own brand. This explains why prestigious banks were both able and willing to manage their clients’ liquidity crises. The existence, centrality, and implications of this mechanism have been overlooked in recent accounts of the international bond market in the 19th century, resulting in descriptions that are not unlike playing Hamlet without the Prince of Denmark.

The starting point of this new view is earlier research by Flandreau and Flores (2009) providing analytical insights on, and empirical evidence of, the role of capital, prestige, and market share as collaterals in the foreign government bond markets that developed in London in the early 1820s. Here we seek to expand the range of the argument both analytically and historically. First, we argue that “rules of the game” similar to those that operated in the early 1820s were also in force in subsequent periods and, in fact, apply to the entire *Pax Britannica* era (1815–1913). Second, we show how the *signaling* role (emphasized in our previous research) was combined with *control* (the topic of this paper). Third, we show how focus on control does provide a theoretical clarification of the logic of conditionality lending to 19th-century foreign governments.

An important aspect of our theory (if not the main one) is that it departs from conventional thinking in recent historical research on sovereign debt. Previous authors have focused on a bilateral relation leading the literature to emphasize either between reputation of the borrower or punishment by the lender. In the historical literature, this focus has led in turn to concentrate on three alternative modes of governing sovereign debt: bondholder activism (punishment), high-quality domestic institutions (reputation), and imperial influence (perhaps a mix of the two). In this paper, we abstract from the role of imperial influence, because external imperial control means that sovereign debt is not sovereign at all, explaining why the debts of colonies have been generally and rightly perceived as less risky by investors.¹ We also abstract from domestic institutions and the North–Weingast veto-point theme, as it

¹ Thus, the central feature of colonial debt is that it assumes the problem away. See Accominotti, Flandreau, and Rezzik (2010) for a critical study and survey of default risk in British colonies including references to this important literature.

may also be seen as another approach to assuming the problem away.² There are many real-world examples of when “desirable” institutions were not present and yet lending occurred. When, say, Argentina or (as Nathaniel de Rothschild put it) “the Khan of Khiva, or ... any of those States” were borrowing, they were likely to default and did.³ In such cases, markets had to deal with the resulting mess. We therefore investigate the situation of countries for which neither imperial control nor appropriate domestic institutions (whatever may be meant by that) were available. Moreover, instead of making it a bilateral relation between borrowers and lenders, we make it a trilateral play involving lenders (bondholders), borrowers (governments) and underwriters (banks selling the securities in the primary market).

Previous research has suggested that the “solution” for dealing with sovereign countries suffering from credibility problems has been the emergence of bondholders’ committees (such as the British Corporation of Foreign Bondholders created in 1868) to coordinate creditors’ activism and perhaps increase the odds of sovereign repayment.⁴ To the casual observer it seems that bondholders’ committees were the only available mechanism to deal with default, so their operation attracted considerable research interest and they found their way in many formal models; a few equations later down the road, authors grew accustomed to seeing these committees as the engine of successful sovereign debt in the 19th century. But focusing on bondholders while ignoring the rest of the cast is analogous to putting on *Hamlet* without the Prince of Denmark. In the global financial game, the lead is played by the international banker. Bondholders set the drama into action by seeking revenge (thus playing the Ghost’s role in *Hamlet*), but the instrument of revenge (the Prince) was the banker.

The language of corporate finance theory provides a natural way to think of bankers and how their actions differed from those of bondholders’ committees: to distinguish creditors’ committees from international bankers, one may liken their respective roles to “direct” monitoring by shareholders and “delegated” monitoring by a parent bank.⁵ These alternative institutions perform in different ways, address different informational problems, and are therefore optimal in different settings. It is often emphasized that bank monitoring becomes optimal when control through shareholder assemblies fails.

² North and Weingast (1989).

³ Select Committee (1875, p. 268).

⁴ Bondholders’ committees must also be distinguished from imperial influence. The committees lobbied British policy makers to use gunboats and diplomatic facilities, but the policy makers feared moral hazard and diplomatic complications. The reason, as emphasized by Platt (1968), was that military intervention was usually not feasible because it risked triggering hostile reactions from rival powers. As *The Economist* (14 November 1868, p. 1301) stated when the Corporation of Foreign Bondholders was founded: “we should be damaged by the result of the meeting held to-day if it went forth that the meeting have endorsed the view that it is the duty of the English government to compel foreign Governments to pay the debts incurred to English subjects. If the Government were to go to war for such a purpose with Venezuela, they would involve themselves in this position—that if larger powers should act in the same way, they should also go to war with them. I think it is dangerous to have the idea go forth that when an Englishman lends his money to a foreign Government he is creating a national obligation, guaranteed by the full weight of the English government.”

⁵ Of course, sovereign bondholders are not exactly like shareholders. However, they do share a similar problem, which is especially clear in defaults, when bonds are more like stocks, in that their return is random and strongly affected by the quality of corporate governance. This makes our metaphor fruitful.

Shareholder assemblies can fail when they prove unable to acquire relevant information from the agent (borrower) or because coercion is impossible owing to such collective action problems as inability to coordinate and free-riding. In such instances (and if some additional conditions are met), delegated monitoring through a bank may be the superior arrangement.⁶

In order for underwriting banks to play a role in our tale, there must have been some aspects to their organization that ensured value would be created by their intervention. On this account, our previous joint research establishes that, in the early 19th century, certain underwriters could add value because of their reputation or prestige. Prestige enabled bankers to own a large market share. This market share would have been lost had they cheated investors. This finding addresses the contracting “externality” that prior research had argued is a key weakness of international debt and bondholders’ collective action. Thus, monitoring by reputable banks rested on imperfect competition. In other words, even before the bondholders could organize themselves as a cartel, a mechanism for concentrating lending authority existed “naturally” in the underwriting market. We shall argue that there are reasons to believe this natural monopoly or oligopoly probably outweighed what bondholders could do, given the latter’s tendency to free-ride. Moreover, although bondholders’ committees may have carried sticks (they could, in principle, prevent countries from borrowing in the market to which they were affiliated), they had no carrots; because they were not in the lending business, they could not, for instance, rescue a borrower facing an illiquidity crisis.

In contrast, prestigious underwriters did have such power. While entirely neglected in the recent macroeconomic literature, this theme is widespread with some previous business historians who previously suggested that prestige did play a role in foreign debt underwriting (See, for example, Hidy (1949) on Barings, Gille (1965, 1967) on Rothschilds, and Suzuki (1994) on Japanese government finance). It has also been popular in discussion of “Morgan’s men” adding value by sitting on companies’ boards of directors (DeLong 1991) although more recent work has challenged the empirical basis for the view that Morgan’s men “added value” (Hannah 2007).

In this paper, we seek to systematize, in the realm of sovereign debt, these earlier intuitions by providing a rigorous framework to handle them and empirical evidence, too. In particular, we articulate a theory to explain why prestige played a role in crisis lending. We argue that prestige and market power earned *some* bankers an informational rent on country-specific knowledge and put them in a convenient position to deal with payment crises. They could decide whether a given country was experiencing a liquidity or solvency crisis and then address it. We suggest prestige gave rise to a type of bargaining between lenders and borrowing governments that is similar to that described in “relationship banking” models. These models study the reasons for the emergence of repeated interactions between banks and corporate borrowers (as in today’s Japanese system of main banks or in the German system of universal banks). The traditional argument for relationship banking is that

⁶ Diamond (1984), Fama (1985). Tirole (2002) adapts these concepts to the modern period’s international financial system.

banks have comparative advantages in corporate monitoring. An important theoretical insight is the role of liquidity provision. The main bank is expected to provide support to its clients in difficult times because of (among other things) greater signalling power. A corollary is that the bank acts not only through signaling but also through control. The main bank can deliver value by enforcing proper policies and creating incentives for organizational reform when needed. Of course, the resulting policies need not be conducive to growth or development; they need only protect the underwriter's reputation for successful monitoring. This may explain why some earlier historians have used the language of imperialism to describe the relation between banking houses and borrowers.

It is unclear why the international banker has been omitted from the sovereign debt picture in the recent macroeconomic history literature. One reason may have been the historical context in which this literature was born: the sovereign defaults on the 1980s were on bank loans and revealed their failure to monitor borrowers. As a result, banks were seen as part of the problem and people looked at mechanisms that operated outside underwriters and banks for solutions. Another reason may have been the popularity of the free-riding argument. Researchers have generally doubted that underwriting banks would ever be able to manage their conflicts of interest. An explicit statement to that effect is given by Eichengreen and Portes: "bondholders recognized ... that the issuing house was likely to be torn apart between the interests of two sets of customers: bondholders and foreign borrowers. ... Given the potential for conflict of interest, most readjustments were therefore negotiated not by issuing houses but by independent committees" (1986, p. 621). These remarks ostensibly apply to the interwar order, but they have 19th-century roots. For instance, *The Economist* wrote in 1897 about the powerful influence of issuing houses "who find it practically impossible to do fresh business with the debtors while the default lasts, and who are therefore, naturally anxious that some sort of settlement should be arrived at, more especially as settlements of the kind ... are frequently followed by new loans."⁷

Finally, it may also be said that much of the action relevant to our argument occurred in places that cannot be easily observed (given the "radar" targets of recent economic historians). Indeed, by providing support to illiquid governments, bankers helped prevent problems from reaching the market: as a result they did not make much noise – explaining why business historians were the first to encounter the issues we deal with here. Those looking for the sound and fury of "Gunboats" were at risk of overlooking the muffled noise of market-based conditionality. Moreover, those cases that came to be heard tended to be, by construction, the most desperate ones: those in which bankers were less interested and for which the last-resort effort was left to bondholders, those which the press would comment upon abundantly. We do not say that these were unexciting or irrelevant cases, nor that the recent interest in bondholders' committees (and in how they acted) is entirely misplaced. But we do

⁷ *The Economist* (20 November 1897, p. 1624). Another explanation for the general neglect of the underwriting banks' role may be the historical context in which the recent literature originated. Research on the history of international debt was sparked by the 1980s international debt crisis. At that time, it was clear that large U.S. banks had failed to monitor the risks of their own portfolio of commercial loans. This fact cast doubt on the capacity of intermediaries to screen (let alone to signal).

argue that a good deal of filtering occurred upstream, so that a focus on bondholders suffers from selection bias.

In this paper, we will study why and how prestigious underwriters (here, Rothschilds and Barings) found themselves helping out investors. We will argue that they did it in different ways and that there was *vertical product differentiation* within prestige. Rothschilds specialized in the safest financial instruments and did a lot of monitoring and crisis lending in order to avoid default. Barings, on the other hand, engaged in riskier deals (witness the Barings crisis!). They were involved, post-default, in debt restructuring and/or credit restoration operations. In other words, they acted as a collection agency for other bankers' deals: coming to the rescue of borrowers' honor (after borrowing countries had failed), which they sought to restore in order to shine their own shield.

In summary, this perspective implies a nearly complete reversal of recent research trends. It has been argued before that bondholders delivered value by creating missing institutions of collective action to control market access -- in essence, taking a stake in the underwriting process and substituting for conflict of interest ridden bankers. We strongly disagree: Prestigious underwriters created value by handling the enforcement of delinquent debts -- in essence, exercising the kind of market access control previous researchers have traditionally associated with bondholders.

The balance of the paper is organized as follows. Section I starts with recent work on bondholders' committees and moves on to show that such discussion, interesting as it is, neglects one critical fact: that the uncertainty of securities performance (the spread between expected and actual performance) was influenced by the identity of the underwriter who originated the deals. Section II articulates predictions from relationship banking theory and finds empirical support for them: borrowers that seldom switched underwriters were perceived as less risky. We also show that the market share of prestigious banks increased during downturns. Section III takes a closer look at the role of relationship banking in dealing with payment crises. We argue that the help provided to the borrowing country was customized to maximize underwriter's prestige. A case study (involving Brazil and the House of Rothschilds) enables us to show that "international lending of last resort" took place at penalty rates, indicating that prestigious banks were not philanthropists. Section IV analyzes the historical record of the House of Barings. We explain how and why prestige was used to deal with defaulting countries whose loans had been originated by other (ordinary) banks: prestige, in its Barings variant, ensured the credibility of the underwriter's role as a collection agency. Section V provides a formal test of the comparative strength of bankers and bondholders' associations. We end with conclusions.

I. Underwriters' Prestige and Bondholders' Value: Evidence from the Mid-19th Century

A. Bondholders and Trouble

Since the Latin American debt crisis in the early 1980s, management of international default is conventionally acknowledged as a critical facet of the operation of the international financial system. It was emphasized that, absent international forms of enforcement, improvement in the outcomes of

bargaining may be possible through reliance on market institutions, such as bondholders' committees or collective action clauses (CACs) that limit obstruction by minority bondholders and foster creditor cooperation.⁸ This directed a flow of research towards understanding how earlier regimes characterized by global financial integration managed this unpleasant but inevitable feature of international lending. The result was increased and widespread interest in the London-based bondholders' committee created in 1868 and known as the Corporation of Foreign Bondholders (CFB), which was widely discussed in global think tanks and international financial institutions.⁹

Building on early work of Ronald (1935), Borchard (1951), and Wynne (1951) and on material contained in CFB Annual Reports, the recent literature was initiated by the papers of Eichengreen and Portes (1986, 1989). These authors argue that the superior organization of the British CFB compared with its U.S. counterpart (the American Foreign Bondholders Protective Council, created during the interwar to deal with the foreign debt crisis in NY) explains the superior recovery rates of British bondholders. More recently, Wright (2004) provides theoretical arguments suggesting that the CFB served to enforce collective behavior among creditors by "naming and shaming" members who defected from credit embargoes and lent to defaulters.¹⁰ Mauro, Sussman, and Yafeh (2006, pp. 128–129, 162) argue that the CFB sought to protect the interest of its members by providing them with information about the borrowing countries and by fostering coordination among creditors. Esteves (2007) studies the performance of CFB-sponsored settlements and draws favorable conclusions.

B. The trouble with bondholders

All this is fair enough; indeed, it is what the Corporation's reports tried to persuade people it was actually doing. However, it is unanimously acknowledged by the writers already cited that the empirical basis for making such inferences is fragile. The reason (as we discuss later) is that counterfactual measures of the effect of bondholders' committees are not easy to construct. In addition, theoretical insight suggests that the case for bondholders monitoring is not airtight. If there is nothing else for bondholders to rely upon, then they'd better be organized. Few would dispute that a bit of cooperation on the creditors' end can do no harm. However, our point is that the 19th-century world was not the vacuum suggested by modern discussions; rather, it was a world peopled with intermediaries (the underwriters) who took to heart the responsibility of enforcing some measure of gate-keeping (Flandreau et al. 2010).

As a result, much happened *before* any matter was put in the hands of bondholders. Just as today's IMF usually makes a last-ditch effort to shore up a failing country, intermediaries in the past were

⁸ On default and the political economy of bargaining, see Aggarwal (1989, 1996). On bondholder committees, see Eichengreen and Portes (1986, 1989) as well as the other cited works in this section. On CACs, see Eichengreen, Kletzer, and Mody (2003).

⁹ The CFB was created in November 1868 as a profit making body. Two later modifications of its statutes occurred in 1873 and 1898 when it was, respectively, transformed in a non-profit association under license from the Board of Trade and when its governance structure was modified. This paper does not focus on the detail of subsequent CFB history.

¹⁰ Wright (2004) also claims that the CFB's creation can be traced to recent violation of a creditors' embargo and argues that the CFB was effective in deterring further violations.

involved at the early stages of any crisis. In fact, intermediaries were often involved even before the crisis occurred—that is, when the security was structured and sold. And they did not walk away as the security aged. Lending certainly did not occur in an environment dominated by conflicts of interest, as usually portrayed by advocates of the importance of bondholders’ committees. Foreign lending occurred in highly hierarchical international bond markets, where huge piles of capital served to collateralize government debt. Those who owned the capital had a special role to play because this capital was the security on which foreign debt markets were based (Flandreau and Flores 2009).

To see how the system worked, consider a world in which there are two types of investors (informed and uninformed) and two types of governments (good and bad). Ordinary investors cannot tell a borrowing government’s type but informed intermediaries, the underwriting banks, can. However, intermediaries have incentives to cheat investors because their fees are thereby increased; yet investors understand that. In this context, sovereign debt may emerge as bankers are sorted into a “pyramid”: prestigious bankers have monopoly power and specialize in high-grade securities, while ordinary underwriters are competitive and deal with low-grade bonds. Flandreau and Flores (2009) show that Rothschilds was the leader during the 1820s; it surpassed all other banking houses in terms of market share, capital stock, and performance of issues. Prestige was used as collateral for successful origination and distribution of high-quality government securities. That prestigious Rothschilds securities outperformed the rest underscores the role of prestige in supporting the rise of early 19th-century government bond markets. Monopoly power by prestigious houses was the endogenous solution to a market problem, and it provided incentives for truthful revelation: a large market share ensured that misrepresentation was a suboptimal policy. For these banking houses, their foundation of sovereign debt was a barrier to entry that kept lesser houses—and conflicts of interest—at bay.¹¹

Now, a straightforward corollary from the preceding analytics is that *ex ante* monitoring should have had a counterpart in *ex post* efforts to make ends meet. A banker who is concerned about the performance of securities he has originated should not walk away from the deals when headwinds are faced. Some evidence of this resilience is reported in Flandreau and Flores (2009), where we find that the volatility of non-Rothschilds bond prices was not transmitted to Rothschilds bond prices; this indicates (and anecdotal evidence also suggests) that Rothschilds intervened to support its securities and that markets expected such interventions. Fighting contagion is one aspect of crisis management. At a broader level, we ought to see prestigious banks making sure that value is delivered and acting as

¹¹ Previous research suggests Flandreau and Flores (2009) interpretation of the 1820s applies throughout the 19th century. Rothschilds retained its leadership in London sovereign issues until World War I, with Barings (the other prestigious house) never too far behind. Moreover, Rothschilds had the lowest loan casualty rates during the major debt crises of the 1870s and 1890s (Flandreau et al. 2010). Flandreau and Flores (2010) find that a problem country switching from a prestigious to a non-prestigious underwriter experienced a 300-basis-point increase in bond spreads.

delegated troubleshooters in charge of dealing with crises and restructuring ailing countries. Evidence that this paid can be garnered by estimating the total benefits associated with investment in prestige.¹²

C. Trouble Free: Evidence

This “holy triangle” of sovereign debt management (the happy combination of countries’ performance, bondholders’ value, and underwriter’s prestige) is implied by early business historians’ accounts of leading firms. Hidy (1949, p. 477) claims that the House of Barings felt “it assumed responsibility to both buyer and seller when it publicly marketed the securities of any government or corporation. That responsibility involved not only the protection of the borrower’s credit but also the investment of the client and the reputation of the marketer [i.e., Barings].” Reflecting on this, Hall (1963, p. 71) adds: “it is not unlikely that a similar pattern of operating was evolved by the other leading houses.” Gille’s (1965) account of the operations of the House of Rothschilds during the 19th century reads like a catalog of quotes suggesting that prestigious underwriters displayed constant concern over clients and customers alike. The reputation of the intermediary rested on successful cooperation.

To what extent did prestigious banks deliver reliable outcomes throughout the 19th century? Business historians have assumed they did, but none have actually checked. In addressing the question, this paper combines information on expected and realized returns. If realized returns for a given bank tend to equal expected ones (i.e., if ex post performance resembles the promises made ex ante) then the underwriter is *reliable*. We may thus construct a scatter plot of realized returns as a function of ex ante yields. Expected returns are computed using information on issue prices and loan characteristics (and are estimated as the yield to maturity, YTM). Realized returns are measured by computing the actual performance of a security over its lifetime, which entails collecting material on the security’s history (realized rates of returns are painstakingly estimated as the internal rates of return, IRR). We have gathered the required evidence to document the performance of individual bonds whose sales were recorded during the mid-19th-century boom–bust cycle that finally collapsed in the 1870s (Jenks 1927; Landes 1958; Suzuki 1994). We look at the universe of bond issues during the period 1850–1873 and, for each bond, trace its payment record up to 1878.¹³

¹² Using the relation between fees and spreads estimated in Flandreau, Flores, Gaillard and Nieto (2010) and applying it to the population of loans issued during different sub-periods of the 19th century we find that the Rothschild “business model” vastly outperformed others. For instance Rothschilds’ total profits for the period 1845–76 were £ M 13.5 against average profits for other banks of £ M 0.7. Respective numbers for subsequent periods are £ M 12.6 (Rothschild) and £ M 0.41 (others) for 1877–1895, and £ M 4.7 (Rothschild) and £ M 0.37 (others) for 1896–1913.

¹³ The choice of a time horizon is arbitrary. An alternative is to compute the return over the entire life span of the securities. However, this is also arbitrary because the procedure would benefit bonds that were repaid before a major international shock. One advantage of picking the 1877 horizon is that it is subsequent to the series of defaults in the 1870s. A longer horizon was chosen for Russia because the country was then at war. Despite experimenting with different dates, we find that our basic conclusions do not change. We also emphasize that the criterion for sponsorship of a security is actual, formal underwriting by the said bank, not the featuring of the name of the bank as place where coupons are paid, which could occur for various reasons and did not always mean that the said bank sponsored the issue.

Previous studies (e.g., Lindert and Morton 1989) have examined the debt record and have famously suggested that ex post returns were not so bad in the past and that this implied that some form of market discipline or relevant pricing was at work. However, this paper is the first to perform an empirical test of the matter by conditioning returns on underwriters' identity. This approach (which represents an important departure from traditional portfolio choice theory emphasis on risk and returns of *individual securities*) highlights the crucial role of signaling by intermediaries.¹⁴

The outcome of our test is shown in Figure 1. We represent expected returns on the x -axis and realized returns on the y -axis. The diagonal line, which we call the *reliability line*, plots where expected and realized returns equal each other. Because the horizon we consider is not exactly comparable across securities (we use a fixed horizon even though securities were issued at varied dates) and because of some minute computational issues, discrepancies from the 45° line may be observed even for well-performing securities—but the point is that these discrepancies are small. Observations below the reliability line mean that expectations were not met: this is the “disappointment area”. Also, to make the chart legible, we have limited losses to a compounded annual 11% (the actual numbers, which can be much lower, are available from the authors). Finally, to distinguish among banks, Rothschilds deals are marked with squares and the Barings deals with lozenges; triangles mark outcomes for the House of Bischoffsheim-Goldschmidt. This latter firm was chosen because, according to a subsequent parliamentary panel, it was the villain in this boom–bust cycle.¹⁵ All other bankers' deals are marked with dots.

[[INSERT Figure 1 about Here]]

The figure strongly suggests that, for prestigious houses, expected and realized returns closely matched one another. The most impeccable record was that of the House of Rothschilds.¹⁶ Barings's record was quite clean, but they had one loan to Venezuela that turned sour. We see by contrast the disastrous record of Bischoffsheim-Goldschmidt. Moving to numbers, the correlation between ex ante and ex post returns was highest for Rothschilds (above 0.7). For the rest it was negative (about −0.5). In other words, the prestige of a “name brand” was a source of reduction in uncertainty—a valuable service for risk-averse, information-poor investors. Reflecting this was an exchange between Sir Henry James (MP) and Nathaniel de Rothschild during the hearings of the Select Committee that convened in 1875 to examine the foreign bond debacle of the 1870s. Sir Henry asked, half in jest: “But you have had experience, however, only with good loans?” Nathaniel replied: “Only in good

¹⁴ Spence (1973) is the seminal paper on the importance of signals in economics.

¹⁵ See Select Committee (1875), Jenks (1927), and Suzuki (1994).

¹⁶ This is consistent with evidence in Flandreau and Flores (2009) for the 1820s and Flandreau et al. (2010) for other periods.

loans, I am happy to say.”¹⁷ The head of the House of Bischoffsheim-Goldschmidt, understandably, did not dare to show up during the same interviews. He prudently sent instead a physician’s certificate.

The conclusion is that certain bonds did not need the intervention of bondholders in order to deliver value. The other ones were understood by the public to be dangerous because household brands were not attached to them. While they still may have been priced in an over-optimistic way (the 8% to 12% yields at issue of Bischoffsheim-Goldschmidt securities failed to compensate investors for subsequent losses) their high yields imply they were definitely not perceived to be investments for widows and little children. And since Rothschilds and Barings had a leading market share, the conclusion must be that a large part of what was sold on the market was certified by prestigious banks and was reliable stuff. Therefore, popular arguments about intermediaries’ free riding behavior deserve a harder look.

II. Relationship Banking: Theory and Evidence

The next item on our agenda is to determine whether prestigious bankers’ unusual results were achieved through making the right choices or through proper monitoring. Flandreau and Flores (2009) emphasize Rothschilds’s ability to cherry-pick. Yet even the world’s best cherry-picking cannot rule out accidents. What did prestigious bank do when inopportune events knocked on the door? We address this question in this section. For this purpose, we rely on insights from an expanding body of theoretical literature that studies the condition under which “relationship banking” emerges and replaces (or complements) the action of creditors. The main insight of this theory is that banks can serve well as delegated monitors for shareholders and creditors and, in effect, deliver value. Among variants of this intuition, economists emphasize three factors: (1) main banks have advantages in gathering information about clients through economies of scale (the cost of information gathering declines with repeated transactions); (2) there are economies of scope in that banks utilize the information obtained through provision of other services; and (3) repeated transactions across services may enable banks to address problems arising from information asymmetries and incomplete contracting.

The relevance of these arguments for the 19th-century international organization is obvious. Theoreticians have often stressed the importance of incomplete contracting in sovereign debt.¹⁸ In 19th-century bond markets, relationship banking emerged to address asymmetries of information and the attendant limitations in contracting. But repeated interaction also meant that prestigious banks ended up knowing more about “their” countries. Another aspect of this mechanism was the existence of economies of scope, since experience with some countries enhanced the monitor’s ability to make comparisons and inferences across customers. Still another positive externality arose from prestigious banks’ incentives to punish one country in order to protect their present and future ability to certify

¹⁷ Select Committee (1875, p. 270).

¹⁸ See Bulow and Rogoff (1989) for a classic statement that emphasizes how lenders’ competition leads to the breakdown of sovereign debt.

other countries.¹⁹ Finally, the relationship banking theory suggests that the main bank does not act solely through signaling but also through control. The main bank has a capacity to deliver value by enforcing proper policies and creating incentives for organizational reform when needed.²⁰ In the language of public finance, the equivalent of firm reorganization is fiscal restructuring. Thus our metaphor implies that, during the 19th century, the main banks had decisive influence on macroeconomic policies. Of course, this is fully consistent with earlier popular and more academic historical accounts of the House of Rothschilds, each of which provides abundant anecdotal evidence of the advisory role this prestigious bank played for governments (Reeves 1887; Gille 1965, 1967; Bouvier 1992).

A. Spreads and Turnover

One way to get straight at the heart of the relationship banking analogy is to explore the link between borrowing countries' spreads and their turnover with underwriters. We can think of it as a relation between the strength of the banker–country bond and the country's market-perceived risk. We expect that countries that switched bankers less often were perceived as less risky. This prediction arises because countries that switched rarely remained attached to good bankers (a country being faithful to a bad banker is by definition unlikely to occur, which the data confirm) and because good bankers (to maintain their reputation as good) helped these countries bridge over financial trouble to the extent that countries were illiquid rather than insolvent. Such countries were therefore perceived by investors as being less risky. As a first approximation, then, we expect a positive relation between turnover (a measure of stability in banking relations) and average yield spreads at issue (a measure of sovereign risk as it is priced on the date of issue).²¹

The data used for this exercise covers 1877–1913. There are two reasons for this choice. First, this fairly extended time period provides enough market access events for individual countries to enable us to compute meaningful estimates. Second, examining a period later than the mid-19th century (used in Section I) is useful for confirming that our model has broad validity throughout the entire 19th century.²² We define *turnover* as the probability that two subsequent loans to the same country are issued by different underwriters; we compute it as the sum of underwriter switches divided by the number of issues. In percentages, the value ranges between 0% (no change) and 100% (systematic

¹⁹ This shows that the conventional perspective on the House of Rothschilds—according to which its ascendancy proceeded from superior informational capacities (the apocryphal pigeons story)—may actually be reversed: information arose because Rothschilds was able to certify, not the other way around. Proponents of the view that information was exogenous to Rothschilds's prestige include Gille (1965, 1967) and, more recently, Liedtke (2008).

²⁰ Hoshi, Kashyap, and Sharfstein (1990), Sharpe (1990), Gertner and Scharfstein (1991), Petersen and Rajan (1994), Boot (2000), Boot and Thakor (2000), Lehmann and Neuberger (2001). Rajan (1992) addresses the capture problem. See Flandreau (2003a) for a discussion of relationship banking in 19th-century international financial architecture.

²¹ Cairncross (1953) makes a similar claim in explaining why Argentina's yields were higher than Brazil's. Note that a finer implication of our analysis is that countries with a better track record are more able to switch underwriters. In other words, a greater ability to self-certify (as obtains in stable environments) should increase turnover. We neglect this property in this study.

²² Sources for this data set are described in Flandreau et al. (2010).

change).²³ We excluded from the data set all countries for which fewer than three loans were made, as in such cases the volatility in the estimation of turnover is spurious. Figure 2 shows a significant and large positive relation. Countries faithful to their banker had lower interest rates, *ceteris paribus*. Other countries were like hot potatoes that ordinary bankers passed to one another—and to the public, who understood the risks involved.²⁴ The empirical evidence fits the notion that privileged banking relations were closely associated with expected cooperation with bondholders.²⁵

[[INSERT Figure 2 about Here]]

B. Role of Prestige in Debt Cycles

Another way to consider the effects of relationship banking is by looking at boom–bust cycles. As already stated, relationship banking is expected to provide resources to deal with payment crises. An implication of our view is that prestigious banks’ support becomes particularly valuable during downturns, when the market for foreign debt dries up, a situation modern macroeconomists describe as “sudden stops.”

We therefore make the following prediction: the market share of prestigious houses varies between boom and bust. During booms, risk aversion declines, and investors are more eager to play with new and possibly dangerous instruments. Hence new underwriters have an easier time, new debts are successfully issued, and the ability of serious houses to resist the push is more limited. To the extent that the market share of prestige is determined by the prestigious underwriter’s ability to address asymmetries of information, any perceived reduction in such asymmetries heralds an erosion of prestige. During the crisis, however, old lessons are relearned as bad borrowers default. Investors suddenly become leery of risking further capital in the foreign debt market; at the same time, liquidations create havoc in governments’ ability to borrow (those who were caught short of funds faced serious problems). Prestige is back, and good countries in trouble can still access the market through the help of their elite bank (relationship banking argument).

To test whether this hypothesized connection is supported by the data, we have identified, within our data set of sovereign debt issues during the period 1820–1900, the amount of Rothschilds and non-Rothschilds issues on a year-by-year basis and then aggregated the numbers, distinguishing between boom and bust eras.²⁶ Previous authors have identified three such cycles in the 19th century: the early 1820s boom, which petered out in late 1825 and early 1826 (Jenks 1927; Flandreau and Flores 2009); the long boom of the years 1850–1870, which imploded in stages between 1871 and 1876 (Jenks

²³ When there are multiple underwriters, if any of the underwriters from the past issue is among the underwriters for the current issue then we do not count this as a switch.

²⁴ For a paper making related claims in a different context, see Krigman, Shaw, and Womack (2001).

²⁵ This finding may go some way toward explaining the puzzle in Tomz and Wright (2007), who find that the historical link between defaults and “bad times” is weaker than what most modern theories predict. The reason is that default has more to do with the banking relationship than with the economic environment.

²⁶ Since there are years without loan issues, adding up numbers over eras makes results more consistent.

1927; Suzuki 1994); and finally the protracted expansion that begun in the late 1870s, stalled in 1889, and then reversed with the Argentine default and “Barings crisis” of 1890 (Ford 1962).²⁷

The results are shown in Figure 3, which delivers a straightforward message: Rothschilds’s market share was typically smaller during periods of expansion in sovereign debt issues and then recuperated after the collapse. Matching this evidence, we note that it was actually common among prestigious banks to be particularly vocal during busts in emphasizing that investors who had bought through lesser houses (in effect, their lower rank competitors) deserved to be punished – the modern word would be “bailed in”.²⁸ Beyond the Victorian moral overtones, the prestigious bankers were stating a fact they knew quite well. Prestige was counter-cyclical and this was an outcome of a game ruled by relationship banking.

[[INSERT Figure 3 about Here]]

C. The Theory: Tit-for-Tat

The theory of international lending in the 19th century is therefore enriched once we recognize that there was more to the play between borrowers and capital markets than a confrontation between rational borrowing governments and atomistic bondholders seeking safety in collective action institutions. In this section, we discuss theoretical foundations for conditionality lending by special, prestigious banks, and use a case study to illustrate the principles we articulate. The evidence surveyed earlier points to a natural mechanism whereby these special banks were in a position to enforce adjustments as a *quid pro quo* for the funds they provided to countries: I shall provide you with funds, but your will undertake actions that maximize the likelihood of sustained debt service and *in fine* protect my own reputation. Conditionality lending, we argue, is thus an investment in the bank’s own brand.

The mechanism through which adjustments could be credibly enforced rested on the costs a country—if unwilling to undertake prescribed policy actions in return for funding—would suffer from the banker’s retaliation.²⁹ Prestigious houses valued their brand and asked for adjustments that they claimed were necessary to protect the country’s credit. But the real target and concern was the bank’s own credit. Countries were thus asked to undertake some costly action. If they refused to cooperate, the banker would refuse to provide them with market access. Indeed, it was not unusual for a prestigious banker to make it known that it had refused lending to a certain country.³⁰ When this happened, the country could then turn to a lower-rank underwriter. But the lower-rank underwriter was

²⁷ The data in Stone (1999) does support the notion of a sudden stop in capital exports in 1889/1890.

²⁸ In 1828, (i.e. after the 1825-26 market reversal), Alexander Baring had publicly emphasized that bondholders were consenting adults who should pay for their “gambling losses” (Quoted in Dawson 1990, p. 193). Similarly, the exchange already mentioned with Nathaniel de Rothschild during the hearings of the 1875 *Select Committee* had the banker declaring about the hypothetical Khan of Khiva loan that “anybody who subscribed to that loan must know that he is subscribing to a loan which is utterly worthless” (Select Committee, p. 268).

²⁹ This is discussed more formally in Appendix A where we provide a marginal condition for cooperation

³⁰ . Prestigious bankers were often accused of “talking down”(that is, publicly denigrating) the stocks they had refused to underwrite (Landes 1958).

not as prestigious and so its terms were more onerous (switching was itself viewed as indicating a possible problem – why *did not* Rothschild underwrite this country?).³¹

The required adjustment was fully credible in the hands of prestigious banking houses. Indeed, the bulk of their revenues stemmed from owning a large market share in successful loans, not from the fees garnered on individual issues.³² There was thus no trade-off between fees and reputation (unlike what previous authors have implied), since the failure of any loan would reverberate across the board and so impair the bank's ability to make other issues of good loans. Therefore, the greater the bank's concern over its brand, the stricter were the required policy actions. Our analysis also suggests that prestigious underwriters would not hesitate to enforce a long embargo against deviating countries, and there is evidence that this was the case.³³ Quite naturally, a prestigious bank would be unwilling to lend to such countries until investors were properly compensated, since only full compensation ensured restoration of the banker's prestige. As we shall see, bankers made sure that bondholders received bonuses when they were exposed to undue excitement: sound banking had to be dull.

Thus prestigious houses were unwilling to undercut the terms of a credit embargo, because they were the ones to impose it in the first place. The reason again is that there was no point in preventing investors from being duly compensated by unduly supporting the credit of an undeserving country—a bank that did so would disqualify itself as prestigious. Thus, if there was an externality then it was a positive one that arose through a kind of “competition of virtue”. The outcome squarely opposes the conventional emphasis on free-riding.

In summary, for prestigious bankers, implementing punishment meant future rents (the fees from future good loans) rather than forgone revenues (the fees from the bad loans they decided not to issue). In the language of theory, the game under consideration is one where prestigious intermediaries lend support depending on whether the country's behavior is proper (i.e., cooperative). Our theory of conditionality lending belongs to the “tit-for-tat” or “equivalent retaliation” family of games in which players can sustain a given equilibrium by inflicting adequate penalties when another player deviates (the usual reference in this literature is Axelrod 1984). Our theory also sheds light on remarks by earlier analysts that problem countries did generally reenter the market after a while, an alleged proof

³¹ For a measurement of switching costs, see Flandreau and Flores (2010). For evidence of theoreticians acknowledging the somewhat obvious importance of excluding banks from borrowing see Kletzer and Wright (2000). The ability to inflict this kind of punishment always hinges on the capacity of lenders to act like a cartel: for historical illustrations and discussion of this idea – again, in a bilateral framework -- see Conklin (1998) and Drelichman and Voth (2008). The contribution of our alternative theory is that monopoly power emerges naturally out of the need for certification.

³² For historical data on market shares see Flandreau and Flores (2009) and Flandreau et al. (2010).

³³ There is indeed anecdotal evidence of such embargoes. Examples include Rothschild's experience in the 1860s with Italy and Austria, both of which sought to impose a capital levy on debts marketed by the House of Rothschild. Since the bonds were initially tax-free, this amounted to a breach of faith or partial default. After working to minimize the losses for their investors (e.g., holders of Rothschild-underwritten Austrian bonds were given a reasonably favorable conversion rate into the new, taxable securities), Rothschild walked away from both countries (Gille 1967).

that “markets lacked memory”.³⁴ However, our prestigious bankers punishment argument implies that the really important issues are a) did the delinquent country had made amends before the next market access event? (for this to happen with the same banker the answer must be yes), b) did it access the market with the same banker? (if the answer to previous is no then access was with a “lower” banker) and finally c) at what price?

III. Conditionality Lending and Liquidity Crises: Case Study

A case study will now help us explore the consequences of the previous argument. Through their ability to punish countries, prestigious houses acquired leverage over macroeconomic governance. In order to show this, we must find an instance where some shock moved a bank–borrower relation off equilibrium so that we can observe the resulting adjustment. The very nature of this relation is such that observable shocks are rare events (otherwise, the bank would not be prestigious) making the 1898 Brazilian “Funding Loan” a precious case study. At that time, expansion of the money supply fueled exchange depreciation that morphed into a fiscal crisis—through the mismatch that developed between Brazil’s debts, denominated in sterling, and its own depreciating currency.³⁵ In 1898, the situation came to the breaking point: had interest service been paid in sterling, it would have absorbed 62% of total government revenues,³⁶ and in May 1898, markets anxiously expected a debt moratorium.³⁷

What made the episode special was that Brazil was a Rothschilds country. Table 1 documents the underwriting record of Brazilian government loans between the mid-19th century and the Funding Loan of 1898. Rothschilds controlled 100% of the franchise. Some observers were quick to point out Brazil’s problems were a test of Rothschilds’s touch, remarking that investing classes “should think for themselves, and not follow blindly whoever chooses to lead them, whether Rothschilds or Barings, Barnatos or Hooleys” (the latter two were famous swindlers of the time).³⁸ Some recent analysts have further suggested that Rothschilds faced a conflict of interest that would have led them to be too lenient with Brazil explaining why they “bailed out” Brazil.³⁹ In contrast, our argument implies that if Rothschilds did not handle Brazil’s crisis properly (meaning not a bailout but a proper restructuring

³⁴ However, Flandreau and Zumer (2004) find evidence in secondary market prices that 19th century markets did have a memory. The theoretical argument here may be thought of as a rationalization of this result.

³⁵ The origins of this episode are in the early 1890s, when Brazil, following the so-called *Encilhamento*, engaged in expansionary monetary and banking policies, see Topik (1987), Triner (2000), Abreu (2006). On the mismatch problem during the 1890s, see Flandreau (2003a) and Flandreau and Zumer (2004). The dangers of such a mismatch were rediscovered during the Asian and Russian crises of the late 1990s.

³⁶ See Flandreau and Zumer (2004) for an estimate of this counterfactual interest service. Assessment by the international banking community put Brazil in the group of countries whose finances were shaky (see Flandreau 2003b).

³⁷ “Brazilian Finance,” *Investors Monthly Manual* (31 May 1898, p. 225).

³⁸ *Investors Monthly Manual* (31 May 1898, p. 226). Barney Barnato, the South African “Diamond King”, committed suicide in June 1897 by jumping overboard from a vessel on its way from Cape Town. Hooley, known as the “Napoleon of Finance”, was a promoter of companies who went bankrupt in 1898 amid revelations of deceptive accounting practices. Of course, since the *Investors Monthly Manual* was itself printing macroeconomic information and making commentaries, its judgment was not disinterested.

³⁹ We understand that this argument is also made in an unpublished dissertation by Leonardo Weller, but we have not seen this work. See Weller (2009).

that would be “fair” to investors) then the bank’s ability to underwrite other countries in the future would be damaged.

[[INSERT Table 1 about Here]]

Brazil’s default was averted through a Rothschilds-sponsored debt restructuring known as the Funding Loan. It was announced on 20 June 1898 when Rothschilds asked *The Times* to publish the correspondence of Brazil’s president-elect Campos Salles, which emphasized the Brazilian government’s commitment to fiscal stabilization.⁴⁰ When the terms of the agreement were made public,⁴¹ investors learned that the Funding Loan had two sides, one macroeconomic and one financial. The macroeconomic side was summarized in the “Funding Scheme”,⁴² which recognized that the source of the crisis was the combination of monetary (low exchange rate, caused by excess money supply) and fiscal problems (inability to service debt). Thus, funding securities were created to pay for the debt service and their floating was conditional upon monetary entrenchment: Brazil, under the supervision of trustee banks, was instructed to burn paper notes in counterpart (*pari passu* was the chosen wording) to the funds received.⁴³

Brazilian historiography is uniformly critical of the dislocating effect that Rothschilds’s “monetarist” stabilization program.⁴⁴ This result is consistent with our view that the primary target of the funding scheme was Rothschilds’s own reputation. The conclusion becomes even more patent when we examine costing. Recall how Figure 1 showed that the Rothschilds prestige depended on predictability of returns. The collapse in Brazilian bond prices that occurred before implementation of the Funding Loan entailed the risk of denting Rothschilds’s reputation for reliability. One way to restore credibility, therefore, was to increase ex post returns *beyond* initial promises (i.e., above the 45° “reliability” line in Figure 1). In other words, it was not enough that investors would eventually receive the full value of their expected return. Since they had been harmed by volatility and would

⁴⁰ Campos Salles was then visiting London and was “in constant communication with his government on the subject” (*The Times*, 20 June 1898). Abreu (2000) suggests that Brazilian authorities did not know Rothschilds intended to publicize their correspondence.

⁴¹ *The Economist* (30 June 1898).

⁴² It was appended to the underwriting contract. Both the contract and the signed “United States of Brazil Funding Scheme” are in the Rothschilds Archive in London.

⁴³ “The paper money equivalent to the Bonds issued from the 1st of July to the 31st of December 1898, will be deposited [in Trust with the London and River Plate Bank, Limited, the London and Brazilian Bank, Limited, and the Brazilianische Bank für Deutschland]. The paper money deposited will either be withdrawn from circulation and destroyed, or if the Exchange is favourable, will be applied in the purchase of Bills on London [sterling exchange] in favour of Messrs. N. M. Rothschild & Sons, to be placed to the credit of a Fund towards the future payment in Gold of the interest on the Loans etc.” United States of Brazil Funding Scheme, p. 2, Rothschilds Archive, 000/401 F. The monetarist rationale of the scheme is obvious: reducing the money supply would boost the exchange rate and decrease the burden of interest service, enabling authorities to resume normal payment of external obligations. And this is indeed what happened: monetary contraction was followed by exchange-rate stabilization.

⁴⁴ Barroso (1936, pp. 66–67) speaks of “humiliation” and the adverse effects on the economy due to retiring *papel moeda da circulação*. Fritsch (1988) states that the deflationary monetary policy had negative effects on Brazil’s economy and contributed to the banking crisis of 1900. Topik (1987, p. 38) quotes a contemporary Rio newspaper to the effect that Brazil’s economic policy after the Funding Loan led to three years of complete stagnation and the unquestionable decline of industrial policy.

blame Rothschilds for this, investors were owed some compensation: Brazilian securities now had to outperform initial expectations in order to ensure that Rothschilds' seal of approval would not be tarnished.

The Funding Loan effected this compensation by distributing new securities to the holders of former ones. In exchange for forbearance, holders of Brazilian debt received the securities at bargain prices. Because the Funding Loan did not have an "issue price" and instead was distributed in exchange for coupons that investors turned in, there is no well-defined yield at issue that can be compared to other securities issues. However, we can estimate the "gift" for investors by looking at the short-term performance (aka "Initial Public Offering discount") of the Funding portfolio.⁴⁵ A comparison of the Funding portfolio's price in June 1898 (date of issue) with that of the same portfolio when we get the first available quote of the Funding Loan (on 3 September 1898) can be taken as a measure of benefit for holders of earlier Brazilian ("Rothschilds") securities.⁴⁶ This metric (known in modern finance as the "run-up") gives *a mammoth price increase of 37%*.⁴⁷ In contrast, modern and historical run-ups are typically a few percentage points at most.⁴⁸

Another (perhaps even more appropriate) way to address the matter is by computing the ex post performance of securities that were subjected to the Funding arrangement. We do this in Appendix B. We find that securities such as Brazil's 1895 5% sterling bonds had an *ex post* rate of return (internal rate of return) of about 8%, substantially more than the yield at issue (5.9%). This 210-basis-point excess return over investors' expectations (8% – 5.9%) can be taken as a measure of the reward for trusting Rothschilds in more difficult times: they were intended to signaling to the public that Rothschilds were unlike Barnatos.⁴⁹ The specific pricing of the Funding loan underscores Rothschild's main concern: not Brazil's welfare but Rothschilds's ability to certify other borrowers in the future. And this is why punishing Brazil (not bailing it out!) was the prestigious bankers' chosen strategy.

⁴⁵ By comparing the funding of securities being distributed with the holding of Brazilian debt, we can compute the short-term performance of the Funding portfolio consisting of both old debts and new Funding securities (see Appendix B for the details).

⁴⁶ Investigation of the Rothschilds Archive shows that the bank was long on Brazilian bonds and thus shared in some of the gains from the large run-up.

⁴⁷ Modern finance literature recognizes that issuers and underwriters of corporate securities now deliberately underprice their issues (see, e.g., Logue 1973; Ibbotson 1975; Miller and Reilly 1987; Carter and Manaster 1990).

⁴⁸ See the works cited in note 43 as well as the historical numbers reported in Flandreau and Flores (2009).

⁴⁹ A useful comparison suggested by one referee is with the performance from other non-Rothschilds related arrangements during the 1890s. We consider Argentina, Portugal and Greece. Greece and Portugal did not benefit from the intervention of prestigious bankers. By contrast, the CFB was involved. The results are telling: after a long period when coupons were not serviced, bondholders had to accept massive haircuts (Wynne 1951). In Argentina, there was involvement of prestige. First, an attempted settlement was sponsored by Rothschild, at Bank of England's request but fell through. After three years, a reconstructed Barings firm sponsored the final settlement, which protected the capital and limited the losses to previously non-serviced coupons. In the end, although precise computations would have to be made, Argentina's settlement was better than Greece's or Portugal's, yet not on the same footing as Brazil's 8% return. This shows that Rothschilds deals out-performed, Barings came second and the rest followed. In light of these results we are unsure about the popular notion that the CFB had to be reorganized in 1898 to address investment banks' conflicts of interests.

The remaining question therefore is why did Brazilians comply? The obvious answer is that Rothschilds was in a position to make a take-it-or-leave-it offer. It priced the Funding Scheme in a way that reflected Brazil's outside option (default would have led to Brazil's banishment from Rothschilds-sponsored market access until efforts would eventually be made). Given that Brazil was on the verge of bankruptcy and that bankruptcy would have forced it to pay much more for loans in the future, terms could not be good. The resulting financial "triumph" (for Rothschilds) reflected Rothschild's control of its own certification.

Finally, our theoretical characterization may be used as a way to provide underpinnings to later accusations of "financial imperialism" on behalf of the underwriting banks in lending centers (Hobson 1902). Indeed, conditionality lending prospers on the fertile grounds of severe information asymmetries that tend to expand during crises. Theoreticians have considered situations where informational symmetries permit lenders to exploit borrowers. This is known as the "hold-up" problem (Sharpe 1990; Rajan 1992) and it arises when the delegated monitor is able to capture the firm. A full investigation of the problem is beyond the scope of this paper, but the phenomenon is consistent with much of the language used in the past to discuss late 19th century's finance.

IV. Solvency Crises: Barings in the Market for Distressed Debt

In *Hamlet*, the Ghost is a critical character because his demand for revenge impels the drama's action. In our financial drama, the bondholders' concern for getting their money back plays a similar role. But it takes a prestigious bank to acknowledge some liability and become involved. It is no surprise, therefore, that prestigious houses became involved in dealing with distressed debt.⁵⁰

The discussion of the involvement of prestigious banks in debt collection leads us to focus now on Barings, which was "number two" in London's foreign government debt market. The available historical evidence provides two "ideal" types of settings in which Barings dealt with countries' debt problems. First, there were situations where Barings dealt with countries with which they had been associated – a situation similar to the Funding loan discussed earlier. Second, and more importantly, were instances where Barings involved itself with securities that it had neither originated nor distributed. Therefore, getting into the market for a defaulted bond not its own cannot be rationalized solely in terms of liability management.

Real world situations were never as clear-cut however and exhibited all shades of grey. On the darker grey end, we find a 1822 episode when Barings agreed to distribute securities of the province of Buenos Aires, but emphasized to investors that it was not underwriting and thus not recommending

⁵⁰ There is much anecdotal evidence of both borrowers and bondholders realizing that the involvement of prestigious bank houses could create value. For instance, Salvucci quotes an official in defaulted Mexico declaring, in 1829, that "We should avail ourselves of the prestige that Rothschild's name brings to reconcile ourselves with European creditors and to strengthen our own credit." Salvucci (2009, p. 109). And as reported by Jenks, CFB architect Isidor Gerstenberg offered Baron Lionel Rothschild's chairmanship of the Corporation's first meeting in 1868. Jenks (1927, p. 288) relies on a paper by de Laveleye in *Moniteur des Intérêts Matériels* (15 November 1868).

their purchase (Ziegler 1988). The ensuing attempts to deal with the trouble may be related to the partial liability such a move entailed. A similar issue is the liability of Barings in Argentina's default of 1890. The securities, although again not underwritten by Barings, had again been distributed in London through Barings offices, with the usual caveats. But there again Barings were eventually involved in the arrangement.⁵¹ On the whiter grey end, providing clearer instances when Barings were involved in securities with which they had much more limited relations, we find Barings involvement in managing US states debt default crisis of the 1842⁵² or their role as trouble-shooters in several Latin American countries. In all these cases, they were really dealing with other bankers' debts.

We argue here that the rationale and motivations for a prestigious bank entering the market for other banks' defaulted bonds were not unlike those for creating the junk bond market in the 1970s. Defaulted debt tends to have a high yield and will provide handsome returns—provided the issues eventually perform. Now suppose that some bank owns prestige: The bank will then be able, at the margin, to create incentives for renegotiating other intermediaries' countries' defaulted debt. This is because the prestigious bank is in a stronger position than are ordinary bankers to provide enforcement services. The incentives are not perfect (this is no longer the Rothschilds world) and there may be many failures along the way; however, for a sufficient number of these debts, the ex post return must match the ex ante (very high) yield and so, on average, a portfolio consisting of Barings securities will be attractive although more volatile. This, we argue, is one reason that explains why Barings stepped in the market for distressed debt.

Secondary accounts of the history of the House of Barings are replete with evidence of such involvement in other bankers' nonperforming securities. Useful material on the role of Barings in sorting out the U.S. states' debt crises during the 1840s can be found in McGrane (1935) and Hidy (1949).⁵³ Evidence on the role of Barings in dealing with defaulted debts in Latin America throughout the 19th century is given by Marichal (1989), Dawson (1990), Costeloe (2003), and Salvucci (2009).⁵⁴ Sexton (2005) surveys the role of Barings in both Americas and also outlines the stylized fact that Barings were heavily involved in troubleshooting.

⁵¹ For more on the Continental syndicates, see Flores (2004); for more on the Arreglo Romero arrangement of 1893, see Marichal (1989).

⁵² E.g. see Hidy (1949, p. 313) who suggests that Barings was not at all exposed, whereas McGrane (1935, pp. 49, 73) implies that Barings had unloaded some American stocks on their clients and would therefore have borne some liability. It is unlikely that Barings's exposure was high, given that the bank does not appear in the 1838 *Fortune's Epitome* as an agent for cashing the coupon of any American state except Louisiana. Tamaki (1974, pp. 64, 66) argues that American securities were not traded in the London stock exchange but only over the counter in pools managed by merchant bankers who also distributed relevant information on bond prices. At one time Barings published a circular that, in the mid-1830s, recorded not only commodity prices and some securities (e.g., stock of the Second Bank of the United States) but also the loans of "New York, Pennsylvania, Ohio and Alabama". Whatever liability such publication may have created, it was obviously of a lesser sort than the liability created by underwriting and distribution.

⁵³ Because U.S. states are subsovereign entities, they are excluded from Flandreau et al. (2010).

⁵⁴ Our firsthand knowledge of the Barings Archive in London indicates that these accounts probably cover most of the relevant material.

To provide insights on the economics of Barings' role we organized a case study of Barings in the U.S. states' debt crises in the 1840s by combining information on US States defaults from English (1996) and Kim and Wallis (2005). From English (1996) we classified borrowing U.S. states as nondefaulters, temporary defaulters, partial repudiators, or total repudiators. From Kim and Wallis (2005) and CFB reports we collected additional information on duration of default and other relevant details. We then turned to *Fortune's Epitome* (editions of 1838 and 1856) to collect information on the "window" that different US states used to service their debt before and after the crisis. Finally, we used material from McGrane (1935) and Hidy (1949) to construct—based on the language used in these sources—a qualitative indicator of the effort Barings made to persuade defaulting states to resume their interest payments. For instance, Barings reportedly made "considerable" efforts (some public, some undercover) in Pennsylvania, but they gave "never more than half hearted support to any move" toward restoration of good faith in Mississippi.⁵⁵

[[INSERT Table 2 about Here]]

Table 2 shows that Barings's efforts were more pronounced in states that ended up paying back. Barings was heavily involved in three (Illinois, Maryland and Pennsylvania) of the four states for which there was only a temporary lapse in the coupon payment.⁵⁶ This involvement included press campaigns, articles for hire, subsidized lobbying efforts in legislatures, and so forth. Of the states characterized by partial or complete repudiation, Barings became seriously involved with only one (Louisiana) and eventually managed to restore that state's credit. For the rest of the delinquent states, Barings essentially stood by.⁵⁷

Another take from Table 2 is that it is consistent with our argument about reputational spillover: when it tried to coerce defaulters into paying back, Barings was actually most interested in future business. To show this we have also reported in Table 2 evidence on who was the "window" for servicing US states debts in London during the period after the debt crisis. This, we reckon, can be thought of as an indicator of "market share". As we see, by 1856, Barings had become the window for many more states after the crisis than before. Moreover, troubleshooting may be seen as prelude to further business: Later on, it would underwrite Virginia and Massachusetts.⁵⁸

Latin America is another place where the intervention of Barings can be observed. During the 1820s, for instance, Alexander Baring was asked twice (in 1826 and 1829) by the Mexican

⁵⁵ Hidy (1949, p. 336).

⁵⁶ The non-Baring state in this group (Illinois) was handled on a U.S.-only basis with the involvement of a New York business group, which suggests that the holdings of Illinois bonds in Europe were never large.

⁵⁷ In some cases, efforts were made by the underwriters but the results were uniformly discouraging.

⁵⁸ See Hidy (1949, p. 311) for a similar inference: "Although the name of Baring Brothers and Company had never been publicly associated with the loans from Illinois, Indiana, Mississippi, or Pennsylvania, any improvement in the credit of those states would redound indirectly to the good name of those with which the House of Baring did have intimate connections. The reputation of Louisiana, South Carolina, Maryland, and Massachusetts, and of the Merchants Exchange, with which the name of Baring Brothers & Cy had been publicly connected, would be expected to improve as a result of the investors associating them with those States of rejuvenated credit."

government to pay the coupon on bonds that had been previously underwritten by an ordinary house gone bust. He accepted the first time but declined agency the second time because his conditions had not been met. The language used is consistent with conditionality lending: “I cannot consent”, Baring said, “to risk my name when I see no positive indication of the actual fulfillment of the promises and pledges which would be given through my intervention as agent of the government.”⁵⁹ Barings played a prominent role again in 1862, and in 1864 it resumed its role as Mexican agent in London.⁶⁰ Barings also acted in Venezuela, proposing an arrangement for the second Venezuelan default of 1847, and in Chile, where in 1840 it intervened in the arrangement of Chile’s default on an 1826 loan.⁶¹ Similarly, while the view that Barings was “Argentina’s banker” has been proven wrong (many other bankers originated Argentine government debt) it is fair to say that Barings was Argentina’s trouble-shooter, since it was involved in fixing more than once the country’s finances. And this involved dealing with securities it had no relation to.⁶² We thus conclude that Barings’ brand, aside Rothschilds, served the differentiated purpose of a) finding values where there were more risks involved and b) certifying more dangerous countries.⁶³

A question still pending is the co-existence of two different uses of prestige, Barings’s and Rothschilds’s. Although additional research is needed to provide a full explanation, we can advance some tentative hypotheses. As we have seen, the Rothschilds imprimatur was about reliability of *individual* bonds’ returns. Investors could reasonably expect to know how much they would receive. In contrast, Barings’s commitment is best understood as guaranteeing the performance of the *portfolio* of securities with which they were involved. Some deals could fall through but on average the portfolio would be successful.

Could each bank compete in each other’s domain? On the one hand, Barings had a possibility to compete against Rothschilds for the best deals and there is evidence of this. Stronger countries with a good track record such as Russia (i.e. countries for which information symmetries were limited) would have the opportunity to approach Barings if turned down by Rothschilds. While terms might be marginally less attractive, they would remain decent and thus provided a limit on Rothschild’s capacity to capture borrowers.⁶⁴ However, as soon as there were questions about a country’s

⁵⁹ Alexander Baring, June 1829, quoted in Costeloe (2003, p. 164). In February 1825, speaking before the House of Commons, Baring warned of the danger that the Latin American debt mania of the early 1820s was interfering with “legitimate loan-making” (Hidy 1949, p. 67). Baring emphasized that bondholders were consenting adults who should not expect governments to insure their “gambling losses”. He saw wisdom and benefit in a market crash that would restore judgment; see Dawson (1990, p. 193).

⁶⁰ “Baring Accepts to Represent Bondholders,” ING Barings Archive, 204326. See also Costeloe (2003, p. 85).

⁶¹ Dawson (1990, pp. 199, 207).

⁶² Ferns (1952, p. 242).

⁶³ This “market specialization” is not foreign to the shock the Barings received from a spillover of the Argentine default of 1890, causing the bank to go bust. And we conjecture that it is one reason why the Bank of England did reconstruct Baring (after the private bank paid a heavy price, explaining why we use the word reconstruct rather than bail out). In our narrative’s logic, Barings served a valuable purpose in the City and had to be kept in operation.

⁶⁴ . See Flandreau and Flores (2010) for empirical evidence on switching costs from Rothschilds depending on whether the switch was to Barings or a less prestigious underwriter.

record then Rothschild's imprimatur had tremendous value and helped them protect their market. On the other hand, could Rothschilds undertake riskier deals? Again this was difficult, because in case of problems, investors would have invariably been led to wonder ex post whether the deal failed because Rothschilds was imitating Barings (so that they should look at the entire portfolio, not at this specific deal), or because Rothschilds made some miscalculation (so that their brand would be tarnished).⁶⁵ In the end, therefore, we think that patterns of specialization persisted with Rothschild's brand having a higher capacity to address asymmetries of information – requiring in turn a more marvellous use of their seal of approval.

In conclusion, one useful way to think of the product differentiation between Barings and Rothschilds is in terms of the familiar opposition between solvency and liquidity. As the previous discussion has shown, the types of crisis management that the two leading banks got involved into corresponded respectively to liquidity (Rothschilds) or solvency (Barings) problems. Because such problems are distinct and they called for distinct solutions.⁶⁶

V. Closing the Loop: Bondholders versus Bond Sellers

Having established the relevance of bondsellers as “gatekeepers” of the international financial system, we conclude this article by comparing in a systematic fashion the effect of bankers and bondholders' committees. Earlier assessments have sought to relate the creation of certain structures (e.g., the Corporation of Foreign Bondholders) on recovery rates. They have typically compared pre-CFB experience with CFB experience. The period before 1868 is characterized by fairly long time intervals before countries accepted settlements. Marichal (1989, p. 60) reports on the length of debt renegotiation periods for Latin American countries after their defaults in the 1820s, finding that they “generally lasted between fifteen and thirty years.” Suter (1992, p. 91) consults a variety of sources in examining the default record of a number of loans issued between 1821 and 1875.⁶⁷ The average lengths of default are 14 years for the period 1821–1870, 6.3 years for 1871–1925, and 10.1 years for 1926–1975 (the gross average default length for 1821–1975 was 9.2). Some authors have seen these and similarly derived numbers as evidencing a positive effect of the CFB's creation in 1868.⁶⁸

⁶⁵ On the other hand, Barings did compete against Rothschilds in some fine deals and was obviously used by sound borrowers as a bargaining chip when they sought to lower Rothschilds terms. A good illustration of this is Russia.

⁶⁶ Another factor explaining this is the natural persistence which characterizes prestige. During the 1820s Rothschilds had deliberately taken a lead in the market for precise predictions while Barings refrained from a market they found “too dangerous”. When Rothschilds turned out to be right, Barings probably had no other alternative than to specialize in riskier instruments if it wanted to claw back its way into the market for foreign government debt. The natural tendency of reputation to persist as its owner seeks to protect accruing rents may have sealed Barings's fate. This shadow has extended until today. We were struck by a remark from an old hand in the trade who was in charge of granting archive research authorization for Hambros, a merchant bank. As we traded jokes about various banks, he exclaimed as if he spoke the obvious: “Oh, but Barings were always more sanguine!” (Representative of Hambro archive, Interview with the authors).

⁶⁷ His computations are based on Suter (1992), who gives as sources *The Economist* and the publications of bondholders' associations in England, France, and Belgium.

⁶⁸ A recent study along these lines is Esteves (2007).

Likewise, we may compare the duration of default when prestigious banks were and were not involved. For instance, a simple back-of-the-envelope calculation of the average time elapsed before an agreement was reached with bondholders for a debt restructuring after the 1820s defaults gives an average of 16 years for Barings protégés against 30 years for other Latin American countries. Thus, Barings-supported deals are at the short end of Marichal's range and the rest are at the long end. However, such exercises, regardless of the care taken, are rife with methodological challenges especially as regards comparing time series evidence. That is, such calculations presuppose that we can compare the nature of defaults across time periods—yet the *timing* of the trade cycle probably affected countries' willingness to cooperate with bondholders.⁶⁹ An additional complication is that, given the long life of bonds, countries that had defaulted once tended to default again after the securities had been reconstructed. Because various market participants were involved at various stages, it is exceedingly difficult to provide a convincing explanation that relates settlements, performance, and intermediaries. An exhaustive archival search (to the extent that the material has survived) might provide some insight and help construct high-quality indicators, but the results would hardly be falsifiable. Moreover, we have shown that prestigious bankers provided the incentive and means for countries *not* to default, so such measurements would be biased even in this best-case scenario. The measurements would not take into account all the problems that did not ultimately result in default.

Here we deal with this challenge by providing a novel approach to the problem of determining who—the CFB or the bankers—had the most signaling power. Specifically: rather than comparing recovery rates, we look at market reaction to the announced involvement of either of the two parties with a stake in recovery. We ask whether creation of the CFB had any effect on the price of more speculative debt. Had investors believed the CFB would increase the likelihood of their receiving higher future returns, then the price of riskier countries' securities should have been driven upward. This is especially so because the CFB had not been anticipated but gained lots of visibility when it was set up in November 1868.⁷⁰

We selected three “typical” delinquent countries (Egypt, Colombia, and Venezuela) for which reasonably reliable price series are available. Our inspection of other cases suggest they are representative. We then examined the reaction of their bond prices to the November 1868 announcement. Since, despite the attempts of promoters, the CFB's first meeting did not formally involve prestigious bankers, looking at bond prices for high-yield borrowers around the date on which

⁶⁹ . For instance, we observe that a substantial number of the 1820s defaults that Barings had not yet fixed were finally sorted out in the 1850s (hence our 30-year estimate), a period when global trade was booming, enabling merchant banks which were involved in both trade finance and bond underwriting to use whatever leverage they could muster to encourage debtors to settle. In a distinct, but related vein, Vizcarra (2006) argues that merchant bankers could use trade as a collateral for government debt.

⁷⁰ On the CFB as a surprise, see Jenks (1927) and Platt (1968). Our search (under such headings as “bondholders”) through indexes for the British press of previous years did not discover any mention of the project. When the first meeting took place, however, it received much publicity and was amply covered by the British and Continental newspapers.

the CFB was created is a “pure” test of the CFB’s own credibility.⁷¹ The results are plotted in Figure 4a, b and c. As the graphs indicate, the CFB’s creation made no impression on the markets. This important result has apparently been missed or overlooked in previous research.⁷²

[[INSERT Figure 4 about Here]]

[[INSERT Figure 5 about Here]]

Next, we selected a number of episodes during which (i) bondholders acted on their own (Figure 4.a and c), (ii) bondholders acted in conjunction with prestigious bankers (Figure 4.b), and (iii) prestigious bankers acted on their own (Figure 5). Case (i) is illustrated by the record of two countries targeted by the CFB some time after its creation: Venezuela (June 1869, when a CFB-mandated commission went to Venezuela to deal with default) and Egypt (in April 1870, when bondholders tried to activate a clause of a 1868 loan with the Imperial Ottoman Bank that *precluded* new issues after Egypt entered into discussions with Bischoffsheim for a new issue). Case (ii) is illustrated by Colombia (on 17 May 1870, *The Times* mentioned that a meeting of Colombian bondholders had been convened by the CFB and that resolutions for action were adopted. It was further announced that the action would be conducted “in *conjunction* with Messrs. Baring”, emphasis added).⁷³ Finally, case (iii) is illustrated by one episode in which Barings acted on its own accepting in September 1826 to deal with Mexico and then giving up one year later).⁷⁴

We already saw that the creation of the CFB left market unimpressed. Likewise, we see that when the CFB announced “own” action, markets did not react (Figure 4.a and c). However, when the CFB could boast the support of Barings, there was a noticeable upward movement in prices (Figure 4.b). We therefore conclude that the CFB’s ability to inflict punishment was credible only when backed by a prestigious house. Finally, Figure 5 shows (focusing this time on spreads, trather than bond prices)

⁷¹ The CFB was created on 12 November 1868, if we are to believe the *Daily Telegraph* (13 November 1868), or on 11 November, according to *The Economist* (14 November 1868), which mentions a meeting on “Wednesday”, and to Wynne and Borchard (1933).

⁷² . Results are robust to considering other countries as well. As a test of this, we also computed the average behavior of “weak” sovereigns’ bonds prices in London around the date of the creation of the CFB. The results (in percentage of the bond prices are as follows: From end october to 11 November: 1.53%; From 11 November to 12 November: -0.58%; From 11 November to 14 November: -0.27%; From 11 November to End November 0.67%. From end october to end November: 0.68% . Thus the variation was at best a 0.8% improvement. A one percent variation in the price of a bond 5% bond quoting 50 (i.e. a yield of 10%, indicative of a risky country) means a change to 50.5% of a change in the yield from 10% to 9.9%. The larger sample provides evidence that is fully consistent with the case studies in the text.

⁷³ *The Times* went on to state that “thanks were at the same time given to Messrs. Baring for the interest they have invariably taken in the affairs of the holders of the New Granada [Colombia’s predecessor state] bonds” and emphasized that bondholders were in “confidence in the good faith and favourable disposition of that Government [Colombia]” (*The Times*, 17 May 1870).

⁷⁴ Costeloe (2003), Dawson (1990), Ziegler (1988, pp. 105–106). In February 1826, Mexican authorities with struggling finances lost their London window when their underwriter (the house of Barclay, Herring and Richardson) collapsed. They looked for someone to take care of the coupon, and Barings accepted in September 1826. Barings sought to encourage Mexico to make adjustments and even advanced funds for the payment of the coupon. The March 1827 coupon was paid “courtesy of Baring Brothers” (Dawson 1990, p. 147). However, Barings soon decided it was not satisfied with the situation and so, between late August and September 1827, agency was again transferred to an ordinary house, Reid, Irving, a “second rank” house according to Hidy (1941). Mexico then defaulted on 1 October 1827.

that markets reacted strongly to (1) news that Barings was assuming Mexican agency in September 1826 (good news for yields, which went down); and (2) news that Barings was surrendering agency in August/September 1827 (bad news for yields, which went back up).⁷⁵ The implication is straightforward. The ability of prestigious banks to drive bond prices was enormous and bondholders were, in comparison, as the Ghost in *Hamlet*: able to haunt but not to act.

Conclusion

This paper has provided what we hope is a more complete sketch of 19th-century global financial architecture. Our account is at odds with recent macroeconomic history research on the record of foreign debt and its focus on country characteristics and the bilateral interaction with bondholders. On the other hand, our new approach does share much insight with financial economics' emphasis certification and relationships. It is also related to earlier business historians' emphasis on prestige. Yet our view differs from these scholars' accounts in (1) organizing a more systematic argument about why prestige was so important and (2) providing data to illustrate the effects of prestige and (3) identifying degrees of prestige as well as different ways of using it.

Rothschilds reigned supreme in "investment grade" bonds, while Barings provided the backbone of a more sanguine market for "speculative grade" bonds. Both firms' ownership of quality signals put them in a position to implement conditionality lending and to demand adjustments. This power also rendered them dependent on making ends meet because adjustments were ultimately investments in their own brands. They had "skin in the game" (their reputation was at stake) and this played a "disciplining" role that cast doubt on earlier claims that free riding was a serious obstacle to sound underwriting.

Finally, we examined empirically the relative powers of bankers and bondholders. We found the latter to be quite powerless. In fact, in a striking rejection of some critical assumptions of earlier research, we found that bond prices of the more exotic borrowers were unmoved by the creation in 1868 of the Corporation of Foreign Bondholders. We argued that this non-response indicated that the CFB was not taken by contemporaries as seriously as it would be by modern research. Upon reflection this may seem obvious: the bondholders did not underwrite, or certify, or anything like that. Had they tried to compete against bankers they would have been beaten.

While in contrast with current views, our characterization of the role of prestigious banks vs. the CFB (bondsellors vs. bondholders) echoes some relevant contemporary market understandings and opinions. We showed that through study of such things as market prices but there is evidence that this was the way people spoke, too: A proof of it is a memorandum New York based JP Morgan received from its London partners Morgan Grenfell in the aftermath of WWI. Asked about the expediency of

⁷⁵ Dawson (1990, pp. 128, 147) and Hidy (1949, p. 66) claim that the announcement of the transfer of agency to Reid, Irving "precipitated a heavy selling wave". See also Dawson (1990, pp. 147, 148), Hidy (1949, p. 66), and Costeloe (2003). Of particular interest is that the actual default (announced 1 October 1827) had less of an effect than losing the Barings connection August/September 1827.

creating in New York an institution similar to the CFB, Morgan Grenfell warned that the CFB was very good at vociferation but less good at providing actual solutions. They also emphasized the risk that a US-CFB would really compete against prestigious bank's reorganization proposals without having the adequate amount of skin in the game. Morgan Grenfell argued that apart from small countries such as Guatemala or Honduras whose securities had not been fathered by anybody reputable and for which the CFB had occasionally played a valuable role, the success of debt reconstruction hinged critically on a "certain amount of money" being put up, something for which the CFB did not have the required equipment:

"The Council of Foreign Bondholders have taken up defence of bondholders of certain small countries, such as Guatemala, Honduras where no issuing house of any prominence had interests, but it has never achieved any particular success since in all reorganizations a certain amount of money must be put up and therefore a firm prominent or issuing house has always in the end had to conduct the operation. By terms of its constitution the Council of Foreign Bondholders should be able to command influence and banking support, but in practice it has never been able to do so and reorganization of any depth of important countries, such as Argentina, Mexico, Uruguay, etc. have always had to be conducted by some issuing house".⁷⁶

This interpretation might have been self-serving, and could not per se be the only evidence of which we rely, but we are struck between the argument made by the bankers and the empirical evidence reported in this article. This conclusion opens new research leads. If one direction only were to be emphasized, we shall argue that our theory implies that British policy makers had many powerful tools (apart from its seldom mobilized Navy) that could be relied on to "manage" the global capital market. This is in blatant contrast with the widespread view of that the stability of the 19th century global financial system rested on gunboats and political punishment. Instead, we argue, it rested on a market institution (prestige) that was endogenous to information asymmetries and thus in a sense "natural". The availability of this very specific institution is the reason why British leaders could expect the "market" to take care of itself and avoid unwanted the political complications and minimize military entanglements as D.C.M. Platt (1968) suggested earlier. They must have known that this market was guided by two, quite visible hands (Rothschilds and Barings)—those at the center of the debt-selecting and debt-restructuring table.

⁷⁶ . Morgan Grenfell to Morgans. Thomas, W. Lamont papers, 100-7

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Appendix A: A Condition under which Conditionality Lending Applies

It is possible to derive a formula for the loss that prestigious banks could inflict on defaulting countries. The formula compares the cost $r_{o,t}$ of future market access (at date t) under the sponsorship of an ordinary bank (equivalent to self-certification, since ordinary banks add no value) with the cost $r_{p,t}$ of market access under the sponsorship of a prestigious bank. Assuming that the credit embargo lasts for T periods and that the country intended to borrow an amount A_k in each period of the embargo (here k is the time index), we may calculate the penalty P for default (where i is the discount factor) as

$$P = \sum_{k=t}^{t+T} \frac{(r_{o,k} - r_{p,k}) A_k}{(1+i)^{k-t}} \quad (1)$$

And cooperation will apply if the benefits from defaulting are lower than the costs. Some elements of this formula are worth mentioning: First, the value obtained is a lower bound. Countries sponsored by ordinary underwriters may find themselves unable to borrow in some states of nature. Second, the only way for a country to make money on defaults is if the amount of capital appropriated (assuming the loan is never paid back) is greater than the loss entailed by future punishment. This result may obtain in countries plagued by coups (i.e., with short-term horizons) or when bankers are not prudent enough to improve monitoring by making small successive loans (resulting in a high amount of defaulted debt). Third, the figures involved in the punishment formula are substantial. Flandreau and Flores (2010) report spreads for upgrades from extreme information asymmetries of nearly 300 basis points. For the case of a perpetual bond (a good approximation of the typical loan of the time) and a 5% yield for prestigious loans (a convenient though conservative rounding-up of numbers), a 300-basis-point increase in yield means a reduction in the effective capital borrowed (for any given amount of nominal debt) of about 40%. The conclusion that follows from this is that prestigious bankers held a powerful tool for increasing the cost of market access for countries that refused to cooperate.

Appendix B: Returns from the Funding Loan of 1898

The Brazilian Funding loan of 1898 was a debt rescheduling whereby Brazil paid the interest on a number of external obligations (e.g., the internal gold loan of 1879) and on railway guarantees for three years (1 July 1898 through 30 June 1901) with the help of new securities. A variety of documents (kept in the Rothschilds Archive) describe the obligations of the Funding Loan, which are contained in the Funding Loan contract and the “Funding Scheme”. These, along with the “General Bond”, are our main sources. The General Bond and Funding Scheme stated that Brazil was to deposit (in different banks) the equivalent amount of the Funding bonds issued between 1 July and 1 December 1899 in paper money at the exchange rate of 18d. The paper money so deposited was to be withdrawn from circulation and destroyed.

The exchange of coupons worked as follows. In return for their coupons, holders would receive a receipt for the amount lodged (i.e., for the nominal value of the coupon presented). Four £5 coupons gave an investor the right to one Funding security. The Funding securities would be distributed in lieu of the coupon for three years.

The outcome of the Funding Loan received was heavily criticized by the opposition party in Brazil (Abreu 2002). In London, its terms received generally favorable coverage, although some critics complained that the CFB had not been involved in the negotiations prior to the final agreement; see for example *The Economist* (18 June 1898) and *Freeman's Journal and Daily Commercial Advertiser* (18 June 1898). Our own archival evidence shows that Rothschilds kept the CFB informed on the progress of negotiations with the Brazilian government (Letter to William Lideradle, Chairman of the Council of Foreign Bondholders, 6 June 1898, Box 000/401 F, Rothschilds Archive). In fact, many publications praised the macroeconomic and financial adjustment that Brazil had agreed to undertake and celebrated that, during this period, investors would receive “negotiable securities for the amount of their claims” and thus would be duly compensated (*Daily News*, 16 June 1898).

In effect, investors had little to complain about. We state in the text that the short-term gain of the Funding Loan was 37%. This number was calculated as follows. On the Funding Loan's day of issue, holders of the 1895 5% Brazilian securities received—in lieu of a coupon—one Funding security for every four bonds. Because the 5% Brazilian bonds then stood at £61, the cost of replacing them with the Funding security was $4 \times £61 = £244$ each. On the first day that Funding bonds were quoted

(September 3), each 5% bond traded at £62.75 while funding bonds were sold at £80. By that date, the first of five coupons had been paid. The portfolio's value was thus £336 for a gain of £92, which represents an increase of $92 \div 244 = 37.7\%$.

Let's now compare the returns to investors under a hypothetical scenario in which no restructuring or moratoria occurred. We do this by calculating the ex post internal rates of return (IRRs) of a portfolio consisting of four 1895 5% Brazilian bonds and then comparing the Funding Loan scenario with the non-Funding, no-default scenario. (Of course, without the Funding there might have been a default, but we seek to compare what investors would have legitimately expected given that Rothschilds securities were quasi-risk-free.)

The IRR is calculated as the constant compounded rate that equalizes the product of actual annual rates of returns.⁷⁷ The IRR gives an indication of the long-term performance of a bond during its lifetime.⁷⁸ Examining these rates for the totality of Brazilian external bonds during the 19th and early 20th centuries, Abreau (2006) concludes that the general performance was higher than American or British bonds (albeit with a higher standard deviation). Abreu (2002) focuses on the Brazilian funding loans that took place in 1898, 1914, and 1931 and demonstrates that the IRRs for these loans were much higher than those on other, risk-free assets (U.K. and U.S. bonds).

Table A.1. Internal Rate of Return for 1895 Bond under Alternative Scenarios

Bonds	1895 5% with Funding Loan since June 1898	Counterfactual: 1895 5% <i>without</i> Funding Loan since June 1898	1895 5% since issue date with Funding Loan	Counterfactual: 1895 5% since issue date <i>without</i> Funding Loan
IRR	32.0%	14.4%	11.5%	3.3%

Source: Authors' computations (see Appendix text).

We construct our IRR as follows. First we look at the precise conditions under which a bondholder of Brazilian bonds could exchange his coupons with Funding bonds, and then we look at the performance of the four 5% 1895 bonds. Next we compare this performance with a counterfactual scenario in which the investor continued to receive punctual payments of coupons.

The conditions of the Funding Loan required an investor to present the coupons of the defaulting bonds as they became due for exchange into Funding bonds during the period of the "moratorium" (three years between 1898 and 1901).⁷⁹ These Funding bonds were listed securities that provided an annual 5% interest rate in cash and were to be amortized by a sinking fund of 0.5% yearly. This means that any calculation of the IRR should take into account price changes for both the 5% 1895 bonds and the Funding bonds that an investor would successively receive as well as the coupon payments for these bonds. We focus on the years during which the Funding bonds were issue; that is, we begin our computations in June 1898 and continue until 1901. Taking a longer time horizon does not affect the basic results. We also compute IRRs since the issue date of the 1895 5% bonds. All results are shown in Table A.1.

The differences in IRRs are striking. If we concentrate only in the Funding Loan period, the ex post IRR with Funding Loan more than doubles the counterfactual no-default scenario (second and third columns).⁸⁰ The last two columns measure IRRs since the issue date of the 5% 1895 bonds. The values are lower because prices decreased continuously in the years previous to 1898. Still, the

⁷⁷ If we denote by t_0 the date of issue, by p_t the price in late December of year t , by p_{t+1} the price in late December of year $t + 1$, and by d_{t+1} the dividend paid during year $t + 1$, then the annual rate of return is $r_{t+1} = (d_{t+1} + p_{t+1} - p_t)/p_t$. We thus have $\prod_{t=t_0}^{1830} (1 + r_t) = \prod_{t=t_0}^{1830} (1 + \rho)$ which can be solved for ρ .

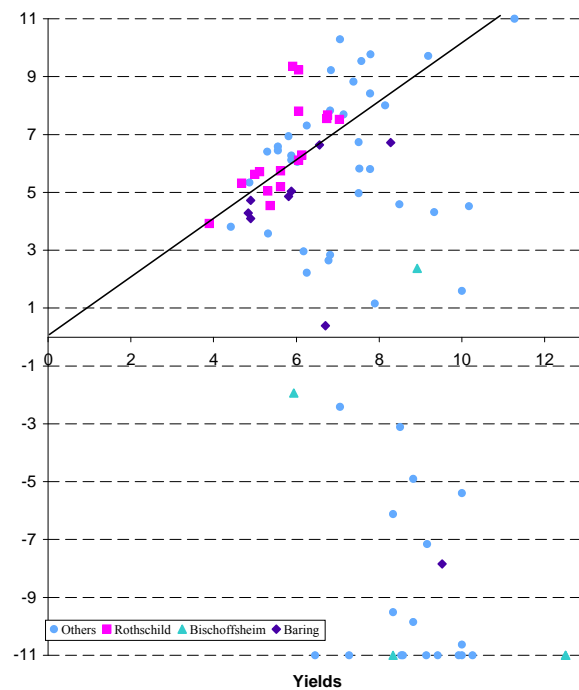
⁷⁸ See Flandreau and Flores (2009), who adopt the same method advanced by Eichengreen and Portes (1989).

⁷⁹ The Funding Loan also suspended the sinking fund, and redemption of the defaulting loans was suspended for 13 years.

⁸⁰ Strictly speaking, our calculations do not exactly measure the same IRR: we take into account both the old 5% 1895 bonds and the Funding bonds, whereas Abreu takes into account only the price movements and coupons received of the Funding bonds. Nonetheless, the 32% IRR is comparable to Abreu's (2002) calculations of the average yearly ex post IRR for the totality of the Funding bonds life, which imply maximum annual IRRs of 29.14% (Abreu 2002, p. 537, Table 5).

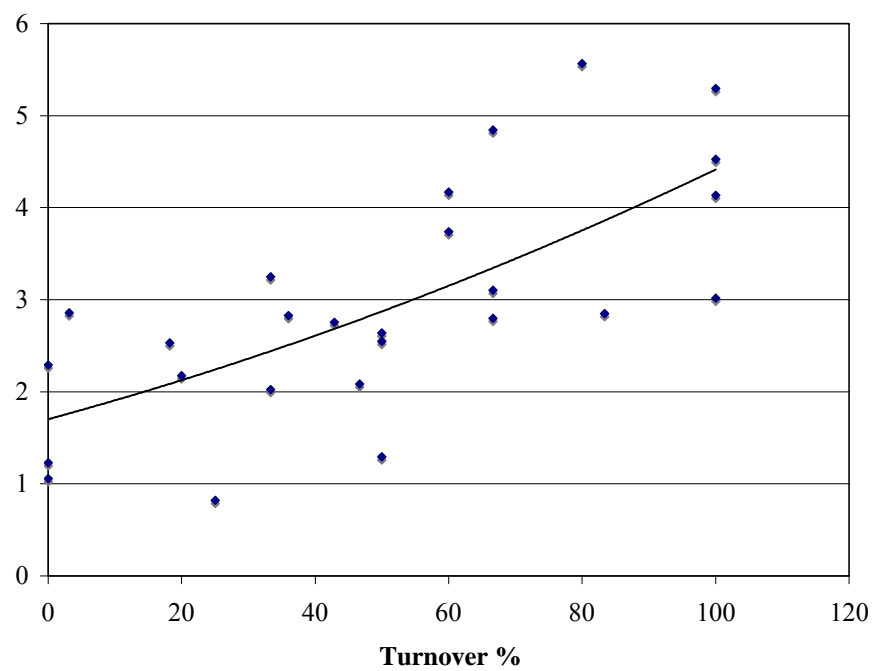
difference is substantial and demonstrates that, in any case, investors did obtain major gains by keeping the old bonds during these crisis years.

Figure 1. Brands, Risk, and Performance in the mid-19th-Century Debt Crisis
(units for both axes, interest rates in percentage points)



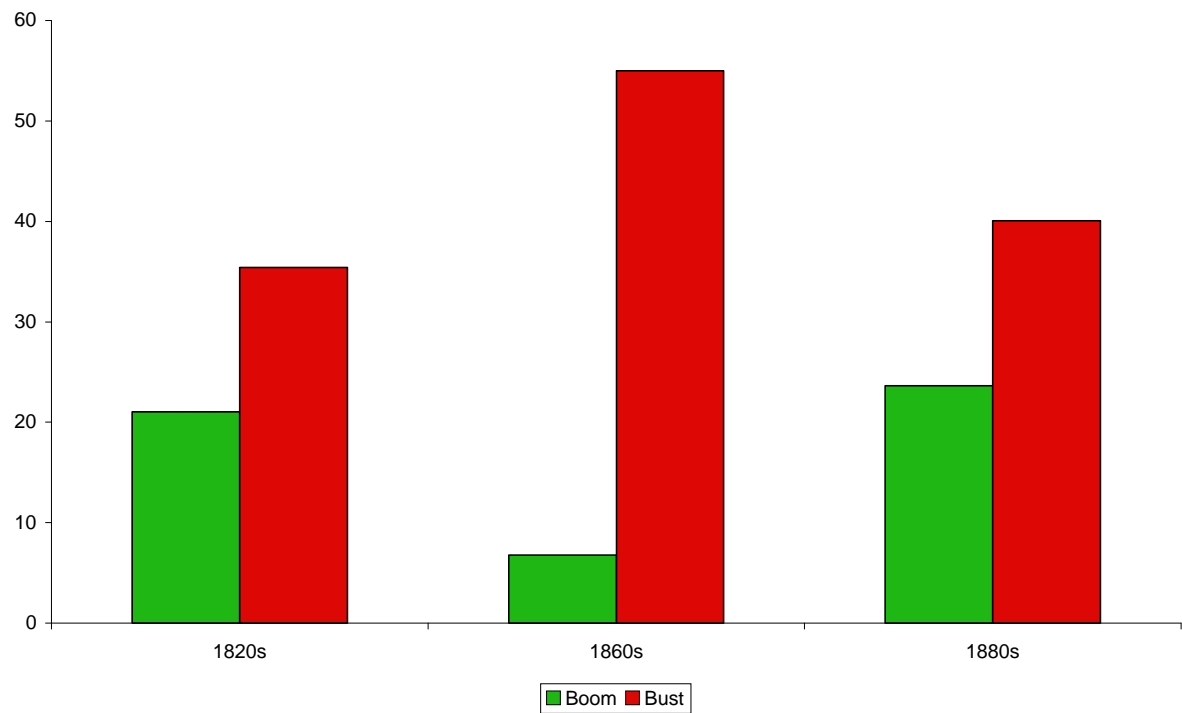
Source: Authors' computations from authors' database.

Figure 2. Turnover and Spreads
(Units for x-axis: percent; y-axis: interest spreads in percentage points)



Source: From Flandreau et al. (2010).

Figure 3. Countercyclical Prestige: Rothschilds' Market Shares during Booms and Busts (units: market share in %)



Source: Authors' computations from authors' database.

Note: Boom and bust periods were assigned as follows: for "1820s", boom 1821–1825 and bust 1826–1838; for "1860s", boom 1864–1870 and bust 1871–1877; for "1880s", boom 1878–1888 and bust 1889–1896.

Figure 4. Bondholders' Actions and Government Bonds
(Units: bond prices in sterling)

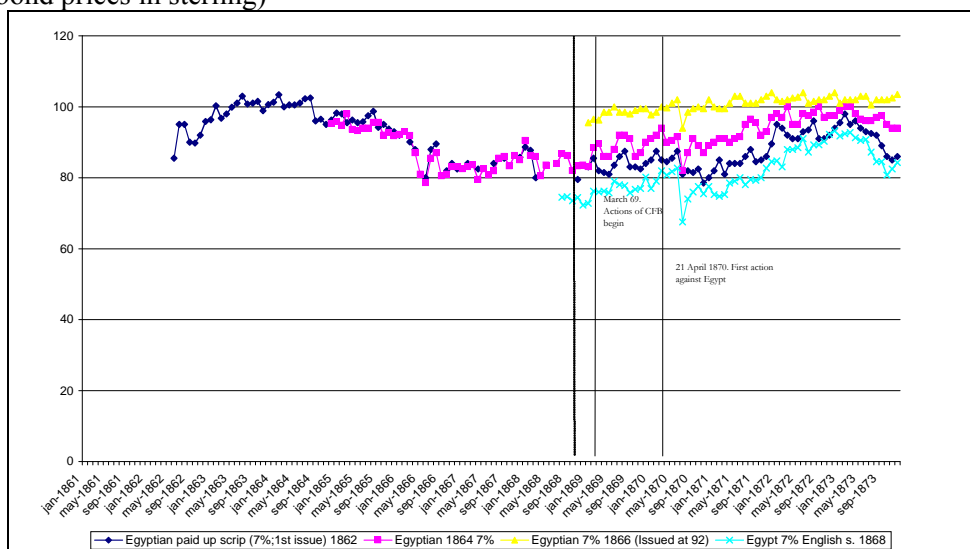


Figure 4a. Egypt

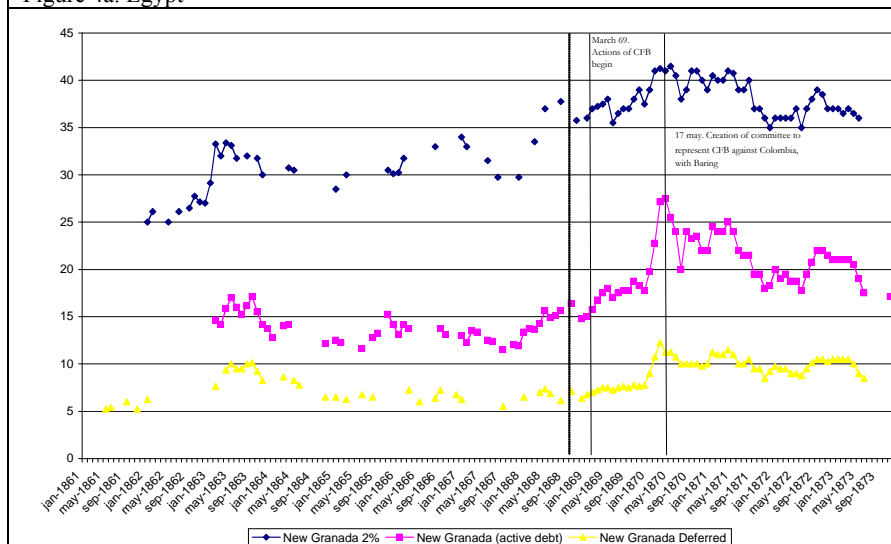


Figure 4b. Colombia

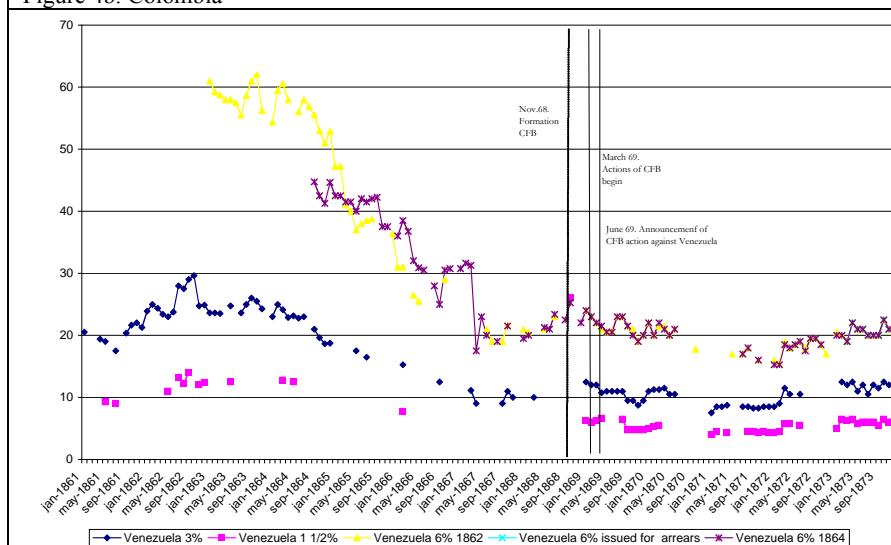
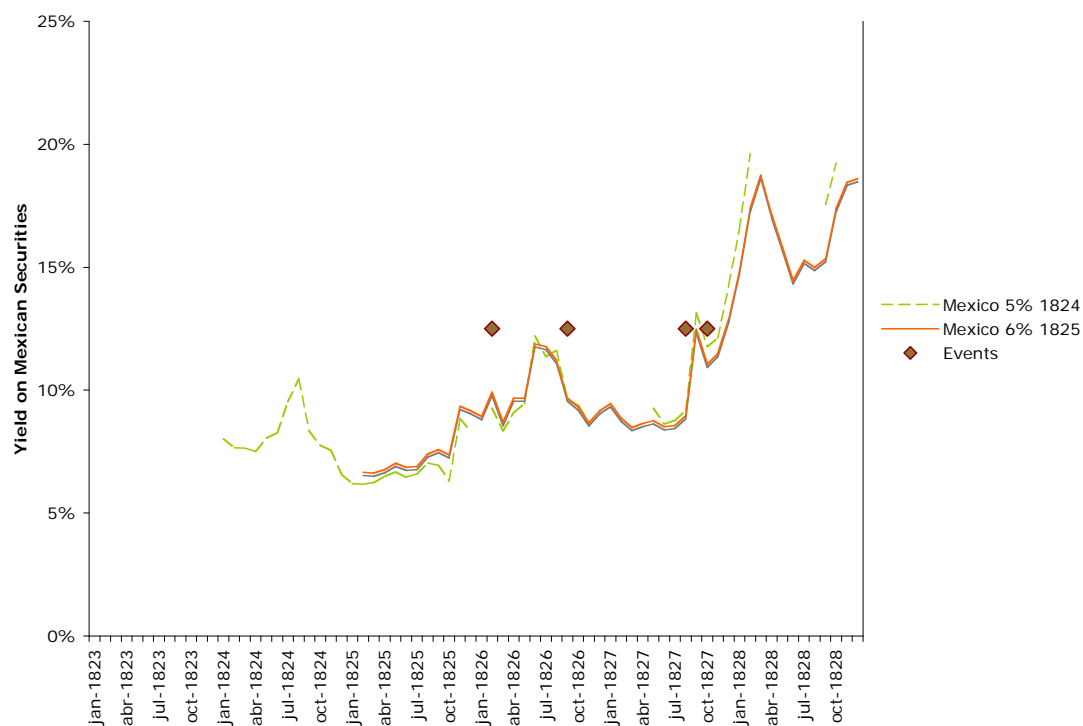


Figure 4c. Venezuela

Figure 5. Effects of Announcement of Barings's Agency on Mexican Bonds
(units: interest rates in percentage points)



Source: Authors' computations based on data from Wetenhall's *Course of Exchange* and *The Times*.

Table 1. Brazilian Issues, 1850–1914

<i>Year and coupon</i>	<i>Date of issue</i>	<i>Spread at issue</i>	<i>Nominal amount (£ million)</i>	<i>Underwriter</i>
1852 4.5%	Jul 1852	1.7	1	Rothschilds
1858 4.5%	May 1858	1.6	1.5	Rothschilds
1860 4.5%	Mar 1860	1.8	1.4	Rothschilds
1863 4.5%	Oct 1863	1.9	3.9	Rothschilds
1865 5%	Sept 1865	3.4	6.9	Rothschilds
1871 5%	Feb 1871	2.3	3.4	Rothschilds
1875 5%	Jan 1875	1.9	5.3	Rothschilds
1883 4.5%	Jan 1883	2.2	4.6	Rothschilds
1886 5%	Feb 1886	2.5	6	Rothschilds
1888 4.5%	Apr 1888	2	6	Rothschilds
1889 4%	Oct 1889	1.8	20	Rothschilds
1893 5%	Apr 1893	3.7	2.7	Rothschilds
1895 5%	Jul 1895	3.5	7.4	Rothschilds
1898 Funding 5%	Jun 1898	N.A.	8.6	Rothschilds
1901 4%	Mar 1901	N.A.	14.6	Rothschilds
1903 5%	May 1903	2.8	5.5	Rothschilds
1905 5%	Jun 1905	2.3	3	Rothschilds
1906 5%	Apr 1906	2.4	1.1	Rothschilds
1907 5%	Oct 1907	2.2	3	Rothschilds
1908 5%	Jul 1908	2.3	4	Rothschilds
1910 4%	May 1910	1.4	1	Rothschilds
1910 4%	Feb 1910	1.5	10	Rothschilds
1913 5%	May 1913	1.8	11	Rothschilds

Source: Authors' database (see description in text).

Note: One small corporate loan issued in 1911 and underwritten by the South American Railway Construction Company, related to Lloyds Bank and including special guarantees, is not included.

Table 2. The 1840s U.S.State Debt Crisis and the House of Barings

State's type (a)	London Window 1838 (b)	London Window 1856 (c)	Barings' Action (d)	Outcome (e)
NON-DEFAULTERS (WITH A DEBT LISTING IN LONDON ACCORDING TO SOURCES)				
Alabama	• Th. Wilson, Irving Reid	• Rothschild • Union Bank of London	No need	--
Georgia	--	• "In London" (f)	No need	--
Massachusetts	--	• Baring	No need	--
New York	• "In London"	--	No need	--
South Carolina	--	• Baring • Palmer, Mackillop & Dent	No need	--
Virginia	--	• Baring	No need	--
TEMPORARY DEFAULT				
Illinois	--	--	Barings campaign with others	4 years: Resumption 1846
Indiana	• Morrisson, Cryder and Co	--	Butler: New York Businessman	6 years: Resumption 1847
Maryland	--	• Baring	Barings wages costly campaign	6 years: Resumption 1848
Pennsylvania	--	• Wiggin and Co	Barings leads heavy "attack" with other banks	3 years: Resumption 1845
PARTIAL REPUDIATION				
Arkansas	--	--	Barings ignore, Huth makes efforts (g)	No arrangement
Louisiana	• Baring	• "In London"	Barings with help of Lizardi	Restoration of credit (h)
Michigan	--	--	Butler, New York Businessman	8 years: Resumption 1849
TOTAL REPUDIATION				
Florida Territory	• Thomas Wilson	--	Barings ignore, Palmer, McKillop & Dent makes effort (g)	Repudiation, 1842
Mississippi	• Thomas Wilson	• Thomas Wilson	Very weak Barings' campaign with Huth (i)	Repudiation, 1842

(a) English (1996).

(b) Fortune's Epitome (1838).

(c) Fortune's Epitome (1856).

(d) McGrane (1935), Hidy (1949).

(e) McGrane (1935), Hidy (1949), Kim and Wallis (2005).

(f) *The Times* (26 February 1851) states that Irving, Ebsworth, and Holmes are paying the coupon.

(g) "[Barings] displayed no interest whatsoever in Florida and Arkansas" (Hidy 1949, p. 339).

(h) "By 1848, credit of ... reasonably well resuscitated" (Hidy 1949, p. 335).

(i) Mississippi: "Restoration of good faith ... always seemed so remote that B. never gave more than half-hearted support" (Hidy 1949, p. 336).

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