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Marc Flandreau and Juan H. Flores

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Keywords: financial history, information asymmetries, financial intermediation, financial crises, sovereign debt.

JEL Classification: F37, G15, G24, N20, N23 D24

Marc Flandreau : Sciences Po - Chaire Finances internationales -, 27 rue Saint-Guillaume, 75007 Paris, France.

Email: marc.flandreau@sciences-po.fr

http://financesinternationales.sciences-po.fr/fr/bio/bio_flandreau.htm

Juan H. Flores: Departamento de Historia Económica e Instituciones, Universidad Carlos III de Madrid, C/Madrid 126, 28903 Getafe, Spain.

Email: Jhuitzil@clio.uc3m.es

http://www.uc3m.es/uc3m/dpto/HISEC/English/faculty/Personal_Juan_Flores.html

UNIVERSIDAD CARLOS III DE MADRID • c/ Madrid 126 • 28903 Getafe (Spain) • Tel: (34) 91 624 96 37

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**Bonds and Brands:
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1820-1830***

Marc Flandreau
Sciences Po, Paris

and

Juan H. Flores
Universidad Carlos III, Madrid

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How does sovereign debt emerge and become sustainable? This paper provides a new answer to this unsolved puzzle. Focusing on the early 19th century, we argue that intermediaries' market power served to overcome information asymmetries and sustained the development of sovereign debt. Relying on insights from corporate finance, we argue that capitalists turned to intermediaries' reputations to guide their investment strategies. The outcome was a two-tier global bond market, which was sustained by hierarchical relations among intermediaries. This novel theoretical perspective is backed by new archival evidence and empirical data that have never been gathered so far.

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Email: marc.flandreau@sciences-po.fr, jhuitzil@clio.uc3m.es

“And thus it is that the credit of a foreigner, namely that of the House of Rothschild, not that of the Kingdom of Naples, was responsible for the rise of Neapolitan securities. Hence, the value of public securities does not reflect the prosperity of a country ... Naples itself had very little to do in all that beyond punctually paying coupons...” *Austrian Ambassador Ficquelmont reporting to Metternich in February 1822 on the causes of the surge of Neapolitan bond prices (quoted in Gille 1965:98)*

“I cannot consent to risk my name when I see no positive indication of the actual fulfilment of the promises and pledges which would be given through my intervention as agent of the government”. *Alexander Baring, June 1829, refusing Mexican Agency (Quoted in Costeloe 2003:164)*

How does sovereign debt emerge and become sustainable, when there are information asymmetries, when countries have reasons to renege on their commitments, when intermediaries have incentives to cheat investors? This paper provides a new perspective to this fascinating puzzle. The context is that of a quasi-laboratory experiment: we study the early 19th century, at a time when information asymmetries were enormous, when a sovereign debt “bubble” resulted in a wave of failures, and when intermediaries attempted to sell to the public the securities of a fictitious state, known as “Poyais”.

The theoretical answer to the sovereign debt puzzle we articulate is that market structures helped overcome information asymmetries and sustained the development of sovereign debt. Specifically, we argue that, given the dearth of information on sovereign borrowers, capitalists turned to intermediaries’ reputations to guide their investment strategies. When borrowers accessed global capital markets through the agency of a highly capitalized underwriter, investors were prepared to pay a higher price. Therefore, leading banks “owned” a “brand” that could grant favourable borrowing terms. Since they earned their income from their sustained ability to deliver value to their customers, they had strong reasons to make a careful use of their reputation: A wrong choice would reverberate on market share and profitability. Conversely, because these banks controlled access to liquidity, borrowers had powerful incentives to refrain from defaulting, and this contributed to protect the credibility of intermediaries. Finally, because borrowers faced switching costs when shopping around, incumbent intermediaries managed to retain market predominance. The outcome, we claim, was a highly hierarchical, highly concentrated global bond market, which turned out to be sustained by its very monopolization.

This view represents a radical departure from current literature in both methodological and substantive aspects. From a methodological point of view, we demonstrate the relevance of the tools of modern finance theory in the study of key aspects of the international financial organization. In particular they provide adequate tools to understand the emergence of what political scientists call “private authorities”. From a substantive point of view, our central contention is in blatant contrast with existing views emphasizing the association between sovereign debt and good governance embedded in institutions such as constitutions, commitments or the rule of law. Finally, and perhaps most importantly, we find that ignorance, or more adequately the monopolization of high quality

lending and its companion effect, the monopolization of knowledge, were decisive factors in the development of financial globalization. This is an obvious challenge to the modern contention that globalization and the spread of information go hand in hand.

Because we start from a different benchmark than has been used in previous work, and because this implies that readers be familiar with much material, historical and theoretical, she may not be aware of, the remainder of the paper is organized in a somewhat non-conventional way. We do not begin with the usual survey of the literature for recent research has thoroughly neglected the question of intermediaries' reputation in the sovereign debt market. Rather, in an inductive fashion, we begin with providing background information, then move to theory, which we introduce in an intuitive way, and then, marching to and fro between facts and concepts, make our way towards demonstrating that empirical evidence is consistent with critical predictions of our argument. This leads us to spell out the main contours of a new hypothesis, which has a potential, we argue, to open new research avenues. Indeed, it is quite radically at odds with current understanding efforts.

The remainder of the paper is organized as follows. Section I discusses the 1820s foreign debt boom-bust cycle, surveys the enormous information problems that ought to have undermined the development of sovereign debt, and reviews the process of debt issue. Section II introduces the reader to the microeconomics of bond underwriting and discusses for the first time a number of implications from finance theory to the field of sovereign debt. Section III examines those theoretical predictions in light of empirical evidence. We find that underwriter's prestige emerged as a proxy for information on sovereign record, enabling investors to screen borrowers indirectly, and providing for crisis prevention. Section IV explores the vicissitudes of the policies adopted by the house of Barings and shows how intermediaries' prestige can become an instrument for debt crisis resolution. Section V provides a statistical test of the views developed in this article. We show how information asymmetries were responsible for contagion effects that operated across securities underwritten by ordinary intermediaries but affected much less those sold by prestigious ones. In Section VI, finally, we turn back to take stock of the distance travelled by providing a discussion of our main findings in the light of modern literature on sovereign debt and macroeconomic monitoring. We end with conclusions.

Section I. The First Foreign Debt “Bubble” (1820-1826)

a-The Boom

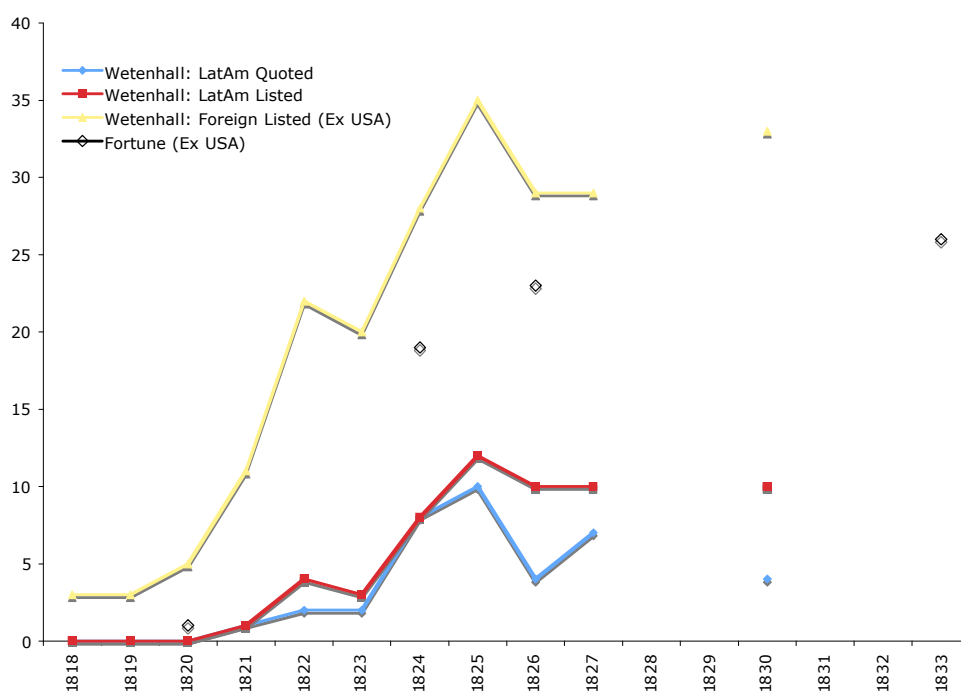
During the 18th century, a foreign exchange network ensuring the circulation of liquidity between European cities had consolidated around Amsterdam (Flandreau, Jobst and Galimard 2006). It was in Amsterdam that the embryo of a sovereign debt market developed (Riley 1984).¹ However, following the French wars, storming of Amsterdam by French Republican armies, Berlin decree and imposition of trade controls, capital flight to London, and finally, ascent of England to absolute commercial pre-

¹ . London only played an occasional role in 18th century's foreign bond issues Dawson (2002: 15).

eminence, Europe’s financial geography shifted and with the restoration of peace, London -- seconded with Amsterdam until 1820 (Buist, 1974) and Paris afterwards (Gille 1965: 79-80) -- became the centre of this still highly integrated European system (Neal 1991). Other important regional or national centres such as Hamburg, Frankfurt, Vienna, Milan, Madrid or Naples also participated. Cross listing of securities facilitated arbitrage operations and contributed to reinforce market integration, just as had happened in the 18th century (Neal 1991, Baltzer 2006).

Between 1815 and 1820, the main items that stirred activity in the restored global market place were indemnity loans and war debt settlements among former allies. There were some short-term lending operations, with banks holding sovereign debt in their books. Finally, and most importantly, there were a few stabilization loans to European governments. But after 1820, a considerable expansion of the issue of international bonds took place. Figure 1 documents the evolution of a number of indicators of this activity.² Subsequent edition of *Fortune’s Epitome*, a leading market handbook, show one such security in 1820 but 23 in 1826. Wetenhall’s *Course of exchange* shows quotes for foreign government securities rising from almost nil in 1820 to 35 in 1825. This increase benefited from – but was not limited to – the inclusion of Latin American securities. Their numbers in Wetenhall rises from zero (1820) to 12 (1825).

Figure 1: Number of foreign governments’ stocks traded in London (Ex USA), 1818-1833



Source: authors computations, from Fortune’s Epitome and Wetenhall.

² . We define as “foreign securities” bonds issued for the account of other governments than those of Britain, France and the US. In 1820, the other foreign securities were the French 5% *rentes*, US 3% and US 6% : Fortune’s Epitome, 1820. The reason for excluding US securities from the chart is that during the period under study, they were all introduced through cross listing and never actually formally introduced in London.

The interest for foreign securities was truly international, and a similar trend is observed in the Paris Stock Market List.³ It had one foreign security in 1820, two in 1821 and 1822, nine in 1823, thirteen in 1824, and twelve in 1825. Primary sources suggest that active trading in foreign securities, most probably in the curb market (or “*coulisse*”) began in late 1822. We also have evidence that Paris speculators closely monitored what was happening in other markets.⁴

And thus was started the sovereign debt boom of the 1820s, which earlier writers have occasionally referred to as the first “Latin-American” debt crisis, although the phenomenon was wider. In London, on which we focus, the 1822 Colombian 6% loan opened the ballet.⁵ The same year saw loans to Chile, Peru, imaginary “Poyais” as well as to European countries: Spain, Russia Prussia, Denmark, and the Kingdom of Naples. Complications in Spain rocked markets and there were massive decreases in the prices of all traded securities (Figure 3).⁶ The Congress of Verona in late 1822 gave a mandate for France to intervene. The constitutional Cortes government issued a last loan in early 1823, before collapsing following France’s military intervention in April (Nicolle 1945). This led to the restoration of Ferdinand as absolute monarch, and to an eventual debt default, for Ferdinand refused to recognize the securities issued by the Cortes. The risk of a global political crisis was avoided and European lending resumed. In late 1823, there were two more loans, to Austria and Portugal, issued in October. In 1824, Buenos Aires, Brazil, Colombia, Mexico, as well as Greece and the Kingdom of Naples borrowed; In 1825 Brazil, Mexico, Greece, a Danish conversion, and in August, Guatemala.

b-The Bust

In July 1825 foreign funds began to slide. In December 1825, events were amplified by a financial storm that ravaged the City. “The Panic” was a run on London banks that reached its apex on December 11th when the scramble for liquidity led to bank failures. The Bank of England came close to suspend specie payments. Fire sales started and the prices of Latin American and South-European securities plummeted (Figure 2). The collapse reverberated on financial intermediaries. In February 1826, B. A. Goldschmidt, a large London bank that had heavily underwritten foreign government securities, suspended payments (Gille 1965: 159).⁷ It was reported holding large amounts of unsold

³ . Cours des effets commercables à la Bourse de Paris, kept in Euronext, Paris.

⁴ . Note that French business newspapers also reported quotations for foreign stocks in London, e.g. The Journal du Commerce, which gives quotation for exchange rates government securities in various markets, e.g. July 1826: London, Antwerp, and Vienna. The London section provides substantial coverage of foreign government stocks (13 listed, 8 quoted). Reports from the Paris brokers’ association contain echoes of concerns about speculations on foreign stocks “*La semaine dernière les fonds étrangers ont envahis le parquet.... La Conseil Supérieur pourra demander le dépôt de couvertures proportionnelles aux dangers*” (Procès Verbaux Conseil Supérieur 12/10/1822).

⁵ . It was issued at the price of 84 (yielding 7,14%) and entirely sold (Dawson). On Colombian prospectuses, see Rothschild archives, Box: XIII/230/78-95.

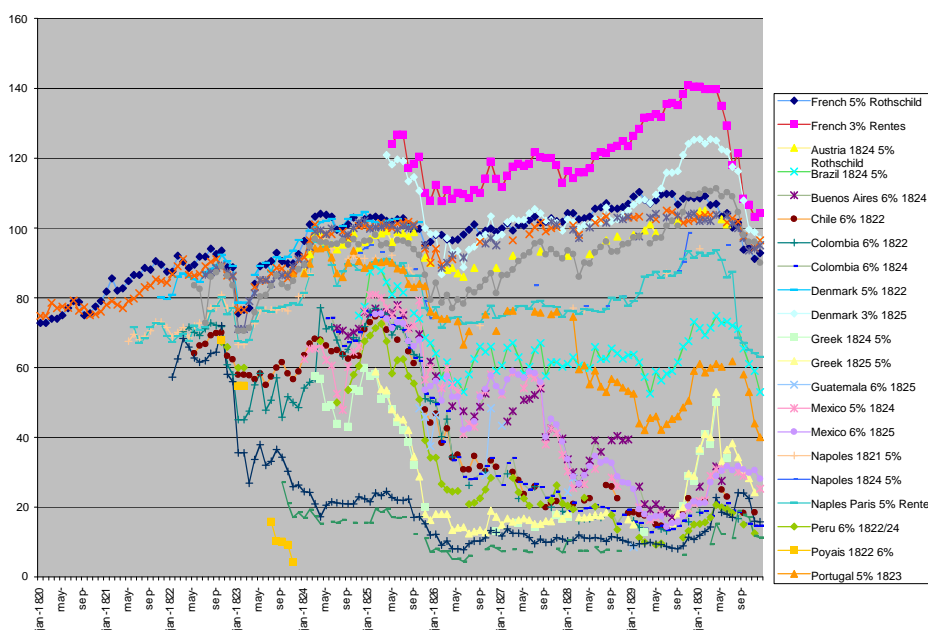
⁶ . On October 20, 1822, the Congress of Verona, the last of the series of international congresses initiated by the Congress of Vienna had met to consider action against the liberal government in Spain.

⁷ . According to Gille (1965: 159) Nathan Rothschild would have offered support to B. A. Goldschmidt, although the conditions are not known. The day after, B. A. Goldschmidt died, “of chagrin”. Guardian, Thursday February 23, 1826 : “The following gentlemen have undertaken to act as its trustees for the settlement of the affairs of Messrs. B. A. Goldschmidt and Co., viz .- Mr. Rothschild, Mr. S. Samuel, Mr. D. Barclay (of the house of

governments' bonds leaving, at market value an imbalance between assets and liabilities as large as £ 0.4 m or 30%. Its collapse had ripple effects in Paris, Frankfurt, Leipzig, Vienna and some weeks later, in May 1826, failures extended to Bologna, Forli and Rome. The domino effect reveals the international reach of the 1820s sovereign debt bubble and sheer interdependence of financial networks (Gille 1965 : 159-160 and 162). Barclay, Herring Richardson and Co., another London house also involved in Mexican loans collapsed in July 1826 (Costeloe 2003:22).

As these events unfolded, sovereign defaults began spreading. The first to suspend the payment of coupon was Peru, in April 1826, followed in May by Colombia. After that date, bad news accumulated, although only gradually, through a fairly long process that extended over almost two years. Chile defaulted in September 1826, Greece in January 1827, Mexico in October 1827, Guatemala in February 1828, Buenos Aires in January 1828, Portugal in June 1828. By the end of 1829, the sovereign debt issues of the early 1820s had turned into a disaster. All Latin American countries, except Brazil, and all Southern European countries, except the Kingdom of Naples, were in arrears.

Figure 2. The 1818-1826 Boom-Bust Cycle: Evidence from Bond Prices



Source: Authors, from Wetenhall.

Sovereign defaults had followed, not preceded, intermediaries' failures. In many cases, the actual decision to suspend payment was the appendix of a long process of price declines. And defaults might be said to have occurred when there was no more confidence. Moreover, Figure 2 shows a large amount of co-movements across bond prices of present and future defaulters. Finally, we remark that

Barclay, Herring and Co.), Mr. S. Gurney, and Mr. Richardson. Their appointment has given much satisfaction on the Exchequer. The trust deed, we believe, is not yet prepared, but as the consent of the parties has been given, no difficulty is anticipated in its completion". Interestingly, among the various bankers involved, we find three houses involved in sovereign lending, Rothschild, Barclay, Herring, and finally Richardson.

the crisis of 1825-26 acted as a catalyst that precipitated a number of securities down while others managed to remain afloat. Such borrowers as Prussia, Austria, Russia, the Kingdom of Naples and to some extent Brazil, fared relatively well and seem to have managed to escape the effects of this “Southern states” debt crisis.

c -Historical literature, theoretical questions

As said, the sovereign debt crisis of 1825-26 was only one part of a broader financial panic. Earlier research has discussed the debt disaster from various vantage points. The accounts by Gille (1965) and Neal (1998) provide balanced perspectives. Other, more focused, studies look at Latin American loans. Dawson (1990) provides the most exhaustive account. Other sources include Ferns (1960), Jenks (1927), Platt (1983), Fodor (2002), Marichal (1989), Costeloe (2005). These authors discuss the reasons for the initial enthusiasm and eventual disappointment. The usual suspects are found: Irrational exuberance and investors’ appetite for risk, bound to be met with disappointment (Ferns (1960), Jenks (1927), Platt (1983)); Excess liquidity reflected in declining interest rates, followed by restriction imposed by the Bank of England.⁸ Connected lending since contractors of the Latin-American bonds were often promoters of mining companies (Marichal 1989)⁹; Bail out expectations for Britain had sponsored the independence movements in Latin America and it recognized the new republics in October 1822. Following this line of reasoning, the trigger of the crisis was Lord Canning eventual insistence that Britain’s foreign policy and the interests of the bondholders were different things (Gille 1965, Ziegler 1988, Dawson 1990).¹⁰

There are also a few outliers. Alexander Baring’s pet theory was that the crisis had been caused by the Corn Laws (Fulford 1953). An intriguing paper by Fodor (2002) challenges the notion of a “bubble”. The crash, he argues, was not preceded with a genuine boom, and many of the securities never found a market. His account suggests (although he does not use that language) that Latin American debts were a lemon market that never took up presumably because the price at which securities were sold did not compensate investors for information asymmetry. Perhaps Fulford (1953:

⁸ . Irrational exuberance and excess liquidity are for instance pointed out by Chateaubriand: “*Le crédit ne me paraît pas être l’expression de l’opinion publique et je crois qu’il naît bien plutôt de l’agiotage et de la surabondance des capitaux que de la confiance dans la stabilité des gouvernements de Colombie ou du Pérou*” Quoted in Gille 1965: p. 110). Gille (1965 : 156) quotes the views of Ouvrard, a French banker who suggested that the contraction had been driven by the exports of numéraire to the New World : “*Les emprunts de tous les gouvernements et particulièrement ceux des Etats du Nouveau Monde ont diminué le numéraire d’Europe, ont produits en Angleterre l’effet des subsides de la dernière guerre et ont contribué à la baisse des fonds ; il est très probable que cette baisse se prolongera plus ou moins jusqu’au retour de l’équivalent du montant des sommes disséminées ; et ce retour, la paix se maintenant aura infailliblement lieu avec un grand avantage pour les fonds publics*”, Gille (1965 : 156), see also Ouvrard’s memoirs (Ouvrard : Vol. III : 237-9). On credit tightening by the Bank of England, see Gille 1965, Neal 1998.

⁹ . Dawson (1990 : 26) indicates that the Colombian loan was contracted to consolidate short-term advances and debentures issued to pay for imports of British military equipment.

¹⁰ . This may have fuelled a belief that the British government would be concerned with making sure that debts would be paid back (Dawson 1992: 35). A supporting element, underlined in early editions of Fenn’s is that British authorities had been directly involved in the protection of purchasers of the Spanish loan of 18?? [check] providing explicit threat of military interventions in case Spain would not pay. As it turned out, such a policy course was soon reversed and investors were left dealing with the mess (see Platt 1968 for details).

108) is closest to truth: “No doubt that all these and other causes played their part, but perhaps the most significant reason (though it has been least explored) lay in the volatile and unaccountable nature of man”.

In this article we are not interested in explaining the dynamics of the bubble, nor in determining why it crashed when it crashed, nor in discussing whether a bubble there was, let alone dissertating on the Nature of Man. Rather, we use the event as a laboratory experiment in intermediaries’ moral hazard. In addition to the fraudulent Poyais loan (Jenks 1927, Dawson 1992) intermediaries were reported to have issued several loans with the complicity of the borrowing countries’ ministers in London who “forgot” about securing formal approval of the respective governments (Mathew (1970), Fodor (2002) and Dawson (1992)).

Table 1. Debts of Kingdom of Naples, Portugal and Chile, from Carey (1825?)

| NEAPOLITAN. | PORTUGUESE. |
|---|---|
| <p>Capital £6,175,000 sterling, (or ducats 36,000,000) bonds in ducats. Exchange fixed at francs 4.40 per ducat, and francs 25.65 per pound sterling. Interest 5 per cent. per annum.</p> <p>Dividends payable half-yearly on the 1st of January and 1st of July, at Naples, Paris, or at Mr. N. M. Rothschild's, in London. At the latter place with difference of exchange and commission, and in Paris with commission only. Brought out in 1821 at 65 per cent.</p> | <p>Capital £1,500,000 sterling, in bonds of £100, £250, £500, and £1000; interest 5 per cent. per annum.—Negociated in 1823, by Messrs. B. A. Goldschmidt and Co. and brought out 67 per cent.</p> <p>Dividends payable half-yearly, on the 1st of June and 1st of December, at the Contractors.</p> |
| — | |
| ALSO | |
| A FURTHER LOAN. | |
| <p>Capital £2,500,000 sterling, in 25,000 bonds of £100 each; interest at 5 per cent. per annum. — Negotiated in 1824, by Mr. N. M. Rothschild, and brought out at 92½ per cent.</p> <p>Dividends payable half-yearly on the 1st of February and 1st of August at the Contractors.</p> <p>(N. B. The whole debt in 1822 about £18,000,000 sterling.)</p> | <p style="text-align: center;">CHILIAN.</p> <p>Capital £1,000,000 sterling, in 10,000 Bonds of £100 each; interest at 6 per cent. per annum. Negotiated in 1822, by Messrs. Hullett, Brothers, and Co. and brought out at 70 per cent.</p> <p>Dividends payable half-yearly, on the 31st of March and 30th of September, at the Contractors.</p> |

Source Carey [1825?], p. 120, 125, 126, 127.

The fact is that the direct evidence on which ordinary investors had to take decisions was thin. First, the press was obviously suffering with the same incentive problems as borrowers and intermediaries. It was usual for sellers of securities to pay journalists for writing articles or pamphlets

encouraging investors to buy. In 1826 for instance, in the midst of the sovereign debt collapse, the young Disraeli was hired to argue against the possibility of a bubble.¹¹ Second the few dependable sources that existed did not provide much detail, for there was not much that was known to anybody, anyway. The two main stock market compendia Thomas Mortimer's *Every man his broker*, first released in 1761 (continued by [Robert?] Carey, under the title *Everyman his own Stock-Broker*)¹² and Thomas Fortune's rival *Epitome of the Stocks and Publick Funds*¹³ known as "*Fortune's Epitome*" were somewhat detailed for British, French, or American stocks but the actual content, for more exotic instruments was small. Table 1 shows the Chilean, Neapolitan and Portuguese sections of *Every man His Own Stock-Broker*. We see they provide details on when, where and by whom, the coupon was being paid. Only in the case of the Kingdom of Naples are we treated with an estimate of the "total debt" (but: Overall? External?). Later editions of market compendia made additional efforts to document fiscal outlooks, but results remained wanting. *Fortune's Epitome*, edition of 1851, indicated: "No official account of the revenues of [Central-American] States has been published, but they are calculated to approach as follows, etc."¹⁴ Investors could not know how governments were doing.

Section II. Wildcat Underwriting: Lecture Notes

a- The Game They Played

We saw in Table 1 that indication of the banks where interest are paid was one of the few things people were told. Carey also indicates who were the "contractors" of the bond: N. M. Rothschild for the 1824 Neapolitan loan, B. A. Goldschmidt for the Portuguese 1823 loan.¹⁵ The various mechanisms through which banks were "associated" with certain securities or countries thus seem important to contemporaries and we must discuss them now.

In the 19th century, "typical" international sovereign bond issues were as follows. Once a relevant authority ("the government") had identified the need for fresh capital, and once it had decided on ways to raise funds (maturity of the bonds, coupon etc.) it had to select a method for choosing an underwriter. That agent could be one or several syndicated banks and/or venture capitalists prepared to

¹¹ . See Buckle and Monypenny, 1968 : chapter 5, and Fodor (2002) The literary vein was often used to paper off the gaping cracks of financial knowledge. The appendix on Spain in the 1833 edition of Fortune's *Epitome*, contains, in lieu of facts and figures, the following: "Oh Spain! Who hast bartered thy former heroic valour and chivalric prowess for beads relics and pilgrimage, where are now thy gains? Where is the noble Castilian blood that once flowed in thy veins? etc." (Fortune's *epitome*, 1833:121). Nicely put, but what should we do?

¹² . Of these, the first two editions were authored by one Carey, and the third one, whose date of publication is unsure (probably 1825) was anonymous although it may be attributed to Carey.

¹³ . We were unable so far to locate the first edition. The second edition was released in 1796.

¹⁴ . *Fortune's epitome* 1851, p. 200. Similar problems persisted well into the 1890s and beyond (Flandreau 2003a)

¹⁵ . The 1821 Neapolitan loan had been contracted by Rothschild frères in Paris, and was subsequently cross listed in London.

bear the risks of buying the bonds from the issuer and selling them to the public.¹⁶ Two main systems emerged. A first was a sealed bid auction where, following preliminary exchanges, a number of selected syndicates were invited to submit formal tenders in closed envelopes. The envelopes were opened and the best offer retained. The other method we call an “open bargaining” system. It was largely informal. A number of bankers were invited to participate or in cases invited themselves. Tenders were communicated to the government and counter-offers could be made. Competitors occasionally merged, or split. The winning group was eventually chosen.¹⁷ A critical difference between the two systems was the degree of control regarding the identity of the winner, which borrowers retained in the second case. If they had a preferred intermediary but wanted to extract the highest price, authorities might have preferred what we call open bargaining. Of course, this regime enabled bidders to observe each others’ actions and may have led to more conservative offers.

However, this was only the first stage of a bond issue, or “contracting”. Another aspect was “distributing”: securities were sold to investors. This required facilities, the employment of clerks, transfers of funds, etc. A bank (or possibly group of banks if the issue was on several markets) was chosen to serve as “window”. Bonds were sold in installments, and installments were spread over a number of weeks or months. Only once the last installment was paid did governments receive the total amount of the subscription. Special arrangements between the bank and the government could advance or delay the date when authorities got their cash. Finally, someone had to take care of coupon payments. It involved managing transfers from the borrowers to the creditors as long as the debt was not fully reimbursed. The risks, and therefore the revenues, of the last two operations were much smaller than those from the first, but “leads and lags” could nonetheless create trouble, as we shall see.

Nothing required that the same institution perform these various tasks. If it did, then the signal to the market that the bank or syndicate “sponsored” the said issue was strong. But there were cases, as will be discussed later, where distributing banks emphasized that their association was only partial. They distributed the securities and paid the coupon but were not involved as bankers. Conversely, a bank could accept participate in the underwriting of a given security but manage to keep this involvement secret. For all relevant purposes, one may thus identify two relevant levels of banker’s association. In one case, the intermediary “did it all”, acting as contractor, window and coupon payer. We refer to this situation as one where the bank acts as an “issuing-underwriting entity” and has a

¹⁶ . Of course the separation of stages suggested here is somewhat artificial since bidders competed on borrowing terms, and often provided advice to borrowers so that the «bond characteristics selection» stage and the « auction » stage intermingled.

¹⁷ . Vickrey (1961) suggested that under certain assumptions sealed bid first price auction and open ascending auctions are equivalent from the point of view of the seller. Gille (1965) does remark that the sealed bid system predominated among “sound issuers” such as Britain and France. On the one hand Denmark relied on it, lending support to Gille’s remark: Denmark, a constitutional monarchy with parliamentary control over finances, had managed to protect the interests of foreign investors when financial catastrophes following the French wars forced a debt restructuring (Riley 1980). On the other hand, one Peruvian issue that relied on this system, and later one credit poor Spain also relied on this system. We think that understanding the reasons for the choice of alternative bargaining methods would be an important advance.

strong association with the government. Alternatively the bank acted merely as window and/or coupon payer. We refer to this situation as one where the intermediary had a weak association with the government as simple “issuing entity”.

Consider now an ideal world where information is perfect and markets competitive. Issuers (“governments”) sell bonds to atomistic buyers (“investors”). To make matters simple, they sell sterling denominated 5% perpetual securities. These securities are distributed through intermediaries (“banks”). The “banks” charge a fee. Everybody knows exactly how good borrowers are. Differences in bond prices reflect known relative default risks. The fees collected by intermediaries are charged competitively and equalized to marginal costs of distribution. With a linear cost function, equilibrium fees are a fraction α of the bond price. Governments receive the value of their securities, minus the fee

(a). If P_I^i is the issue price of country i 's securities and P_G^i the amount received by the government:

$$P_G^i = (1 - \alpha) \cdot P_I^i \quad (1)$$

If things were so simple, intermediaries would essentially be ATM machines. However, a more adequate description should be as follows. There were governments who knew how good or bad they were. But if they were bad they had reasons to claim they were good. And there were intermediaries who had some information on borrowers (if nothing else, they had an idea of how much information was available at all). But they earned fees from selling the stuff: just like governments, they had incentives to claim that bad issuers were really good ones. McGregor, self-appointed *cacique* of the imaginary Kingdom of Poyais had merely pushed the idea to its logical conclusion. You do not need Poyais to exist for you to sell its bonds.

In reference to the behavior of some banks of issue during the age of “free banking” in the US (1837-1865), we suggest describing the phenomenon as “wildcat underwriting”.¹⁸ Wildcat banks were established in the Midwest to circulate their notes, collect real resources and disappear with the gains.¹⁹ Similarly, we identify as “wildcat underwriters”, intermediaries who contracted loans, sold them to the public and left lenders deal with default.

b- Under-pricing and Run-Ups

Given the underwriting fee, an important ingredient of costing for governments is the “issue discount”. Modern finance literature recognizes that, nowadays, issuers and underwriters of corporate securities deliberately under-price their issues, a phenomenon originally identified in studies of Initial Public Offerings or IPOs. This under-pricing is known as the IPO discount puzzle (Carter and Manaster 1990).²⁰ This phenomenon is not limited to genuine IPOs and more broadly, researchers have identified the existence of a “price run-up” after an issue occurs. Historians (e.g. Gille 1965) also

¹⁸ . See Briones and Rockoff (2005) for a recent survey of free banking.

¹⁹ . According to Dwyer (1996), use of the word wildcats bank to mean “reckless” or “financially unsound” institutions apparently arose in Michigan in the 1830s, when bankers supposedly established free banks in inaccessible locations, “where the wildcats roamed”.

²⁰ . Empirical identification of the “IPO puzzle” for corporate securities goes back to the work of Logue (1973), Ibbotson (1975) and Miller and Reilly (1987).

note the existence of such a discount in 19th century sovereign bond markets and also imply that setting of the primary-secondary market discount was a critical part of the business.

Calling $E(P_s^i)$ the secondary market price at which a security issued by country i is expected to trade after the issue has occurred, and P_I^i the subscription price, the existence of under-pricing means that:

$$P_I^i \leq E(P_s^i) \quad (2)$$

And therefore in principle:

$$P_G^i \leq P_I^i \leq E(P_s^i) \quad (3)$$

So that finally:

$$P_G^i \leq P_I^i \leq \sum_{i=1}^{i=n} \frac{P_s^i}{n} \quad (4)$$

b) Where the Wildcats Roam

Recent research on IPO discounts and price run-ups in corporate debt markets (Rock 1986, Ritter 1987, Allen and Faulhaber 1989) interprets the under-pricing phenomenon as a “lemon’s premium”, which has to be given to investors for the issue to succeed. In a world where there are both informed and uninformed agents, under-pricing compensates uninformed investors for the risks of trading against superior information.

In these models, the extent of under-pricing is increasing in the degree of information asymmetry between informed and uninformed agents (Allen and Faulhaber 1989, Carter and Manaster 1990, Chemmamur 1993 Chemmamur and Fulghieri 1994). These models also imply that under-pricing decreases with the reputation of the investment bank underwriting the issue: more prestigious underwriters are able to provide good issuers with lower discounts.

The validity of this result hinges critically on the extent to which there is competition among prestigious underwriters. When there are many prestigious houses, they compete for the securities of the good countries and in equilibrium the issue price must be close to the secondary market price (Carter and Manaster 1990). But if the prestigious underwriter is a monopoly firm, it can extract a rent from the labeling service. This can take the form of a higher issue discount, which has the advantage of giving to the prestigious firm the ability to share in the gains of the issue with its clients. This has value for her, for it feeds-back on the scope of her investors’ base and further consolidates her market power. Finally, because good issuers derive value from getting access to the market, they are prepared to leave money on the table. This is especially so because, by signaling their worth, good countries improve their future borrowing prospects leading to better borrowing terms in future issues.

Obviously, mediocrity is free entry and ordinary houses are left to compete for bad countries. But uninformed investors understand that prestigious underwriters are not involved and consequently

refrain from buying the bonds. This generates two possible outcomes. If information asymmetries are only partial, then ordinary underwriters can issue bad securities at a low price and high discount (Carter and Manaster 1990). On the other hand, if asymmetries are large, uninformed investors abstain from dealing in securities issued by ordinary houses. These securities are essentially lemons, traded by speculators who play on volatility. In the historical context of this study, initial subscription of securities only required a down-payment of about 10% of the value of the bond, after which the purchasing certificate or “scrip” could be traded. The leverage from investment in a scrip was thus very large, and, given the underlying volatility associated with “bad” securities, a potentially interesting, if dangerous, instrument for sanguine speculators (Fodor 2002).

Finally, a suggestion from modern theory is that competition among ordinary underwriters ensures that the issue price should be equal to the expected secondary market price so that on average the run up is zero. This is so, because all participants to that market share the same information. If it were not (if a bad security were sold below expected secondary market price) then another wildcat underwriter would approach the government with a better offer. In the end, under monopoly, one expects a separating equilibrium to prevail, with stable, low yield, high run-up, serious issues underwritten by prestigious underwriters, and volatile, high yield, junk issues underwritten by anybody else.

How does one secure a prestigious position? Chemmamur and Fulghieri (1994) develop a model of reputation acquisition by investment banks in an asymmetrically informed market.²¹ They show that the ability of financial intermediaries to acquire a reputation for veracity mitigates the moral hazard problem in information production. Carter, Dark and Singh (2002) show that over the long run, issues managed by prestigious houses outperform those managed by ordinary ones. A useful insight from the literature is that prestigious underwriters who try to overprice to generate short-term gains by increasing the amount of issues risk damaging their reputation.²² The suggestion from this family of models is that the ability of financial intermediaries to acquire a reputation for veracity mitigates the moral hazard problem in information production.

c) Credibility: Borrowers vs. Intermediaries

The previous discussion has implications for research on sovereign debt. Current models follow the idea from Bulow and Rogoff (1988) according to whom countries have no incentive to repay their debts when markets are perfect, because they can borrow in one place, transfer the funds to another market and default. This result, known as the “sovereign debt puzzle” has cast doubt on the ability of repeat play to build and sustain credibility – in effect to build and sustain public debt. On the other hand, Flandreau and Zumer (2003) report an incidence of past default experience on secondary market bond prices. A similar result is found in Tomz (2007) who also argues that investors were “atomized”

²¹ . An early contribution in the literature on underwriters’ reputation is Hayes (1971).

²² . In the context of corporate IPOs, Beatty and Ritter (1986) have provided evidence that underwriters whose offerings under-perform subsequently, lose market share.

and thus faced substantial collective action problems.²³ The reasons why “atomistic” bondholders can nonetheless inflict penalties to borrowers remain unclear (see Tomz 2007, for possible solutions).

Emphasis on the role of intermediaries provides a clue on why theoretical insights and empirical evidence differ. The reason why borrowers could access markets is because intermediaries could monitor them effectively, and the reason why intermediaries would monitor borrowers effectively is because they were not an amorphous lot. In contrast with other researchers, we argue that intermediaries were not at all like potatoes in a potato bag. There were higher rank underwriters and those underwriters had the ability to signal good loans to uninformed investors. These intermediaries could credibly commit to monitoring borrowers, because they were concerned with retaining their rank. They would prevent countries from borrowing too much, suspend market access, and so on. And they could never be held hostage by borrowers because as intermediaries, they were not buy-and-hold types. Conversely, they had the power to improve borrowing terms as countries demonstrated their good will. Borrowers, as a result, could credibly commit to repay their debts because they would suffer from a market ban in case they did not behave. Or to phrase it more adequately, they could return on the market, but under deteriorated conditions associated with lower ranking intermediaries.

This analysis has deep analogies with the literature on wildcat banks. Gorton (1996) relies on insights from Diamond’s (1989) incomplete information model to suggest that a process of intermediaries’ reputation formation may have deterred banks of issue during the free-banking era from choosing to become wildcats. More generally, the mechanism that prevents wildcat banks to become a serious problem is a mixture of repeat play and monopoly power. A bank with a large market share will behave responsibly, because the one shot gains of cheating are offset by future losses in market share. This is similar to the setting we consider here where imprudent underwriters risk losing future business. And thus a sorting game emerges: Banks with a long time horizon support borrowers with a concern about perennial market access. On the other hand, wildcat underwriters sell the bonds of governments with a short horizon. It takes two to tango.

Section III. Intermediaries’ Prestige in the 1820s: Empirical Evidence

Previous discussions emphasized the importance of prestige and hierarchy among intermediaries. “Prestige” and “reputation” in underwriting are notoriously difficult to measure (see Logue (1973) and Beatty and Ritter (1986), Carter, Dark and Singh 1998). Carter and Manaster (1990) rely on the “starring order” on stock offering “tombstone” announcements that are published in the press after issues have taken place. However, there were no “tombstone” announcements back then. Perhaps an equivalent criterion would be contemporary opinion, as captured in contemporary quotes despite it being expressed in verbal ways and “without reference to any comparative data” (Chapman 1980: 17).

²³. “For centuries, money flowed to sovereign borrowers *via atomized bond markets, even though cartelized banks could have linked issues more effectively and wielded greater punishment power*” (Tomz’s (2007) synopsis). Mauro et al. (2006) also view 19th century bond markets as displaying “atomicity”.

On the other hand, verbal evidence is unanimous which makes things easier. Around 1820, there were two “market leaders: Rothschilds and Barings” (Chapman, 1980, Chapter 2: pp. 16-38).

While the Barings are seen as the incumbent around 1815 (Ziegler 1988), historians concur on the basis of contemporary statements that during the period between 1815 and 1820 the Rothschilds took an edge and became *the* market leader in sovereign debt (Gille 1965: 57-77). By 1820, literally dozens of statements show that market participants recognized their ascendancy.²⁴ It is also revealing that historians of the House of Barings emphasize that by 1825 Barings were surpassed by Rothschilds, although the prestige of Barings is still ascertained.²⁵ By contrast one cannot find any evidence of similar praise for the large number of other ordinary merchant banking firms. These included such houses as Wilson and Co, Frederick Huth and Co, Hullett brothers and Co, Barclay Herring and Richardson, Lizardi and Co, Reid, Irving and Co etc., of which some were undoubtedly serious. But following contemporary opinion, Hidy (1941) calls them “second rank” institutions.

Table 3. Early Nineteenth Century League Tables:
Government Bonds Issued by Rothschilds, Barings and the Rest

| | <i>Rothschilds</i> | | | | <i>Barings</i> | | | | <i>Others</i> | |
|---------|--------------------|---------|------------------|---------|------------------|---------|------------------|---------|------------------|------------------|
| | Nb of Issues | | Amounts | | Nb. Of issues | | Amounts | | Nb. of I. | Amounts |
| | Flandreau Flores | Chapman | Flandreau Flores | Chapman | Flandreau Flores | Chapman | Flandreau Flores | Chapman | Flandreau Flores | Flandreau Flores |
| 1815-37 | 9 | 24 | 29.8 | 105.5 | 3 | 5 | 10 | 43.2 | 24 | 42.4 |
| 1839-59 | 5 | 16 | 13.1 | 106.8 | 3 | 8 | 7.8 | 20.8 | 13 | 30.6 |

Source: Authors’ database and Chapman (1980:). We do not know how Chapman differentiated between issuing and contracting. In effect it seems that this distinction was not in his mind when constructing his database. And of course he is at the mercy of his source: For instance Fenn (1837:) indicates that the 1824 loan to Buenos Aires was “contracted by Messrs. Barings” while they did only issue it.

Meggison and Weiss (1991) use relative market share of the underwriters as an alternative measure of reputation. In Table 3 provides information that is relevant to this issue, providing indications on the number of sovereign issues underwritten or sold by alternative houses. Such rankings are known today as “financial league tables”. We constructed this data from a variety of sources listed in the appendix, which we occasionally corrected using archival evidence. We also report the numbers coming from an earlier attempt by Chapman (1980). Chapman relies on *Fenn’s Compendium* (editions of 1837 and 1857), which gives details for all loans traded in London, regardless on their being issued there or merely listed. Another difference comes from the fact that Chapman (1980) may have also included railway bonds and a few sub-sovereign issues with sovereign guarantees, while we have tried to stick to the narrowest definition of sovereign debts. He also includes numbers for countries such as Belgium or France, whose identification as an “emerging

²⁴ . See e.g. Gille (1965: 84, from an Austrian official), July 1820: “*La Maison Rothschild est incontestablement l’une des plus puissantes et des plus sûres d’Europe*”; (p. 88, from French envoy in Frankfort), March 1820: “*En attendant les Frères Rothschilds sont une véritable puissance*”, etc., etc.

²⁵ . Hidy (1949: 64): “By this time the house of Rothschild had assumed a marked ascendancy in floating issues of securities for the established governments on the Continent. They had become “the financiers of legitimacy.” The heads of national states were turning first to the new leader, and the Barings last needs come into the operations only upon invitation of Nathan Rothschild. The change had been great since 1818”. Ziegler (1988: 97) “By 1825 Rothschilds, when it came to international loans, were unequivocally the most powerful house in Europe”. Compare Gille (1965: 105): “*En 1824-5, on pouvait croire qu’elle avait supplanté les Baring.*”

market” may be disputed. Finally, Chapman (1980) does not deal with other intermediaries than Rothschild and Baring. All this points to numbers that should be vastly larger for Chapman, and they are. Nevertheless, putting together the evidence, shows the dominance of the two leading banking firms in emerging markets’ sovereign debt. Taken together, they reaped 50% of the market for emerging market debt (Flandreau-Flores data) during the period 1815-1837, and 40% during the period 1839-1859.²⁶ Data from both Chapman and Flandreau-Flores also suggests a predominance of the House of Rothschild over Barings.

Table 4. Capital of Various “Merchant Banks” (circa 1825)

| Bank | Date in London (if applicable) | Capital (million £) | |
|----------------------------------|-----------------------------------|---------------------|------------------|
| | | 1810s | 1820s and Beyond |
| Barings | 1763 | 0.7-1.1 (1815-6) | 0.49 |
| Rothschilds: | 1805 | 1.8 | 4.37 |
| Nathan (London) | 1805 | 0.75 (1818) | 1.14 (1828) |
| Amschel (Frankfort) | Frankfort | 0.70 (1818) | 0.8 (1828) |
| Salomon (Vienna) | Vienna | n.a. | 0.8 (1828) |
| Carl (Naples) | Naples | n.a. | 0.8 (1828) |
| James (Paris) | Paris | 0.35 (1818) | 0.8 (1828) |
| Frederick Huth & Co | 1808 | n.a. | 0.3 (1845) |
| Antony Gibbs & Sons | 1808 | | |
| Brown, Shipley & Co | 1810 | 0.12 (1815-6) | 0.35 (1825-30) |
| Frühling and Goschen | 1814 | n.a. | 0.04 (1830) |
| Glynn, Mills, and C ^o | 1753 | n.a. | n.a. |
| B. A. Goldschmidt | n.a. | n.a. | 0.22 (1826) |
| J. Henry Shröder & Co | 1818 | n.a. | 0.26 (1852) |
| Liverpool Shröder firm | n.a. | n.a. | 0.05 (1839) |
| Lizardi and Co | n.a. | n.a. | n.a. |
| Wilson and Co | n.a. | n.a. | n.a. |
| Reid, Irving and C ^o | n.a. | n.a. | n.a. |
| Fletcher, Alexander and Co | n.a. | n.a. | n.a. |

Sources: Barings: Ziegler (1988); Rothschilds: 1810s (Ferguson 1998: 1039), and 1828: Gille (1965: p. 165: mild difference with Ferguson arising from exchange rate; we neglected in the breakdown, capital held by Anselm Rothschild); F. Huth: Chapman (1980: 40); Gibbs and Sons; Guildhall Library (MSS 11021-96, 11107-40, 11467-74, 16869-904, 19862-89); B.A. Goldschmidt: estimated from total liabilities at failure date given by Gille (1965: 159), assuming capital asset ratio similar to Rothschilds (capital/asset=0.33); Shröder: Roberts 1992, p. 39 for Liverpool, and p. 527 for London (the two Houses were independent from one another).

A third possible criterion of quality is banks’ capital. With a larger capital shareholders stand to lose more and this provides incentives (Michaely and Shaw 1994). Table 4 shows that again, Rothschilds and Baring, in that order, were exceptional. In the 1820s, taking the five branches together, their capital was a towering £ 4.37 million, almost ten times the figure for the next best – the Barings – who stood at about half a million sterling only. In fact the London Rothschilds alone are

²⁶ . After 1806 Barings had gradually taken over the operations of the Hopes so that the two houses are separated by a thin line (Buist 1974 : p. 524, Hidy 1949 : p. 53). It is therefore with the cooperation of the House of Hope that Barings had taken a central role in raising funds for the French indemnity. In 1817 they had issued in London and Amsterdam one loan for Russia, in 1818, they sold a second one and a loan for Austria and a third Russian loan in 1820. Ziegler (1988), Gille (1965 : 103).

twice bigger than the Barings (about .5 million in the 1820s).²⁷ Barings on the other hand were leading the lesser houses, which had a capital that was typically smaller than £ 0.3 million.²⁸ In summary, both qualitative and quantitative evidence suggests that an adequate ranking of underwriters' prestige, circa 1825, would be as follows: 1st The Rothschilds; 2nd (far behind) The Barings; 3rd: (behind) The rest.

Section IV. Good Banks Go to Heaven, Bad Banks Go Everywhere

1) Performance

Based on previous discussions, we expect securities underwritten by prestigious banks to outperform others. Table 5 summarizes relevant information on emerging markets securities issued in London after 1815. This list was established on the basis of the material provided in the 1820s editions of leading stock market compendia.²⁹ Entries are individual bonds, grouped by countries and organized in two parts. The upper part of the panel includes securities that were in arrears at the end of the decade, while the bottom part of the panel has those that were consistently serviced during the 1820s (and beyond).³⁰ We identify (a) the country and issue characteristics (date, amount, yield at issue); (b) the participants to the issue process (contractor, issuer, and where the coupon was paid); (c) the type of involvement of the main bank (underwriter-issuer or issuer); (d) the status of the debt (in arrears or not).

Table 5. End of paper

A number of features stand out. First, it seems that a lot of cherry picking was going on. No Rothschild security was in arrear in 1829. Conversely, there were only three issues that did not bear the Rothschild's seal of approval among the non-defaulting group: two for Denmark and one for Brazil. For Denmark, we have already suggested that, as a country with constitutional oversight of the financial process, it did not need the Rothschild support as badly and as a result resorted to sealed auctions. Moreover, we have evidence that Rothschilds had been bidding for Denmark in a sealed auction, so that they tried to pick the cherry. Gille (1965) says their offer came *ex aequo* but with

²⁷ . Interestingly, the Barings capital compares with that of Amsterdam's leader, the House of Hope of which several operations were taken over by the Barings, and whose capital was drastically reduced in the 1810s. The Capital of the Hopes was 0.5 million in 1810 and even higher in the 1790s, but declined dramatically afterwards. This number is computed from capital in Gulden Courant given in Buist (1974: p. 520-25), converted in pound sterling from quotations of Gulden Banco and Agio on Gulden Banco.

²⁸ . This conclusion is in stark contrast with Gille (1965 : 80) who claims that Rothschild's superiority should not be found in their capital stock : "*Ce n'était point non plus un capital supérieur à tous les autres : s'il était déjà d'importance, il n'était cependant pas gigantesque*". It was "*gigantesque*".

²⁹ . We started with *Fortune's Epitome* and *Carey's Every Man* to establish the list of securities. We then turned to primary sources include the Rothschild Archive, the Baring Archive, the stock exchange lists of London, Paris and Vienna (Wetenhall's *Course of Exchange*, the *Cours des effets commercables à la Bourse de Paris* and the *Wiener Zeitung*). Other useful material included Gille (1965) and Dawson (2002). Less systematic or less dependable sources are referred to when needed.

³⁰ . This criterion is unaffected by the precise final date. Despite occasional arrangements that were never respected Latin American debts that were in arrears in 1829 remained so until the early 1840s at the earliest.

instalments that were marginally longer than the winner's.³¹ Similarly, Rothschilds did display an interest in Brazil. As seen in Table 5, while they did not participate in the first issue they were involved in the second one. Therefore, Rothschilds chased all good securities.

Conversely, it is interesting to see how they negotiated with bad issuers, which they occasionally did. For instance, after 1823, they had extensive exchanges with officials from the restored absolutist regime in Spain, with the explicit goal to reach an agreement for a major issue (Gille 1965). However, they set conditions, such as a settlement on previous defaulted debts, which had been repudiated as “odious” (a.k.a. republican), provision of collateral, administrative and fiscal reform etc. Spanish authorities however would never be brought to reason and Rothschilds declined further participation. Similarly, as we shall discuss later, they approached the government of Portugal, but with much lower terms than those that were offered by other houses. Thus it is that when they dealt with lesser issuers, which they occasionally did, they always sought to apply strict conditionality, take guarantees, and sell the bonds at a price that would reflect more adequately the country's worth. Of course, the bad countries were not interested by such terms.

“Ordinary” firms such as B. A. Goldschmidt, Chapman and Fry, Hulett Brothers, etc., were not so picky. They were happy to underwrite any bonds, and logically ended up with the defaulting ones. In the only instance where there had been an association between a defaulting security and a prestigious bank (Buenos Aires, with Baring) the bank had been a mere issuer, not an underwriter. Underwriting of Buenos Aires, logically, was made by an ordinary firm. And then we saw that Barings were no Rothschilds.

Table 6 provides a number of additional criteria to gauge the performance of the various issues. For each security, and each time this is relevant, it reports: (a) The issue “run-up” or short-term performance, which is the variation (in percentage) between issue price and the first quoted price: This is the IPO discount dealt with in finance literature; (b) the short term performance or result after three months; (c) The outcome of the issue, that is, whether it can be considered as a success or failure. Failure is reflected as the inability to find a market. Complete subscription is not a sufficient criterion to deem an issue to be a success for there were securities, which had been purchased by speculators only in anticipation of a quick gain, but which failed to find “buy and hold” investors when speculators began to sell. This resulted in price collapses and in cases, speculators were discouraged to pay subsequent instalments, so that governments did not get the money.³² We also report a measure of long term performance gauged as constant annualized returns to investors, between their respective

³¹ . Gille's emphasis that sealed bid auctions were the Rothschild's “worst enemy” is further proof of our central contention. Without scope for a counter offer, the “good” firm is prevented from taking advantage of the lower price run ups it can achieve.

³² . See Fodor (2002:14) for an example with Peru's 1822 loan. To identify failure we relied first on contemporary statements. For those issues for which we have no evidence apart from vague statement referring to an alleged success, we examined post issue price variations. A failed issue is identified as one where the quoted price does not recuperate the issue price level in the three months following issue.

issue date and the end of the decade (December 1829),³³ The return is compared to that of an alternative investment, made at the same date, on British consols, taken as riskless securities.

Table 6. Performance of Sovereign Loans in London during the 1820s (in %)

| Country | Year | Int. (%) | Run up (%) | Short Term: 3-mth | Placement Result: Succ./Fail. | Return on Security | Return on Consols | Excess Return |
|-----------------------|--------|----------|------------|-------------------|-------------------------------|--------------------|-------------------|---------------|
| Defaulting States | | | | | | | | |
| Buenos Aires | 1824 | 6 | 1.47 | -2.9 | F | -12.0 | 3.2 | -15.2 |
| Chile | 1822 | 6 | 9.82 | 18.57 | S | -6.5 | 5.9 | -12.5 |
| Columbia | 1822 | 6 | 0.3 | -1.2 | F | -13.3 | 5.7 | -19.0 |
| Columbia | 1824 | 6 | -2.0 | -0.3 | F | -16.7 | 3.4 | -20.1 |
| Greece | 1824 | 5 | 4.6 | -17.8 | F | -5.2 | 3.9 | -8.6 |
| Greece | 1825 | 5 | 1.3 | -17.7 | F | -7.7 | 3.5 | -11.1 |
| Guatemala | 1825 | 5 | -1.37 | -9.6 | F | -28.5 | 5.0 | -33.4 |
| Mexican | 1824 | 5 | 6.9 | 14.7 | S | -10.8 | 4.1 | -14.9 |
| Mexican | 1825 | 6 | 3.6 | 0.8 | S | -18.1 | 3.6 | -21.7 |
| Peru | 1822 | 6 | -8.2 | -18.2 | F | -15.0 | 4.9 | -20.0 |
| Peru | 1824 | 6 | -4.9 | -31.7 | F | -20.1 | 3.3 | -23.4 |
| Peru | 1825 | 6 | -5.7 | -12.2 | F | -24.4 | 4.6 | -29.0 |
| Portugal | 1823 | 5 | -0.3 | 0 | S | -3.8 | 5.1 | -8.9 |
| Spain | 1821-2 | 5 | 2.2 | 21.9 | S | -21.2 | 5.5 | -26.7 |
| Spain | 1823 | 5 | -10.7 | -30.6 | F | -28.0 | 5.1 | -33.1 |
| Non-Defaulting States | | | | | | | | |
| Austria | 1823 | 5 | 6.40 | 6.4 | S | 9.1 | 5.1 | 4.0 |
| Brazil | 1824 | 5 | 2.0 | 3.7 | F | 6.5 | 3.0 | 3.6 |
| Brazil | 1825 | 5 | 3.82 | 2.1 | S | 4.6 | 3.6 | 1.0 |
| Denmark | 1821-2 | 5 | 3.23 | 9.5 | S | 8.3 | 5.8 | 2.4 |
| Denmark | 1825 | 3 | -3.33 | -4.7 | F | 5.4 | 3.4 | 2.0 |
| Naples | 1821 | 5 | 12.50 | 15 | S | 7.8 | 5.7 | 2.1 |
| Naples | 1824 | 5 | 0.67 | 1.8 | S | 6.9 | 3.3 | 7.1 |
| Prussia | 1822 | 5 | 2.83 | 6.6 | S | 8.0 | 5.0 | 3.0 |
| Russia | 1822 | 5 | 3.09 | 6.2 | S | 9.6 | 5.4 | 4.2 |

Source : Authors' computations from Wetenhall and other sources.

Table 6 conveys a number of important messages. We see that securities underwritten and issued by the house of Rothschild outperformed the rest. The average annual return ranges between 4.6% and 9.6% against 3%-5.8% for "risk-free" bonds (British Consols or French Rentes) and other securities issued by entities with parliamentary control such as Denmark 8.3% and 3.4%). The only Rothschild

³³ . The internal rate of return is computed as the constant compounded rate of return that equalizes, the product of actual annual rates of returns and thus shows the returns to a buy-and-hold investor. The 1829 horizon is suggested by Gille (1965) emphasis that this marked the end of the expansion-depression cycle, and before the political turmoil of 1830. Other, longer, horizons yield identical results. Calling t_0 the date of issue p_t the price in late December of year t , p_{t+1} the price in late December of year $t+1$, d_{t+1} the dividend paid during year $t+1$, we have the annual rate of return or $r_{t+1}=(d_{t+1}+ p_{t+1}- p_t)/ p_t$. We thus have $\prod_{t=t_0}^{1830} (1+r_t) = \prod_{t=t_0}^{1830} (1+r_t)$ which can be solved for ρ (see Eichengreen and Portes 1989 for details). When a security was converted during the period, we assumed that investors subscribed to the new security.

connected security with a more modest performance was that of Brazil.³⁴ On the other hand it is clear that despite the Latin-American debt collapse, Brazil's securities held well. And thus the one Latin-American security with a Rothschild's connexion did outperform the rest.

Losses on defaulting securities, issued by ordinary houses were enormous.³⁵ Table 6 shows the numbers. The record was held by Guatemala (a compounded 28.5% annual loss), but all countries revealed dramatic amounts of capital losses: 6.5% for Chile, 12% for Buenos Aires, 15% for Peru, etc. It would be tempting to argue that Europe was less of a disaster (Greece and Portugal) if it were not for Spain (21 and 28%). It is no surprise in this context that two of the houses that had been involved in these operations failed as a result of the crash.

Interestingly, we can argue that the market understood this *ex ante*. Yields-at-issue were lower for both "risk free" and Rothschild bonds. The implication must be that Rothschild securities were seen as risk-free bonds. Rothschild securities dominate the lot, consistently with the notion that the market expected their underwriting to be a signal of future performance. On the other hand spreads between the bad and good securities are an imperfect indicator of market views. A security may be sold at a high price, only to fail finding a market.³⁶ Table 6 shows that in effect there were many failed issues among the securities contracted and distributed by ordinary intermediaries. This is evidence that ordinary investors were not fooled.³⁷ They looked at labels and, not finding the brand they cared for, put the stuff back on the shelves. We conclude that, in the surrounding information asymmetry, the Rothschild' label was used as a plausible guide.

Another way to explore the performance of Rothschild and non-Rothschild offerings is to document the associated risks and returns (Figure 3). The horizontal axis reports risk or yield premium based on issue price (Technically, yield-at-issue minus secondary market yield on British consols on the same date). The vertical axis measures short-term returns or run-ups in percentage of issue price (Technically, the spread between the issue price and the first quoted price). Obviously, Rothschild bonds were not located in the same risk-return area than other securities. Rothschild issues display two characteristics (Rothschild issues of the 1810s as dark blue triangles, issue of the 1820s as light blue triangles). First, they reveal a positive relation between risk and return, which is unlike what we see

³⁴ . But the association between Brazil and Rothschilds was not complete, as already said, and by the end of 1829, the Rothschilds retreated when a third loan was issued in 1829, again through the Wilsons, although, as we shall see Rothschilds were keeping remote control of the operations.

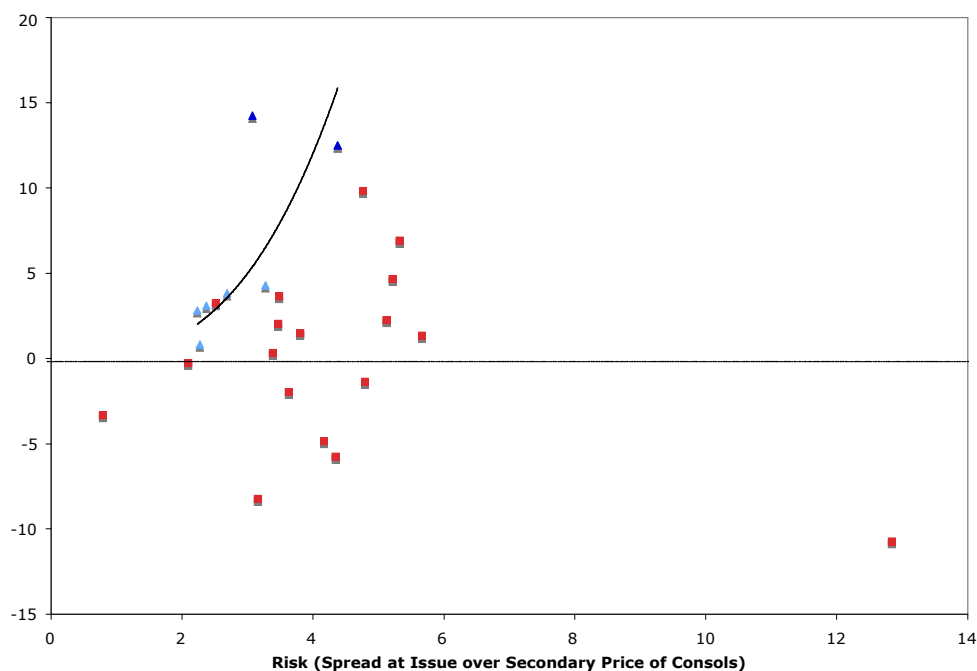
³⁵ . On 21 July 1826, the *Morning Chronicle* printed a table comparing the respective issue prices of the foreign loans with their current quotations, and calculation of the investors' loss on the value of their holdings: "The difference between the issue price and the quoted bond prices were shocking. Brazilian bonds had shed 30 points since their issue date, Buenos Ayres 36, Chile 37, Colombian 1822 bonds 58, Colombian 1824 bonds 60 ½, Mexico 1824 bonds 50 and Mexican 1825 bonds 45...Investors probably derived scant consolation from knowledge that Spanish and Greek bonds had performed even more poorly. Spanish 1822 bonds issued at 56 were now quoted at 7, while Spanish 1823 bonds had dropped from their issue price of 30 to 4. The 1824 and 1825 Greek bonds, issued at 59 and 61,5, had collapsed to 10 and 11 respectively" (quoted in Dawson 2002: 127

³⁶ . Indeed some contemporary and modern authors have argued that the spread between good and bad securities were far too small. This was reportedly the position of the House of Hope in Amsterdam regarding the issue price of Buenos Aires' securities (Ziegler 1988:).

³⁷ . Fodor (2002) argues that the actual amounts collected from naive investors were very small.

for issues by ordinary banks (no relation, or possibly a negative one). In effect, a non-Rothschild issue was a lottery ticket (highly volatile run-ups). Second, for any given level of initial risk, short-term returns from Rothschild issues dominated all other ones. This means that for any level of risk, Rothschild issues were costlier for issuers than non-Rothschild ones. Evidence of such large and predictable gains suggests there was a free lunch. We think of it as a tribute to Rothschild's monopoly position, and also as a signalling mechanism.

Figure 3. Short-Term Risk and Returns: The Rothschild Frontier



Source: authors' computations and Table 6.

Cases where Rothschild's were not involved but could have been provide additional anecdotal evidence. Compare for instance Wilsons' issue of Brazil 1824 with Rothschild's one in 1825 (Table 6). As seen, Rothschild's issue experienced a price run-up while Wilson's did not. This may be seen as a tribute to Rothschild's credit. Another interesting case is the Danish issue of 1825. As indicated, it was sold to an ordinary bank (again, the Wilsons') in a sealed bid auction. The Rothschilds had participated to the auction and were prepared to sell it at almost the same price as Wilsons (Gille 1965:). Thus we may predict that, had the Rothschilds been involved, a positive run up would have been observed. But they were not and the Wilson issue experienced a price *decline* on the issue date (Figure 3). Controlling for all factors is difficult, but the general inference seems to be that uninformed investors could tell that with Rothschild issues there would be substantial and predictable gains. By contrast, with ordinary banks, they could not know how much they would make or lose. If that is so we should expect a lot of non-Rothschild issues to fail, which is just what happened.

2) Commitment: The Visible Hand of the Market

Of course, securing stable and reliable returns for the securities it underwrote could not be straightforward, even for a prestigious firm. Liquidity shocks, rumors, and their likes were always

possible: The market could reverse trend, unhappy competitors could cry down securities. These complications required interventions in order to mimic the normal operation of the market and keep customers satisfied. One example was Russia's 1822 issue. Primary sources suggest it had encountered difficulties, "much stock staying unsold" (Ziegler 1988:94). But Table 2 shows the issue performing normally with a typical "Rothschild" run-up. It must be that someone was buying. And if it were not the public of investors, it had to be the underwriters and their close clients. Indeed, relying on primary evidence from Rothschild's archive Gille (1965:) argues that, from 81 (price of issue) prices were "pushed" to 84 and 85. The point is that issuer-underwriters could not just walk away from the countries they had sponsored, since their reputation was tied to the sustainability of these countries' debt. We suggest describing the relation between prestigious underwriters and the countries they issued as one of implicit insurance. Two case studies shall illustrate this point.³⁸

a- The Kingdom of Naples.

New Neapolitan securities were introduced by the House of Rothschild in Paris in 1821 with cross-listing in London.³⁹ The new Rothschild *Rente* was issued in three batches, in May 1821 and December 1821, with the third one being split in two tranches, respectively sold in January 1823 and January 1824. The two issues of 1821 had been major successes with prices rising continuously. A third agreement, signed August 1822, provided for what was essentially a forward underwriting contract: it stipulated that there would be two further loans, sold at 73 and 75 in January 1823 and January 1824 respectively. Figure 4, which extrapolates the earlier trend in Neapolitan bond prices at the date of this latter agreement, suggests the kind of ideas that the Rothschilds were mulling over. The bankers were betting on further price increases.

However, their play was disturbed by the events in Spain in late 1822, which reversed trends temporarily. On the day the issue was supposed to take place, the price of the rentes was below the level at which new securities should be bought. Nobody would subscribe and the bankers had to pay the first installment, in effect becoming sole purchasers.⁴⁰ The bond was not formally introduced in the market. At the same time Rothschilds were intervening to support the securities, most probably through forward purchases.⁴¹ There is a suggestion that they did so in partnership with Naples' finance

³⁸ Interestingly, the concern over making sure that there would be a positive run up was combined with the concern that this run up should not be too big for fear of signaling a speculative issue. According to Gille (1965 : 184), the Rothschilds perceived this as a "great danger" and the bankers intervened when needed to prevent excessive price increases

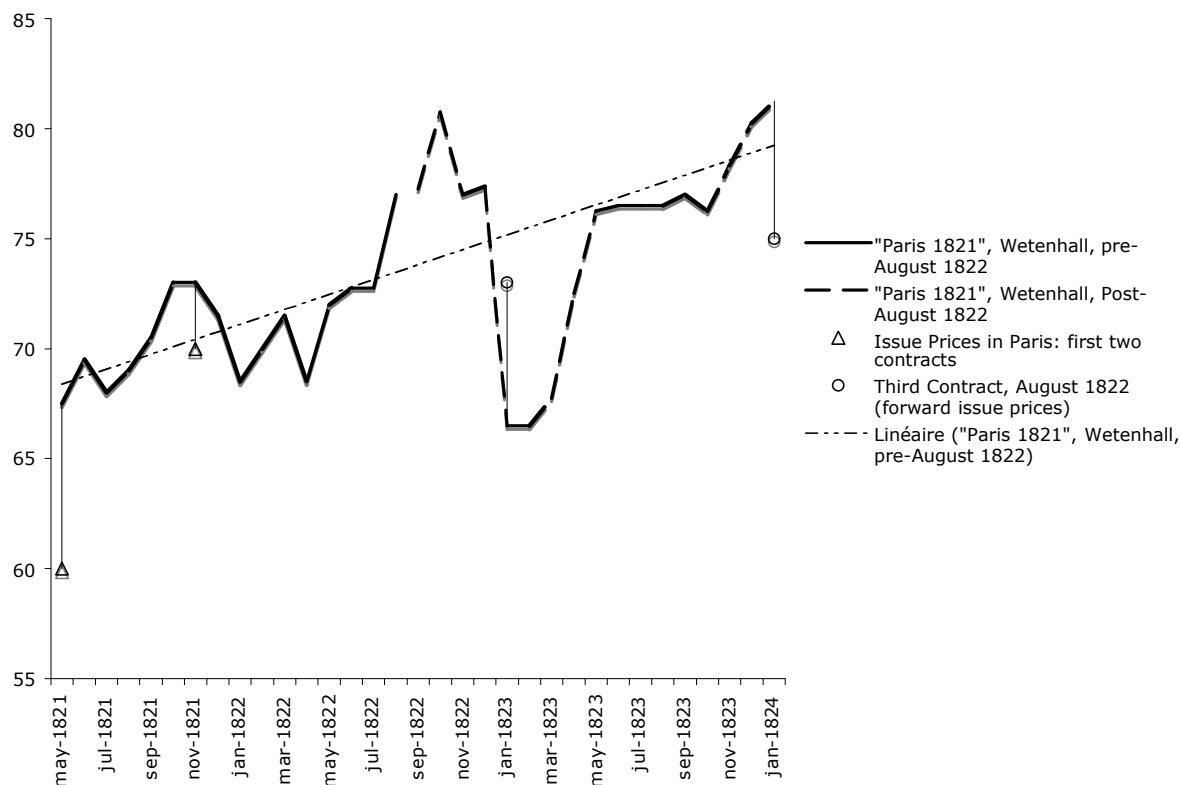
³⁹ . Neapolitan rentes had been an instrument traded in the Paris market for quite a while See... In what follows we use quotations for the so-called "falconet debts" which evidence suggests was used as benchmark for settling transaction on other instruments. Data (available upon request) show that quotations on Falconet debts were consistent with other sterling or franc denominated Neapolitan rentes when they are both available, and similar as well to other instruments such as Sicilian rentes.

⁴⁰ . From Select Committee p. 267, "Some Revolution took place, [...] and if it had not been that my grand father had paid the instalment and kept the stock, the Government would never have got their money".

⁴¹ . *Journal du Commerce* reports quotations for forward prices on foreign securities in Paris. Neapolitan forwards are the most frequently quoted ones.

minister, one Medici.⁴² Gille (1965: 97) argues that by July 1823, Medici and the Rothschilds “had the situation under control” as can be seen in Figure 4.⁴³ The January 1824 issue could also be floated and in May 1824 another successful issue took place in London.⁴⁴

Figure 4. Spot Prices of Neapolitan Rentes in London 1821-24
Trends and Issue Prices



Source : *Cours des effets commercables à la Bourse de Paris*, Wetenhall

Problems were renewed with the collapse of Latin American securities, which took their toll on Neapolitan bonds. Market reports suggest the premises of contagion. Some investors sold Neapolitan bonds forcing the Rothschilds to step in again. One of the few available balance sheets of the Paris house, dated June 1826, shows Neapolitan bonds representing 15% of the total asset side. This amounted to one fifth of the 1824 London issue.⁴⁵ James wrote to Charles in Vienna that if it “had not been for their purchases” Neapolitan funds would be trading much lower and perhaps “discredit would be complete”.⁴⁶ We conclude that concerns about brand promotion led under-writing by the house of Rothschild to include extensive post issue services and in effect, market support.

⁴² . Gille (1965: 97)

⁴³ . “Fin juillet [1823], le ministre et Charles de Rothschild paraissaient avoir les cours bien en mains, malgré une certaine abondance de titres” (Gille p. 97)

⁴⁴ . The low run-up that this issue experienced, however, may be seen as a reflection of the underlying travails.

⁴⁵ . The asset side was million £ 3.8 of which million £ 0.5 Neapolitan bonds. Gille 1865:164-5.

⁴⁶ . Gille (1965:): “Il n’est pas douteux que depuis quelque temps un nouveau discrédit s’est attaché aux fonds napolitains.... Sans les efforts que nous avons faits, nous ne savons trop où cette défaveur aurait pu s’arrêter et nous craignons même que si l’on ne porte remède au mal, ce discrédit finisse par devenir complet.” Support operations continued when in October 1827, the House of Rothschild offered to buy future coupons thus selling nothing short of an outright insurance against default Gille (1965: p. 168). There was also diplomatic

b- Brazil

The experience of Brazil also offers interesting perspectives. Following the failure of the Brazilian debt issue in 1824 by Thomas Wilson and Co's, the Rothschilds had been asked by the British government to take care of the balance.⁴⁷ They did it and acted as underwriters and issuers for the remainder of the loan, which was successfully sold in 1825. However the situation soon deteriorated and, following the Latin American bond debacle, the Rothschilds were concerned with dealing with Brazil at arm's length.⁴⁸ Brazil had not defaulted on its bonds but in May 1828 its authorities declined to pay the coupon on a Portuguese loan it had agreed to service in exchange for the recognition by Portugal of its independence. The Rothschild consistently declined any new loan to Brazil. But they were nonetheless keeping an eye.⁴⁹

In 1829, as financial problems accumulated, the House of Thomas Wilson took a new issue on board, which it underwrote and serviced. However the distribution was in effect taken care of by the Rothschilds. There was no prospectus, or anything like that and the securities which were sold in May 1829 were distributed among Rothschilds close customers (Dawson 2002:181). The market recognized the Rothschild's heavy hand.⁵⁰ Bull speculation followed, and the price of the 5% Brazilian bond soared from 58.75 in May to 73 at the end of the year.⁵¹ And thus (although in a certainly much less decisive way than it had done for Naples) the house of Rothschild was signaling the worth of Brazil. Dawson (2002 :182) has argued that "Brazil's continued solvency, made possible by the Rothschild sponsored rescue ... affirmed once more the basic differences between the vast country and the former Spanish colonies". The most basic difference, our analysis suggests, was the involvement of the Rothschild's firepower. One cannot discount the fact that access to such a powerful support must have weighed potently in the Brazilian authorities' eventual decision not to default. After all, as we saw, many decisions to suspend coupon payments followed rather than preceded the collapse of intermediaries.

maneuvering: Naples was financing military occupation from Austria and the Vienna branch was in charge of trying to persuade Metternich to put an end to it in order to alleviate Naples' financial burden. It would be too long to review here all the schemes that the Rothschilds implemented to support Naples.

⁴⁷ . We follow here the explanation of Gille (1965 :). Other authors appear to ignore this connection and argue that the reasons why the Rothschild engaged in Brazil are not precisely known (Marichal gives the Times and Barroso, Gustavo as the references, p.35). Dawson (2002) speculates that Brazil was the only monarchy and this special status as a stable land favoured the interest of the merchant house.

⁴⁸ . *Fortune Epitome* (1833, p. 132-3) reflects the concern of investors: "Hitherto, Brazil has avoided launching into the very vortex of revolutionary turmoil, and of downright republican principles; but there is no disguising, to a common observer that it stands on the brink of the precipice, having already deposed in a manner their chief authority and embarked on the doubtful sea of a Regency, with a long minority. It is to be hoped that they will have the good sense to take warning from the events which are passing in the neighboring States, and keep from the horrors of anarchy".

⁴⁹ . Dawson (1990:171) argues that this was damaging for Brazilian credit. Dawson he concludes that Brazil was technically in default, although the CFB (1877) does not register Brazil as defaulter in those years (see also Abreu (2006: 767)). They were eventually brought to reason (after years of dispute between both Governments, the *Times* reported on the 28th January 1836 that Brazil accepted to repay the loan although at that date they still had to agree on the exact amount).

⁵⁰ . Some sources associate the Rothschilds to the Wilson (e.g. Gilbart 1837: p. 61).

⁵¹ . One interesting aspect of the episode is that it resulted in Brazil's credit rising above that of Portugal.

3) Reward: Reputation Formation and Intermediaries

Equilibrium requires agents to find it in their interest not to deviate. Starting from the description we have provided so far, we do find plenty of evidence that intermediaries, investors, and borrowers found rewards in the existing system and thus incentives to keep it going.

Consider first the banks. The good ones had all reasons to be careful regarding the instruments that they would bring on the market, for wrong choices would reverberate on future business. And thus the Rothschilds cherry pick, while the Barings abstain. The bad ones had all reasons to be “betting for existence”, i.e. try to break in the market by playing with neglected instruments and hoping that this would turn out to work. They found possibilities in the emergence of new countries following the collapse of the Spanish Empire. Table 7 organizes evidence on underwriting activity during the period 1815-1840. Most of the banks that had issued rotten securities during the boom of the 1820s disappeared from the market in the subsequent period. Two went bust. Seven just got out. Those capable to continue business were the Rothschild, the Barings, which interestingly intensified their activity, the Wilsons, and Ricardo.⁵² For Wilson it was only for one loan (the Brazilian issue of 1829) and interestingly, none of its issues had defaulted. Moreover that one issue had been conducted with Rothschild’s backing. The case of the house of Ricardo is also interesting: as seen, Ricardo was among the underwriters with the highest yield at issue during the first period (about 600 basis points). It managed to introduce a substantial amount of loans during the second period, again at discount prices (a more than 600 basis points). Ricardo, it might be surmised, was a self-confessed seller of junk bonds. Finally there were three new houses that made their *début* during the second period. As can be seen, wildcats came and went.

Consider now the public of investors. Global custody with a prestigious underwriter, during the 1820s, meant making huge gains. Earlier historians have emphasized that the Rothschilds managed the portfolios of the “super rich” of the time who were in a large part the members of the former aristocracy (Gille 1965: 77).⁵³ We remark that Rothschild’s “convergence plays” were very profitable for those who got involved in the “inner circle” on investment. In the Neapolitan 1823 rescue, they bought at 73 and five months later when volatility receded (in May 1823) the price was 76.25. Assume they sold at that point, and that’s a 9% annualized return. In the Brazilian operation of May 1829, assuming that the securities were sold in December to buy and hold investors the gain was above 40%. As said, an issue underwritten by the House of Rothschild was a guaranteed success so that it was advantageous to be in a position to receive a substantial allotment. In summary, the Rothschilds’

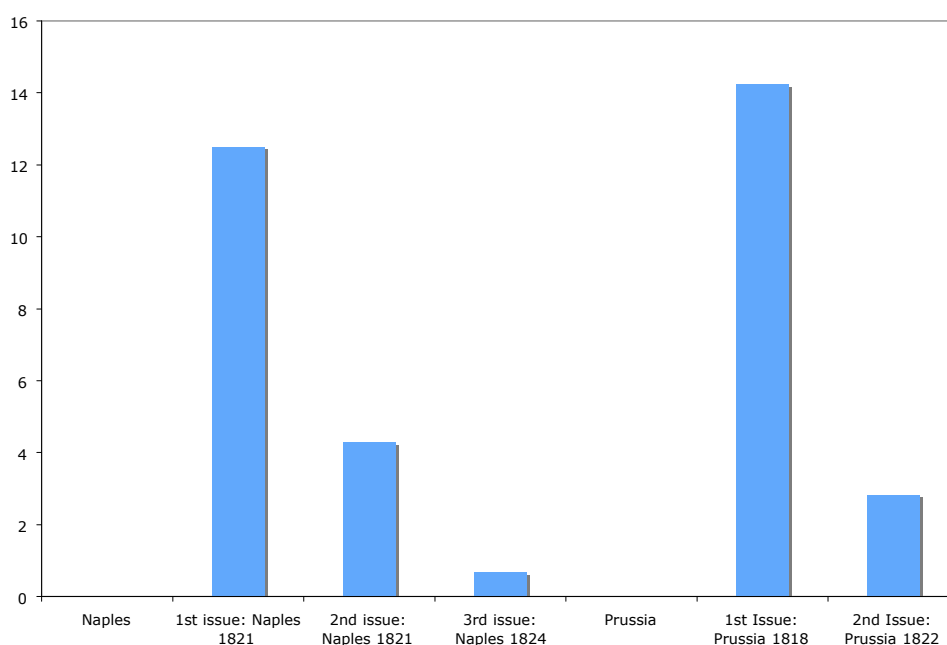
⁵² . Baring’s fairly low yield at issues suggests that they made a quite aggressive come-back in the 1830s, after having essentially abandoned the turf to Rothschilds.

⁵³ . See Gille (1965 : 80) for an early intuition of this result: “La technique des grandes opérations financières, la structure des capitaux *font qu’une firme réputée pour ses succès et pour son habileté fait automatiquement prime*. Il suffit que son nom figure dans une compagnie financière pour qu’elle draine tous les capitaux disponibles. Et, si elle tient, par le biais des commissions, par les facilités de placement, un certain nombre de correspondants actifs, sa suprématie est assurée” (our italics)

operations may be said to have pioneered the actions of modern hedge funds with their sheer size and ambitious bets.⁵⁴

What benefits for borrowers? Obviously the *de facto* monopoly Rothschilds assumed had a cost reflected in Figure 3 by the larger run-ups of their issues. This was money borrowers were leaving on the table and we may ask why they were happy with that. Part of the answer is that obviously they were not but did not have alternatives. Using other houses would mean a risk failure, greater price volatility and in the end disappointment. On the more positive side, however, we remark that the costs incurred by borrowers decreased over time. This is illustrated in Figure 4, which shows the evolution of Rothschilds price run-ups in the two cases where we do have a list of subsequent issues for the period under study, Prussia and the Kingdom of Naples.

Figure 4. Price Run Ups in Maiden Début and Seasoned Issues



Source: authors' computations

As can be seen, run-ups for “maiden débuts” were larger than 10% of the value of the bond but subsequent issue incorporated much lower discounts. These reductions reflected the fact that, having exploited their monopoly position in bringing the first issue to the market and making it a success, Rothschilds now had to take lower margins because they had revealed part of the issuer’s worth. While they retained an edge that enabled them to defeat competitors in open auctions, there were now a number of firms out there ready to enter the market Rothschilds had created, had they asked for too

⁵⁴ . See e.g. Gille, p. 163 “*Ce qui frappe au premier abord dans ces bilans, ce qui explique aussi la solidité de la firme dans la crise, c’est le peu d’importance des dépôts*”. Feed-backs on the activity and prestige of initially prestigious underwriters could also derive from this situation. They identified various layers of investors, and various degrees of appetite for risk (e.g. Gille, (1965: p. 165): emphasizes the importance of the Rothschilds having in management the funds of a number of buy and hold purchasers). As a result, they could direct the fire in the aftermath of new bond issues, involving clients at various stages of the process depending on resources commitment and time horizons.

high a margin. Of course the signals competitors would send would be worthless, but then the very fact that Rothschilds displayed interest was a guarantee.

The resulting situation may be thought of as an incentive system that shifted the returns from good behaviour to a distant future while imposing short-term costs. This can be understood as an efficient mechanism to encourage borrowers to reveal their true worth. A non-serious borrower would prefer to run the chance of a non Rothschild issue sold at a lower run-up and higher price with an ordinary bank that would be unconcerned with damaging its reputation, and then default. By contrast, an issue with Rothschild meant heavy up-front costs. But then, there would be long run benefits. And in the end, the enforcement of this system obviously rested in a very peculiar form of creditors' coordination, namely the monopolization of market access, achieved through prestige and reputation of intermediaries, in a world of rampant information asymmetries.

An illustration is provided by the 1823 5% loan to Portugal, which some early authors have mistakenly attributed to the House of Rothschild.⁵⁵ This is because its archive contains a projected contract that was submitted to the Portuguese government, for the sale of £ 1.5 m. nominal capital at 73 minus commission 3%. We ignore how much bargaining had taken place before but assume, upon inspection of the document, and from comparisons with other cases, that this was Rothschild's final price. But a few weeks later, the loan was underwritten and issued by B. A. Goldschmidt, at 87, or 19% higher.

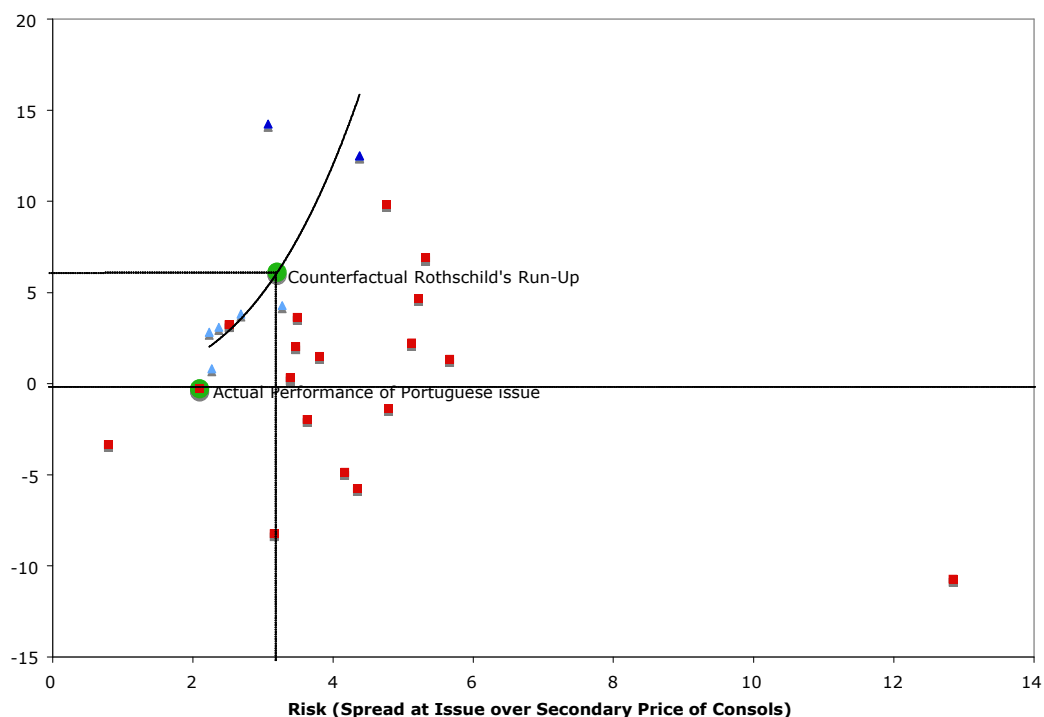
The involvement of the House of Rothschild in trying to underwrite a security that would eventually default is interesting. As we can see Rothschilds priced Portugal much lower than a wildcat did. Based on the empirical evidence from other contracts we may predict that Rothschilds would have delivered a run-up of about 6% so that Portuguese bonds would rise to 77,45 (or a yield of 6.45%) on the first day of trading (Figure 5).⁵⁶ Even with the negative run-up of the Goldschmidt issue, the first quoted price implied a yield of 5.76%. The 69 b.p. spread is one measure of the short run gains from not using the House of Rothschilds. However, despite Goldschmidt's efforts to push up the price, Portuguese securities stood to decline inexorably. Ironically, in February 1826, when Goldschmidt failed, it was trading at 73 -- Rothschild's suggested IPO price. Moreover previous evidence on Rothschild's commitment to defend their clients suggests that, had the Rothschilds underwritten the loan, (implying that Portuguese were serious about paying back) they would have supported it at that

⁵⁵ . See Ayer (1904). The confusion is cleared by Gille (1965: 103), resurfaces Ferguson (1998: 142). The reference of the contract in the London Rothschild Archive is 000/401 A. According to the terms of the contract, the Rothschilds would be underwriters, issuers and coupon payers. Contract is dated from Lisbon, September 8, 1823.

⁵⁶ . Another way to look at this is to consider that the pricing incorporated the standard *début* discount that had been applied to Prussia and the Kingdom of Naples in which case the run up would have been closer to 10%, bringing the security to about 80.5 or a yield of 6.2%. In effect, archival evidence shows that the Prussian *début* bond was used as a benchmark for the Portuguese issue. The contract was modeled after the Prussian of 1818, and indeed it was stated that "The basis of the contract on which [the bonds] are founded, similar as far as possible to those issued by the Prussian Government in 1818, of which a model is hereinto annexed." (Rothschild Archive, ...). The existence of lien on public revenues is another similarity.

point. Instead, Portuguese bonds were sliding further (to 65, to 60, down to 40 in late 1830) and eventually, Portugal defaulted. The episode illustrates a prestigious house's concern about protecting its reputation, a concern, which led it to try and bring securities at the right price that. Interestingly, the modern literature on corporate IPOs for a contemporary parallel (Beatty and Ritter 1986). It conversely illustrates that this entailed short run costs for the government, as well as long run benefits. Borrowers, depending on the time horizon and thus commitment to repayment, associated with good or bad intermediaries, and the sorting was done.

Figure 5. A counterfactual assessment: Portugal 1823



Source: Authors computations from Wetenhall and Rothschild's Archive

And thus it is that bonds issued by Rothschilds were successes while bonds issued by ordinary houses were failures. Rothschilds became a brand, and still is, to an extent. Contemporaries soon recognized it and information on prestigious banks' actions became a market driver (think of announcements of new investments by Warren Buffett as a modern day equivalent).⁵⁷ In Frankfurt and Naples, people trading on volatility remarked that the numbers of messengers received by the House of Rothschild was a signal of impending market movements. In April 1822 a "mini-crash" was triggered by arrival of an unusual number of Rothschilds couriers.⁵⁸ It happened that in Naples,

⁵⁷ . See e.g. Gille (1965: 166) and *Moniteur universel* September 22 1826, *Journal du Commerce*, September 23 1826. There were rumours that the Rothschild were betting on certain securities and "cette seule annonce, vraie ou fausse, avait déjà provoqué un mouvement favorable de hausse".

⁵⁸ . Gille (1965 : 188), and *Journal du Commerce* (April 3 1822) : "On surveilla donc attentivement la marche des courriers R. En avril 1822, ils provoquèrent, par leur nombre, une petite panique à Francfort"

messengers had to change clothing to avoid disrupting the market.⁵⁹ And of course, speculators tried to plant rumors pertaining to Rothschild's moves (Gille 1965:). The Rothschilds, in turn, denied, clarified, or ignored. A whole business of information collection, retention, and distribution was born, and its focal point was not what the borrowers were doing but the actions of intermediaries. In the end the material in Table 1 contained exactly what people needed to know -- that Goldschmidt had underwritten Portugal, while Rothschild had underwritten Naples.

Section V. Speculative Grade: The House of Baring in Latin America

This section deepens our foray on the economics of underwriter's prestige in a world of incomplete information, showing that the prestige of certain firms acted as magnets for investors and could have effects even when the firm did not get directly involved. In the previous discussion we lost sight of the House of Baring. During the 1820s, they refrained from dealing with sovereign debt and adhered to that policy consistently throughout the decade.⁶⁰ Internal sources emphasize perceived risks (Ziegler 1988: 95). Swinton Colthurst Holland, a partner at Barings, reflected in 1821 that: "the Stocks for Public securities of all countries ... are a dangerous commodity to deal in, by those who do not understand them ... and the wisest are often deceived with regard to them" (see Ziegler 1988: p. 95).⁶¹ Considerations of Value-At-Risk and prudential management (translating volatilities into potential losses and computing the amount of capital needed to absorb the shocks) may explain Barings' reluctance.⁶² During that period their capital was on the ebb: in 1826, the amount of Neapolitan bonds found in the Rothschild portfolio was equivalent to Baring's total capital.⁶³ However, given the reputation of the Barings, even their reluctance was a signal and indeed, in February 1825, Alexander Baring had spoken in the House of Commons against the sovereign debt mania as interfering with "legitimate loan-making" (Hidy 1949: 67). However, despite their initial lack of appetite with sovereign debt Barings nonetheless got involved. In this section, we study how what we conceive as an evolutionary process of "self-discovery" occurred, and we do this by providing three snapshots dealing respectively, with Buenos Aires (embryo of later day Argentina), Mexico, and the Bondholders.⁶⁴

⁵⁹ . Gille (1965: 167): "*Ainsi faisait-on attention une attention sans cesse plus soutenue, aux déplacements et aux réunions des chefs de la maison Rothschild. Le monde financier européen, et cet aspect psychologique n'est pas sans importance, paraissait vivre de suppositions à l'égard d'elle. La spéculation s'en trouvait affectée. Déjà se constituait les éléments d'une légende qui depuis quelques années n'avait cessé de gagner en importance*".

⁶⁰ . These have much intrigued historians, see Gille (1965), Ziegler (1980).

⁶¹ . Hidy (1949 : 499) quoting Nolte (: 302-6) also argues that the Barings lost heavily speculating in French rentes in 1824. Gille suggests this was in 1818.

⁶² . The House of Baring had lost money in 1818 while playing with French sovereign debt (Gille 1965 : 77).

⁶³ . In the words of Ziegler: "An unadventurous approach to foreign lending was no bad thing in the 1820s. The cautious Barings eschewed such exotic delights and had cause to congratulate themselves when the financial crisis of 1825 [...] caused almost every borrower in Latin America to default on his payments of interests" Ziegler (1988: p. 97-8).

⁶⁴ . This involvement eventually led to the Barings infamous collapse in 1890. It seems ironic given Baring's initial reservations (Flores 2004, 2007). Hidy (1949 : 67) reflects that "later partners in the House of Baring

a) Buenos Aires

Barings were not averse in principle to investment in Latin America (Ziegler 1988:101). What was attractive to them, as a merchant house with many dealings in the Americas, was the enormous trade and growth potential of Latin American countries. Against this, stood political fragility and it was just as large. The need to keep good relations with local communities made it difficult to abstain from dealing with polities while sharing in commercial promises. The concern about not missing the coach was particularly strong Ziegler continues, with “the River Plate [Buenos Aires] to which area the British exported more than £ 1 m. worth of goods in 1824 alone.” (Ziegler 1988: 102)

The involvement of Barings occurred in just the reverse way we observed with the Rothschilds. The Rothschilds brought debts to the market. The market was to bring Barings to the debts. The contractor of the Buenos Aires loan of 1824, W. P. Robertson had approached Barings asking them to become the window through which the loan would be distributed. Unsurprisingly, given what we have argued so far, Robertson emphasized that “the Minister of finance in Buenos Aires had urged them to involve Barings in the transaction if they possibly could, since *nothing would help more to establish the country's credit*”.⁶⁵ The Barings accepted to be Buenos Aires' portal and thus they became distributors and advisors.⁶⁶ But they waved their hands to the market, emphasizing they merely acted as they would for any other commercial concern, acting as “depository of subscriptions”. The prospectus named Castro and Robertson as the issuers of the loan (Amaral 1984, p.18).

The issue (begun July 28, 1824) was far from satisfying. In the words of Ziegler (1988: 102) “speculators briefly kept the price at a premium but they soon cut their losses and threw their stock on the market”. Our data from Wetenhall shows the price run up to be a modest 1.25% (Table .), declining to 0.5% after one month. After three months (late October 1824) prices were actually 2.5% below issue.⁶⁷ At that point, Robertson regretted, one was “under the necessity of considering the Buenos Ayres loan a failure” (Ziegler 1988: p. 102).

Intriguingly, despite Barings' animadversions, they were reported as actually buying the bonds of Buenos Aires and trying to limit their fall to the extent, says Ziegler (1988:102) “that they had an uncomfortably large amount of capital locked up in virtually unsaleable bonds”. We ignore the extent of these market interventions and of the losses that Ziegler claims were suffered, or if there were any losses at all. In the following months the Buenos Aires loan rose again, and it may be that this enabled the Barings to get out with a profit.

The point, however, is that we cannot avoid noting that their “exertions” bear some resemblance to those of the Rothschilds with Neapolitan debt, although they were obviously much more limited. Later

especially in 1890, certainly had reason to wish most sincerely that relations with Argentina had never been inaugurated”

⁶⁵ . Ziegler 1988: 101:” Robertson spared no pains to bring this about. He assured Barings that the business was absolutely safe: ‘In resources, in Government stability, in every regard Buenos Ayres holds a different rank from the other Independent States’”.

⁶⁶ . Ziegler says (1988 :102) that they advised contractors to sell the bond at a lower price.

⁶⁷ . Authors computations, from Wetenhall.

Argentine historians have claimed that “the name of Alexander Baring ... is worthy to figure among the loyal servants of our country” (Leguizamòn 1924: quoted in Ziegler 1988). Similarly, Ziegler writes that, for Barings, the eventual default of Buenos Aires in January 1828 “was the most painful of the many shocks they had suffered in the previous two years” (p. 103). And thus, one is under the impression that, apart from their being philanthropists, the Barings’ involvement in the debt of Buenos Aires must have resulted from a concern about the adverse effects of Buenos Aires’ failure on their brand.

b- Mexico

Similar insights emerge from an examination of the effects of the take-over by the Barings of the agency of Mexican loans, following the failure, in August 1826, of Barclay, Herring Richardson (Costeloe 2003, Dawson 2002, Ziegler 1988: 105-6). The market learned of it in September 1826 and there again the Barings insisted that their acceptance to pay out dividends had no significance whatsoever. However, the announcement triggered bull speculation in the market. The wording in Dawson (2002: 128) suggests contagion, a point to which we return later: “All other bond issues were temporarily buoyed by Baring’s designation as agent for the Mexican loan. Even Peru rose from 27 to 29,5, and buying orders for Mexican stock were received by post from ‘Hansa towns’ where the appointment had ‘created a strong impression’”.

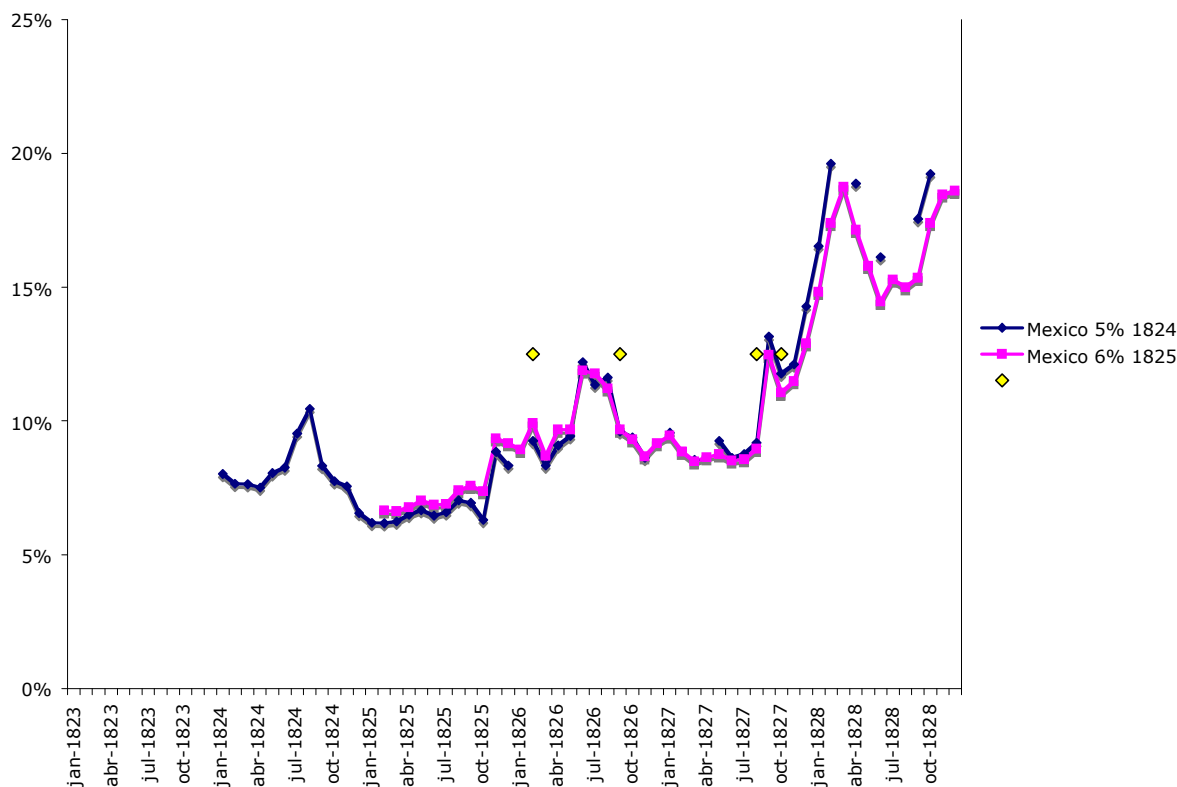
The fact is that, there again, the Barings were finding themselves drawn into the maelstrom of bad debt management. Following delays in the transfer of funds from the Mexican government in March 1827, the April 1 coupon was paid “courtesy of Baring Brothers” and (Dawson 1990: 147) and so was that of that of July (Dawson 1990: 148, Hidy 1949: 66, Costeloe ????:). Technically, the House of Baring was lending into arrears. The relation between Baring and the Mexican government deteriorated and in August 1827, news that Barings were intending to transfer its Mexican agency to Reid, Irving, another merchant house involved in trade finance with the Americas, but one of “second rank” (Hidy 1941), “precipitated a heavy selling wave” (Dawson 2002: 147).

The information was later disapproved but in late September “default and an agency change” appeared inescapable (Dawson 2002: 150). Formal default was announced on October 1, 1827, and the Barings gave up agency. According to *The Times*: “It was especially regrettable that Barings had lent its name to the proceedings. *Although all the firm’s partners had repeatedly stated that they had no formal connection with the Mexican government and had agreed to pay out dividends as they would [for?] any other commercial agency, the general public had received a different impression. Many bondholders would never have retained their position in the loan but for the character which Messrs Barings gave it by undertaking the agency*” (18 September 1827, quoted in Dawson 2002: ; our italics).

Figure 6 shows the effect on the price of Mexican securities of announcing Barings agency. As seen, the bonus was a hefty 300 basis point. It vanished with news that the Barings were no longer involved. Dawson suggests, following indications in *The Times*, that as a result of expectations of

Barings' involvement, the shock of the Mexican default was a serious one catching many investors wrong footed, including "Stock Exchange members" (Dawson 2002: p. 152).

Figure 6. Effects of Announcements of Baring Agency on Mexican Bonds



Source : Authors' computations

c- Where the Buck Stops: Relations with Bondholders

As the first defaults took place, the blame game began. Bondholders blamed borrowing countries and intermediaries and begged for government support. The British government blamed the bondholders who had gambled, lost and were now whining. Financial intermediaries rejected any responsibility: Thomas Kinder, contractor and issuer of Peru's loan went as far as blaming the default of Peru on investors, arguing that it occurred because "scrip-holders" of the second Peruvian loan interrupted the payment of further instalments thus making interest service impossible.⁶⁸

Investors then began creating "self-help" groups, and organized meetings on a borrowing country basis to solve collective action problems in lobbying loan contractors, diplomatic representatives of debtor states, and the British government.⁶⁹ They appointed committees to draft letters and named representatives to handle negotiations directly with the borrowing countries.⁷⁰ These meetings became

⁶⁸ . Of course, the reason why subsequent installments had not been paid was because the decline of the scrip value was so large that it cost less to forego earlier payment than to continue subscription.

⁶⁹ . For instance, Colombian bondholders tried, but failed, to secure the intervention of Foreign Secretary Canning at a meeting after Colombia's default in July 1824.

⁷⁰ The Committee of Mexican Bondholders was created in order to discuss the propositions of the Mexican Government to resume payments the 26th may 1830 (Costeloe, p.28)

regular after 1827 (Dawson, p.195). The impetus for the formalization of common framework came from the British Parliament itself and a general meeting of all bondholders organizations was organized on May 2nd 1828 (Dawson, p.164). This led, under the name of “Spanish-American Bondholders Committee” (then again there were also Spain, Portugal and Greece) to the creation of the embryo of the 1868 Council of Foreign Bondholders Association.⁷¹ Not incidentally, this first meeting was chaired by one Alexander Baring, M. P.

This participation was not isolated but rather typical. Following discovery of their ability to drive the price of Mexican securities, the Barings took an active role in defending Mexican bondholders’ interests. Alexander Baring was the first chairman of the first Committee of Mexican Bondholders (Costeloe, p.163). In this position he made his support conditional upon full commitment to punctual payments and material guarantees. An eventual agreement was reached in 1831, although it lasted until 1836 with a second Mexican default. Baring again resigned as the agents of the Mexican government, never fully giving up but setting conditions for participation. Barings had again a prominent role in 1862, becoming representative for Mexican bondholders⁷² and later also as the Mexican agent in London 1864 (Costeloe, p.85). They also acted in Venezuela, proposing an arrangement for the second Venezuelan default of 1847 (Dawson, p.199) and for Chile, intervening in the arrangement of Chile’s 1826 default in 1840 (Dawson, p.207). Finally, Ferns (1992: 242) emphasizes Barings’ persistent dedication to protecting the interests of holders of Argentine securities, although agreement there was the longest to reach, in 1857.⁷³ These actions were often a preliminary to taking over debt service agency,⁷⁴ or to restoration of market access, or both.⁷⁵

A back of the envelope calculation of the average time before an agreement was reached with bondholders for a debt restructuring following the defaults of the 1820s shows an average 16 years for Baring *protégés* against 30 years for other Latin American defaulters. This is one, admittedly crude, but nonetheless significant, measure of the influence that the House of Baring had on the operation of the international bond market. And thus it emerged as a kind of “collection agency” in the foreign debt market. Just like the Rothschilds, albeit on a wholly different market segment, which we suggest to call “speculative grade”, they found themselves in a de facto monopoly position. Their brand now signalled a very specific type of implicit contract. When a Rothschild contract included post issue

⁷¹ Dawson, p.195. We are amazed that recent research in economic history (e.g. Mauro and Yafeh (2003), Tomz...) seems to have just missed out the predecessors to the CFB. The existence of such committees, however, is well documented in earlier historians’ works. It is true, however, that unlike the CFB, they have not left systematic annual report that are easy to consult. By contrast, we do not have much direct evidence regarding the substance of Latin-American Bondholders meetings until the 1850s

⁷² See ING Baring archives, 204326, “Baring Accepts to Represent Bondholders”.

⁷³ Ziegler is more prudent and emphasizes that it was owing to the Bondholders agitations that the Barings felt they had to act in 1842 and 1843 and indeed secured an agreement that was ruined by the Anglo-French intervention in the port of Buenos Aires (Ziegler p. 107). But why should the Barings have felt compelled to act, if it were not for the benefit of their reputation?

⁷⁴ . See ING Baring archives, 205005, “Chile Appoints Barings as Agents for Servicing Debt, 1844”.

⁷⁵ . For instance, following the settlement with Argentina, Baring issued a first loan on behalf of Argentina in 1866, for £ 0.5 m.

intervention, market support, convergence plays etc., as part of the basic “underwriting package”, the Baring brand meant honest efforts at bringing borrowers who defaulted back to the negotiating table. Of course, the very expectation that they could do that was a powerful argument, which would come at a price.⁷⁶

In the end, both Houses became fierce supporters of the “market mechanism” and strong opponents to Government intervention. Alexander Baring publicly emphasized that bondholders were consenting adults, who should not expect government to insure their “gambling losses” (Dawson, p.193). Understandably so: after all, they should have read what was written on the label – as the label’s owner reminded people. The early 18th century international financial architecture, we conclude, provides a fascinating case of “governance without government” (Rosenau 2000).

Section VI. Spreads, Information and Contagion: a Test

The evidence reported points to a straightforward test. Our claim is that investors had limited information on “fundamentals” and could only tell countries apart according to the identity of the underwriter -- or, more rigorously, the underwriter was the fundamental. There were, we surmise, two types of intermediaries: “value rich” intermediaries (in that period, Rothschild, since Barings abstained) signaled investment grade. On the other hand, “value poor” intermediaries signaled a junk bond. If our view is correct, then we should observe substantial co-movements between bonds falling in the same issuing/underwriting entity group. Specifically, the spreads of countries underwritten by good intermediaries should be correlated with one another but uncorrelated with the spreads of countries underwritten by common ones. Similarly, we should expect co-movements among bonds underwritten by ordinary banks. This is consistent with contemporary verbal indications suggesting that rumors of Baring’s participation to Mexican debt buoyed all Latin-American bond prices (Section V). The modern expression for this is “contagion”: shocks taking place in one country had an effect on other countries. In the height of the East Asian Crisis of 1997, events concerning Suharto’s health drove movements in Korean bond prices. To keep it simple: we predict contagion among non-Rothschild securities, but not between Rothschild and non-Rothschild securities.

To begin, Table 8 reports a number of summary statistics. We first give evidence on the commonality of “sharp changes” in “emerging countries” bond spreads during the 1820s (Period I), without distinction in the identity of the underwriter.⁷⁷ “Sharp changes” are defined either as a 200

⁷⁶ . An indication of the gradual recognition of this may be found in the fact that the fees charged by the Barings in return for selling given securities rose from a modest 1% for the first Buenos Aires issue to an average 2% in subsequent operations.

⁷⁷ . The recent macroeconomic literature on historical bond prices makes a somewhat loose use of the expression “emerging market”, a modern word meant to characterize high risk, high growth potential market. It is not entirely clear that this expression applies to Latin American or South European countries in the 19th century. However, our point here is to compare results across periods for “similar” countries, and thus we are on the safe side.

basis point change, or a 20% variation, in month-to-month bond spreads.⁷⁸ A number of ratios are then constructed. These include, first, the number of sharp changes in the total of observations, and second, the proportion of months displaying (a) no sharp changes at all, (b) sharp changes in exactly one country, (c) sharp changes in exactly two countries and (d) sharp changes in three countries or more.

Table 8. Co-movements in sharp changes for bond prices: Three Periods Compared.

| | Period I (14 countries, 1822:3-1829:12) | | Period II (15 countries, 1877:5-1913:12) | | Period III (8 countries, 1994:11-2004 :2) | |
|---|---|------|--|------|---|------|
| | 200 b. pts | 20% | 200 b. pts | 20% | 200 b. pts | 20% |
| Sharp Changes in percent of Total Observations | 5.83 | 4.54 | 1.4 | 2.2 | 13.2 | 12.9 |
| Proportion of Months with Characteristics Listed | | | | | | |
| No Sharp Changes | 37.2 | 51.1 | 85.4 | 74.7 | 43.2 | 44.1 |
| Sharp Changes in Exactly one Country | 20.2 | 26.6 | 9.1 | 19.4 | 30.6 | 34.2 |
| Sharp Changes in Exactly Two Countries | 16.0 | 11.7 | 4.6 | 4.6 | 15.3 | 7.2 |
| Sharp Changes in Three Countries or More | 26.6 | 10.6 | 0.9 | 1.4 | 10.8 | 14.4 |
| Total: Sharp Changes in Two Countries or More | 42.6 | 22.3 | 5.5 | 6.0 | 26.1 | 21.6 |
| Contagion Ratio | | | | | | |
| Sharp Changes in More than One country to months with sharp changes in at least one country | 67.8 | 45.6 | 37.5 | 23.4 | 46.0 | 38.7 |

Sources : Authors computations and Mauro et al. (2006). Period I : authors computations from Wetenhall. Periods II and III from Mauro et al. (2006) : p. 115. The 14 countries for Period I are Austria, Brazil, Buenos Aires, Chile, Colombia, Greek, Guatemala, Mexico, Naples, Peru, Portugal, Prussia, Russia, Spanish. This is very similar with the list of countries in Period II. Because of missing observations, we may slightly under estimate the extent to which there were sharp changes.

Selection of these measures is aimed at facilitating comparison with other periods. Mauro et al. (2006) have computed these ratios for two later periods i.e. 1877-1913 and 1994-2004 (we refer to these periods as Period II and III respectively). Thus while we ignore “how large is large” we can nonetheless identify what is larger and what is smaller.

Inspection of Table 7 reveals a substantial degree of similarity between results for Period I and Period III that contrasts with results for Period II. Consider first volatility (or rather, frequency of sharp changes). Changes in bond spreads bigger than 200 basis points were exceptional in Period II (1.4%) but less so (6% and 13%) in period I and III. In addition, the proportion of months during which there was no sharp was low in Periods I and III (37 and 43%) and large in Period II (85%).

Furthermore, co-movements in sharp changes were frequent during both Period I and III, in contrast with period II. Moreover, a striking feature of our results is that the commonality of sharp changes is even more marked for Period I. Consider changes larger than 200 b.p. There were 18 per cent of the months with sharp changes in exactly one country, but 19 per cent with sharp changes in

⁷⁸ . Mauro et al. (2006) also report changes that are larger than 2 standard deviations. However, the central limit theorem suggests that, if bond spreads are Gaussian, then the distribution above the 2 std. dev ceiling is constant. Such a measure is thus only interesting as test of non-normality.

exactly two countries and 26 per cent of the months with sharp changes in more than three countries. The respective figures for Period III are 30, 15 and 11 per cent. This is reflected in contagion ratios that are much larger for Period I than for subsequent epochs, but again more similar to what was obtained in Period III.⁷⁹ These results are in effect interesting in and for themselves, but also because they suggest that, in attempting to draw lessons from parallels between the late 19th century or “first wave of globalization” and today, recent research may be erring on the wrong side of comparison.

The next stage in our foray is to compute the same figures but take into account now that there were really two groups of emerging markets, namely the “Rothschild” countries and the rest. This is done in Table 9. We see that almost all of the underlying volatility comes from non-Rothschild countries, which interestingly display the same proportion of sharp changes as in Period III in Table 8 (about 10%). Moreover, all the commonality in co-movements of bond spreads identified in Table 8 is confined to non-Rothschild borrowers, with no spill-over to Rothschild ones. This is because Rothschild borrowers exhibited a very limited number of sharp changes, which is indeed the essence of our contention. Rothschild agency was an insurance against volatility and a sorting device that enabled countries to escape contagion.

Additional evidence also reported in Table 9 reinforces our conclusion. First we see that the average correlation between groups is quite large (supporting the notion of a group behavior), while correlation across Rothschild and non-Rothschild borrowers is much smaller (supporting the notion that agents could tell groups apart). This is particularly true for computations on levels but it also shows up with changes. Changes between non-Rothschild countries are correlated with one another (again, consistently with contagion), but loosely correlated with changes for Rothschild countries.

The predictions of our central hypothesis are thus fully borne out. When investors observed events affecting a country underwritten by an ordinary intermediary, they tended to think that this was relevant for all other countries underwritten by ordinary intermediaries, but irrelevant for the securities of countries underwritten by prestigious intermediaries. This is either because investors expected good underwriters to have sold good securities, or because they expected prestigious banks to intervene in the open market in support of their customers, or both. The key information was the brand, and brand effects explain much of the action.

We think that these results have lots of relevance, not only as an acid test of our central contention, but also as a new insight on the economics of contagion. Because during the experiment under discussion there was close to zero information on fundamentals (so that correlation cannot come from there), the contagion we have identified must have been a pure product of market structure. The idea that market set up produces contagion has been floated around repeatedly. However, our paper is the

⁷⁹ . Mauro et al. (2006) conclude “in contrast [with the modern period], ‘contagion’ (the rapid spread of crises across countries), was a relatively rare phenomenon before the First World War”. Our result shows that this statement must be qualified. The contrast is not between the 19th century and the modern period, but between the late 19th century and the modern period.

first to provide an actual test of that proposition. Whether this striking result carries on into other contexts should be explored in future research.

Table 9. Decoupling: Sharp Changes and Correlations
Between and Within Groups of Borrowers (1822-29)

| Periods | Non-Rothschild Group | | Rothschild Group | | Between Rothschild and Non-Rothschild | |
|--|---|------|-------------------|------|--|------|
| | Sharp Changes Within and Between Groups | | | | | |
| | 200 b. pts | 20% | 200 b. pts | 20% | 200 b. pts | 20% |
| | Within Non-Rothschild | | Within Rothschild | | Between Groups (Common Changes) | |
| Sharp Changes in percent of Total Observations | 10.5 | 7.6 | 0 | 2.5 | 0 | 0.6 |
| Proportion of Months with Characteristics Listed | | | | | | |
| No Sharp Changes | 37.2 | 45.7 | 0 | 90.4 | 100 | 99.3 |
| Sharp Changes in Exactly one Country | 20.2 | 25.5 | 0 | 8.5 | | |
| Sharp Changes in Exactly Two Country | 16.0 | 11.7 | 0 | 0 | | |
| Sharp Changes in Three Countries or More | 26.6 | 8.5 | 0 | 1.1 | | |
| | Proportion of Sharp Changes in More than One country to months with sharp changes in at least one country | | | | Proportion of Sharp Changes Common to Both Groups to Total Months with Sharp Changes in At least One Country | |
| Contagion Ratio | 67.8 | 44.2 | 0 | 11.1 | 0 | 13.0 |
| | Average Correlations Within and Between Groups | | | | | |
| Levels | 0.83 | | 0.53 | | -0.40 | |
| Differences | 0.59 | | 0.18 | | 0.27 | |

Source: Authors computations from data in Wetenhall: see Table 7 for details (list of countries and time period). For correlations, the need to have overlapping data restricts the Rothschild countries to Russia, Prussia and Naples. Non-Rothschild countries are Chile, Colombia, Peru and Spain. Computations for sub-periods yield similar results.

Section VI. Alternative hypotheses

This paper has provided new perspectives on how sovereign debt can be sustained despite sheer informational asymmetries. Our key insight is that those very informational problems and the corollary risk of “wildcat underwriting” lead to the emergence of dominant intermediaries that have both the means and the incentives to police borrowers. At an anecdotal level, our hypothesis departs from the business history literature, which always emphasizes the “global” reach of the houses under study, describing leading merchant banks as “bankers of the world”, and drawing enthusiast parallels with modern International Financial Institutions. However, as we saw, the essence of the business of underwriting as it developed during the 1820s, was precisely *not* banking on the world, but banking on specific portions of the world only. An equally inadequate metaphor would be to liken prestigious

intermediaries to modern rating agencies, although we have seen that they filled some of the role today devoted to Moodys, Standard and Poors, or Fitch. This is because rating agencies, unlike prestigious investment banks, do not need to “put their money where their mouth is”. We have already suggested thinking of prestigious underwriters in the early 19th century as forerunners of modern hedge funds. As such, they could play some of the functions devoted today to IFI and rating agencies, thus making up for their absence, because they could credibly drive markets.

a- Market Imperfections and Global Financial Integration

More fundamentally, our new hypothesis departs radically from other works in economics, economic history, political history and political science that have explored the problem of sovereign borrowers’ monitoring in various contexts. In what follows we review some features that characterize current alternatives to our new hypothesis. The first alternative research hypothesis we consider is derived from the theoretical result from Bulow and Rogoff (1988) that there cannot be incentives for sovereign borrowers to repay their debts when financial markets are perfectly competitive. This is because governments can borrow in one market, invest the proceeds in another market, and default.⁸⁰ In consequence, some have suggested that one reason why sovereign debt could be sustained was the existence of sanctions, military or commercial.

This hypothesis is at odds with features of the 19th century regime that have been emphasized by previous historians. For instance, Platt (1968) emphasizes the reluctance of British authorities to using power to enforce payment of international debts. They feared that relying on military force to bail out creditors would encourage irresponsible behavior and cause ever rising levels of political involvement (Platt 1968 pp. 34-53).⁸¹ Prime Minister Canning first defined this policy in the mid 1820s in reference to the defaulted Latin American loans (Ziegler 1988: 107-8). As argued by Ziegler: “Not only would he not send a gunboat to manifest British displeasure, he declined to allow British diplomats and consular agents to bring pressure on the defaulters. If British investors chose to risk their money overseas, then it was their own funeral if they lost it”.⁸²

Focusing on the entire 19th century, Weidenmier and Mitchener (2004) identify 43 default event. Out of the 18 cases when what they call “super-sanctions” were implemented there are 6 episodes of private creditors’ sanctions, 7 episodes with foreign control over debts (6 by European powers, and one by the United States), and finally 5 episodes of more or less direct military intervention. The vast

⁸⁰ . On the theoretical limitations of this hypothesis, see Wright 2002 who provides a model whereby a country’s concern for reputation can enforce repayment if there are incentives for lenders to tacitly collude in punishing a country that defaults. In this case, switching to another market entails costs, which induces discipline in borrowers’ behavior. Flandreau (2006) shows how market-specific ownership of a “repayment technology” (whereby certain borrowers are forced to repay conditional on their borrowing in some markets), which also rests on a critical amount of market level and inter-market collusion, generates a geography of finance whereby governments borrow from one market only while investors diversify

⁸¹ . The same point was made more recently by Lipson (1991).

⁸² . As documented by Platt, this policy would recurrently come under attack and Prime Ministers would occasionally display hesitation. Each time, the rationale for such a policy was rediscovered and the “normal” policy course resumed.

majority of these interventions were from the US government, and occurred in Central America. Britain, the leading power of the time, intervened on its own in two cases only: Egypt and Guatemala. In Venezuela it sought participation of other countries such as Italy and Germany. This is 3 in 43 default events or slightly more than 6%. Britain was indeed very reluctant to intervene, and made such a policy the exception and not the rule. It cannot be, therefore, that threat of military sanction led countries to behave. The 19th century international financial system thus displayed a truly remarkable ability at monitoring borrowers without recourse to hands-on actions. But if gunboats did not do it, then who did?

The alternative hypothesis articulated in this paper suggests a possibility that is consistent with actual historical evidence. Specifically, an implication of our analysis is that the bulk of monitoring both *ex ante*, before loans were granted, and *ex post*, after default occurred was tightly coupled with market access. This led to a form of conditionality (see e.g. Flandreau 2003). One result of the emergence of a two tier underwriting structure with prestigious houses on the one hand and wildcat issuers on the other hand, was that investors could tell the good from the bad and that issuers had to ponder the adverse consequences they would have to suffer in case of a default, for this would mean that their securities, instead of being recognized as adequate saving supports, would become essentially, in the eyes of investors, lottery tickets. Of course this left room for a “junk” sovereign bond market, for volatility is always a source of profits for speculators. But we found it to be a narrow, dangerous place, and that everybody knew it. Why should the Her Majesty’s Government have ever cared? Gunboat diplomacy was obviously a way to make things worse, not better, for it would encourage further risk taking and actually facilitate market access by undeserving entities. Very specifically, it would undermine the ability of good intermediaries to play their roles as gatekeeper of liquidity. Lord Canning and his successors must have realized this. More recent research must have forgotten it.

B- Brands vs. Signals

The second hypothesis pertaining to monitoring systems in the 19th century is known as the “good housekeeping seal of approval” hypothesis (Bordo and Rockoff (1996)). According to this view, adoption of certain institutional devices such as the gold standard acted as badge of honour that would then have facilitated sovereign borrowing. This hypothesis shares with the one we develop here the notion that, in a world of imperfect information, borrowers must somehow signal their worth. The gold standard was both a domestic institution and a policy so that gold convertibility was to some extent the result of government actions: to that extent, it did reflect a “policy choice” and could be used as a signal of financial rectitude.⁸³

⁸³ . For a criticism of the “good housekeeping” hypothesis see Flandreau and Zumer (2004); Rockoff (2005) provides a critical discussion. This hypothesis would require severe amendments to be applied to a historical context where the gold standard was the exception rather than the rule (Flandreau 2003). Moreover, at the time, several “good” issuers such as Austria or even Britain (before 1821) had inconvertible currencies.

But the parallel with bankers' delivered seals of approval stops here. The signal that one could garner from observing adherence to gold also aggregated information from other investors' beliefs and actions. For some reason that is unrelated to government actions, a confidence crisis may have triggered a capital flight that would have forced suspension of the gold standard, implying that gold adherence was a noisy signal. This is what led Bordo and Kydland (1995) to argue that confidence could somehow transcend adherence to convertibility and lead to stabilizing speculation in case of occasional suspensions. But then one may say, what is the point of gold adherence?⁸⁴

The central difference between the two hypotheses is that nobody "owns" the gold standard so that nobody has an incentive to making it an adequate signal of underlying policies. By contrast, the few prestigious houses who could grant the privilege of borrowing with them derived value from ensuring a high degree of transparency of the signals that were associated with such events. And because they did not have the securities in portfolio until an issue occurred, there was no danger of their being held up by a rogue borrower. Conversely, an issue could only occur if a certain number of actions, deemed adequate by the underwriter, had been implemented by the borrower.⁸⁵ The gold standard, as a self-delivered badge of honour, could never, and as empirical research has shown, did never, come close to that.

c) Constitutions vs. Policies

The last alternative hypothesis is due to North and Weingast (1988). They famously argued that constitutional restraints and commitments are pre-conditions for the development of sovereign debt. Their hypothesis is that the origin of sovereign debt can be found in domestic institutions. However, this hypothesis falls short of explaining the expansion of foreign government lending to autocratic governments. In the early 19th century successful borrowers included outright reactionary powers: the Empire of Brazil, the Kingdom of Naples, Prussia, Russia. Thus the question: How come that sovereign lending prosper without domestic commitments?⁸⁶

One implication of the analysis in this paper is that financial "checks and balances" can be found elsewhere than in domestic constitutions. It is true that under certain hypotheses it is possible, by giving parliament some veto point over the executive, to ensure that the government is adequately monitored.⁸⁷ But other monitoring devices can be found and we argue that they were located in the market place. As we explained, the global bond market found it possible and desirable to monitor government performances, making good constitutions a sufficient but not necessary condition for sovereign borrowing.

⁸⁴ . Moreover, we know from theories of exchange rate crises that the collapse of a currency peg is a lagging, not leading, signal of flawed policy decisions.

⁸⁵ . Then of course, the issue could occur, and of course there was a risk of moral hazard afterwards. But then again, the risk was limited by the extent of borrowing which the underwriter could set at levels that would make the cost of foregoing future loans more costly than the benefits from a one-shot default.

⁸⁶ . Note that this pattern had already begun in Amsterdam in the 18th century, which Riley (1980) describes in detail and the same problem must be confronted when dealing with the 19th century. As we emphasized, the successful new borrowers of

⁸⁷ . See Stasavage (2002) for a criticism of that view.

This perspective leads to reverse causation. Specific constitutions are now consequences rather than causes of foreign lending, and they do not necessarily turn out to put much control over the executive. The experience of Prussia in 1818 does yield support to this hypothesis. Some historians have mistakenly portrayed Nathan de Rothschild as the good Samaritan concerned with securing constitutional guarantees from Prussia, further arguing that he would have wished to implement a system that would assimilate the plan of the loan “to the established system of borrowing for the public service in England”, meaning “the sanction of the Chamber to the national debt incurred by the Government”.⁸⁸ It seems however that Nathan was prepared to settle for much less. The final contract merely stated that “for the security of shareholders there would be a special mortgage on the royal domains”. Projects to introduce a constitution in Prussia failed. The 1818 bond issue and subsequent ones did not. The implication is that a constitution is not a necessary condition for sovereign debt, so that if Nathan nonetheless went along, this must be because he knew he would have another way to keep Prussia on a tight leash. And thus we may conclude that maintenance of Prussia’s absolutist rule was facilitated by the ease with which authorities got access to money.⁸⁹ This conclusion is consistent with the that of earlier historians who suggested that the Prussian government’s decision to raise a loan in London in 1818 was intended to avoid a number of political concessions (see Gille 1965 and Kehr 1970 for a discussion).

We thus ask the question: What was needed for sovereign borrowing to occur? For a “principal” to monitor an “agent”, one must be sure that the agent acted in a coherent, rational way. This is trivial from an individual point of view, but less so if the agent is an organization. This emphasizes the relevance of a robust administrative and political infrastructure as a sufficient condition for the borrowing entity to be (a) concerned about losing access to funding and (b) able to take action to prevent this from happening. Granted this, the critical element to bear in mind is that the way monitoring is achieved is by making sure that a certain number of actions are taken. In other words, the principal exercises control over policies, which enhance debt sustainability.

This line of reasoning suggests that the only really important thing for sovereign debt was the quality of the administrative apparatus and centralization of decision-making. From the vantage point of administrative robustness, Brazil, the Kingdom of Naples, Prussia, Austria and Russia had

⁸⁸ . Ferguson (1998: 132). This is part of a broader argument by this author suggesting that Rothschilds acted as promoters of constitutional restraints (pp. 131-143). This may have led him to incorrectly attribute the Portuguese contract, as we saw, to the House of Rothschilds (see *supra*). In Ferguson’s words, the contract would have “once again demonstrated [Nathan’s] willingness to lend to a constitutional regime, as the Portuguese King had accepted a Spanish-style constitution drafted by the Lisbon Cortes on his return from Brazil in 1822” (p. 142). Note however that when the contract was signed, complete power lay in the hands of João VI and that in May 1823, one month after French forces had entered Spain, a military coup toppled the government. However, João VI is said to have turned out to be influenced by British and French ideas of moderate constitutional monarchy, unlike his Spanish counterpart. Strangely, Ferguson does not see either that Russia was hardly a constitutional monarchy.

⁸⁹ . The idea that constitutions could be endogenous to lending is nicely encapsulated in a quote from Frankfurt burgomaster Smidt who argued in 1820 that: “Prussia would have had to give up its regime long ago if the house [of Rothschild] had not helped it to survive” Quoted by Gille (1965 : 202).

something in common. Intuitively, there is no point lending to a government that is unable to enforce a structural adjustment, no point lending to a government that does not control the borrowing of its provinces, no point lending to the government of a country collapsing in civil war. If a state's administrative structure is deficient, then recommended policies will not be implemented and the actions of the monitor will become pointless.⁹⁰ Thus the point is that, since the model under study rested on conditionality, adequate borrowers were not those with constitutions and commitments, but those that could implement the required policy adjustments.⁹¹

We conclude that the development of sovereign lending in the 19th century was collateralized by strong administrative infrastructures. Strong (and reactionary) governments were allowed to borrow at the same time they were given incentives to repay and this was achieved through the very centralization of the global money market. As a result, they remained strong (and reactionary). Underwriters could exercise policy leverage but essentially over actions with a direct bearing on debt sustainability. They had little capacity, but also little need, for changing the constitutional set up. Whether borrowers were nice and democratic and favoured the rule of law, universal happiness and ice creams on Sunday, or whether as was more often the case, they were arch-conservative who had no remorse with implementing ruthless repression and even relished a bloodbath or two from time to time, was altogether irrelevant, provided this had no incidence on debt sustainability. And for bankers, all this was just business.⁹²

Conclusions

This paper has dealt with the development of a market for sovereign debt. It revolves around a simple idea. We argue that the entire system rested on a transfer of credibility from the underwriter to the borrower. Investors could not learn about borrowers, but they could learn about underwriters. Prestigious underwriters came to monopolize the market for sovereign debt, leaving little room for other players. During occasional manias, such as in the mid 1820s, lower quality intermediaries tried and did break in. However, they could only underwrite the securities of the weaker countries, which the better houses did not care to sell. The outcome was written on the wall. When opportunity knocked the flight to quality led to collapses of the securities issued by bad underwriters. Those investors who had not already understood were reminded that the underwriting business was not a market but a hierarchy.

⁹⁰ . Gille develops a similar view when he argues that the bankers preferred “States with a robust administrative infrastructure” (Gille: 1965, p. 107): “*Les Etats qui possédaient une armature administrative relativement solide avaient trouvé sans trops de difficulté l'assistance des banquiers pour leurs émissions de rentes*”. This view that is also supported by Brewer (1991) emphasis on administrative improvements as a basis of Britain's financial progresses in the 17th century.

⁹¹ . We do not think of our new hypothesis as necessarily exclusive to that of North and Weingast. The case of Denmark, who could access the market without the agency of leading underwriters, may be seen as illustrating the benefits associated with representative institutions. But the point is that this is not the entire story, and moreover, judging from the actual historical record, this is a too optimistic one.

⁹² . Archer et al. (2007) make a similar point in a modern context. They argue that there is no ‘democratic advantage’ in bond ratings. Economic performance and a good track record seem to be decisive factors.

Through this process emerged a form of market organization that also acted as a *de facto* rating system. Within the leading houses, Rothschilds signalled “investment grade” securities. The Barings on the other hand were outdone by the heavy artillery of Rothschilds’ huge stock of capital, and retreated to a different ways. Marginally, in the 1820s, and then more heavily in the subsequent periods, a topic for more thorough future research, they contributed to the issuing and pricing securities that were risky but had a potential. Namely, by issuing, but not underwriting, the Barings thought they had found a way to deal at arms’ length with attractive but risky borrowers. Barings signalled “speculative grade” investments. The Buenos Aires and perhaps Mexican cases pioneered subsequent operational patterns. They proved remarkably persistent. For instance, Flores (2004) shows that the House of Baring did not underwrite any of the sovereign loans of Argentina issued during the period before the eponymous crisis of 1890, just as we found for the 1820s.⁹³

This central conclusion -- that hierarchy of underwriters was a proxy for hierarchy of issuers -- is encapsulated in the opening quotes, which underlines that, back at the time, everybody understood this. In 1823, Byron’s *Don Juan* described “Jew Rothschild, and his fellow Christian Baring” as the “true Lords of Europe”. And for sure, since in the end all the mechanism rested on the fact that everybody understood that everybody understood that. This situation coincides with what political scientists call a “social fact”, i.e. an inter-subjective understanding. Our analysis has suggested that at the heart of this social construct, was a pile of capital.

In passing, we may remark that such ideas initially came as a surprise to people who had been trained in the 18th century belief, articulated by philosophers and political scientists, that one could map constitutions, checks and balances, and all others institutional artifacts designed to rein in the Leviathan, into reputational ladders (Massie 1750). As they learned, market structures provided a way around. Promoters of a restoration of the *Ancien Regime*, and all kinds of reactionaries did not overlook the promises of this system in the immediate aftermath of the Congress of Vienna: It implied that one could circumvent the forces of progress and separate material advancement from political advancement. And thus the traditional characterization of the Rothschilds as bankers of the Holy Alliance.⁹⁴ Obviously, our conclusions come as a challenge to modern advocates of the role of constitutions and commitments in sustaining sovereign borrowing. Yet looking at the world around, it is not clear that progressive regimes are always rewarded by financial markets. There again, the early 19th century experience may have a lot to tell.

⁹³ . Cairncross 1953 has emphasized that such ways of doing business created fragility. Our discussion suggests that this may not be an adequate statement, given that the safe bets segment was already occupied by the House of Rothschild.

⁹⁴ . Wikipedia defines the Holy Alliance in the following terms (http://en.wikipedia.org/wiki/Holy_Alliance): “The Holy Alliance was a coalition of Russia, Austria and Prussia created in 1815 at the behest of Tsar Alexander I of Russia, signed by the three powers in Vienna on September 26, 1815. Ostensibly it was to instill the Christian values of charity and peace in European political life, but in practice Metternich made it a bastion against revolution. The monarchs of the three countries involved used this to band together in order to prevent revolutionary influence (especially from the French Revolution) from entering these nations. It was against democracy, revolution, and secularism.”

A final implication of our work has to do with the management of defaulted debt. While obviously much more work is needed to understand better how this happened, we saw the Barings beginning to work as advisors for nascent bondholders associations and putting their weight and prestige in attempts at bringing defaulters to the negotiation table. The suggestion here is that a deal supported by the Barings commanded better terms and thus increased the incentives for debt renegotiations. Interestingly, we found that this led to a form of cooperation between underwriters and bondholders that is at odds with what is observed today. The difference, we speculate, comes from the importance of brand value in a world of information asymmetries. Today, investors turn to rating agencies to price securities, and this, logically if paradoxically, encourages intermediaries' moral hazard, since rating agencies are an ideal scapegoat if things turn badly.⁹⁵

And thus we reach the conclusion that many of the views that have been developed regarding the historical evolution of the sovereign bond market need a reappraisal. While theory has emphasized in general terms that information asymmetries have critical consequences on the way market are organized, very little work has been done to show that this has dramatic implications for the global financial system. We conclude that the international financial architecture, be it that of then or that of now, should be studied bottom up, starting from a careful analysis of the market mechanism rather than jumping directly to conclusions on the incidence of certain rules and regimes, more or less inadequately measured, on global financial stability. We think that much of what we look through the lenses of "macro" analysis is just a direct consequence of under-explored "micro" structures. For one thing, this study has cast doubt on the popular notion that, as pundits of global financial reform have repeated following the Asian crisis, we should merely recommend that "more information" be made available for the system to work better. After this foray of the early nineteenth century record, we feel such a proposal is questionable as theoretical statement and naïve as policy recommendation. The true and possibly universal question is who owns information, and for what purpose.

Paris and Madrid, June 2007

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⁹⁵ . It may not be incidental, from that respect, that when the first meeting of the Corporation of foreign bondholders took place in London in 1868, it asked Lord Rothschild to chair the session (see Jenks 1927).

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Table 5. Underwriters and Default: Sovereign Bond Issues in London during the 1820s

| Country | Year | Coupon | Contractor | Issuer | Payment of dividend and coupon | Amount £ m. | Price of issue | Yield at issue | Status in december 1829 |
|-----------------------|--------|--------|--|--|--|-------------|----------------|----------------|-------------------------|
| Defaulting States | | | | | | | | | |
| Buenos Ayres | 1824 | 6 | Carlson, Catro and Robertson | Baring Brothers | Baring Brothers | 1 | 85 | 7.1 | Arrears since 01-1828 |
| Chile | 1822 | 6 | Hullett, Brothers and C° | Hullett, Brothers and C° | Hullett, Brothers and C° | 1 | 70 | 8.6 | Arrears since 09-1826 |
| Columbia | 1822 | 6 | Herring, Graham and Powles | Herring, Graham and Powles | Herring, Graham and Powles | 2 | 84 | 7.1 | Arrears since 05-1826 |
| Columbia | 1824 | 6 | B. A. Goldschmidt | B. A. Goldschmidt | B. A. Goldschmidt | 4.75 | 88.5 | 6.8 | Arrears since 01-1826 |
| Greece | 1824 | 5 | Loughnan, Son, & Obrien's | Loughnan, Son, & Obrien's | Loughnan, Son, & Obrien's | 0.8 | 59 | 8.5 | Arrears since 01-1827 |
| Greece | 1825 | 5 | J. & S. Ricardo | J. & S. Ricardo | J. & S. Ricardo | 2 | 56.5 | 8.8 | id. |
| Guatemala | 1825 | 5 | Barclay, Herring, Richardson & C°, and J. A. Powles & C° | Barclay, Herring, Richardson & C°, and J. A. Powles & C° | Barclay, Herring, Richardson & C°, and J. A. Powles & C° | 1.43 | 73 | 6.8 | Arrears since 02-1828 |
| Mexican | 1824 | 5 | B. A. Goldschmidt | B. A. Goldschmidt | B. A. Goldschmidt | 3.2 | 58 | 8.6 | Arrears since 10-1827 |
| Mexican | 1825 | 6 | Barclay, Herring, Richardson & C°, and J. A. Powles & C° | B. A. Goldschmidt & C° | B. A. Goldschmidt & C° | 3.2 | 89.75 | 6.7 | id. |
| Peru | 1822 | 6 | Thomas Kinder | Thomas Kinder | Fry & Chapman | 0.45 | 88 | 6.8 | Arrears since 04-1826 |
| Peru | 1824 | 6 | Thomas Kinder | Thomas Kinder | Fry & Chapman | 0.75 | 82 | 7.3 | id. |
| Peru | 1825 | 6 | Thomas Kinder | Thomas Kinder | Fry & Chapman | 0.62 | 78 | 7.7 | id. |
| Portugal | 1823 | 5 | B. A. Goldschmidt | B.A. Goldschmidt | B.A. Goldschmidt | 1.5 | 87 | 5.7 | Arrears since 06-1828 |
| Spain | 1821-2 | 5 | Haldimand and Sons | Haldimand and Sons | Haldimand and Sons | 12.9 | 56 | 8.9 | Arrears since 05-1824 |
| Spain | 1823 | 5 | James Campbell | James Campbell | James Campbell | 1.4 | 30 | 16.7 | id. |
| Non defaulting States | | | | | | | | | |
| Austria | 1823 | 5 | Rothschild | Rothschild | Rothschild | 3.5 | 82 | 6.1 | 104 |
| Brazil | 1824 | 5 | Bazett, Fletcher and T. Wilson | Bazett, Fletcher and T. Wilson | Thomas Wilson and C° | 1 | 75 | 6.7 | 73 |
| Brazil | 1825 | 5 | Rothschild | Rothschild | Rothschild | 2 | 85 | 5.9 | 73 |
| Denmark | 1821-2 | 5 | Haldimand and Sons | Haldimand and Sons | Goldschmidt | 3 | 77.5 | 6.5 | Fully redeemed |
| Denmark | 1825 | 3 | Thomas Wilson and C° | Thomas Wilson and C° | Thomas Wilson and C° | 3.5 | 75 | 4.0 | 75.125 |
| Naples | 1824 | 5 | Rothschild | Rothschild | Rothschild | 2.5 | 92.5 | 5.4 | 98.5 |
| Prussia | 1822 | 5 | Rothschild | Rothschild | Rothschild | 3.5 | 84 | 6.0 | 104.125 |
| Russia | 1822 | 5 | Rothschild | Rothschild | Rothschild | 5 | 81 | 6.2 | 109.375 |

Notes on sources: See Appendix.

Table 7. Longevity of Merchant Banks in the 'Emerging Countries' Sovereign Debt Business:
Number of Loans Per Bank Per Period

| Banks | 1815-25 | | | | 1826-40 | | | |
|------------------------------|------------------------|-----------------|----------|-----------------|------------------------|-----------------|----------|-----------------|
| | Total amounts of loans | Number of Loans | Defaults | Spread of Issue | Total amounts of loans | Number of Loans | Defaults | Spread of Issue |
| Rothschild | 21.5 | 6 | 0 | 2.62 | 9.14 | 3 | 0 | 2.84 |
| Baring | 1 ^(a) | 1 | 1 | 3.82 | 9 | 2 | 0 | 1.79 |
| Thomas Wilson | 4.7 | 2 | 0 | 2.16 | 0.8 | 1 | 0 | 5.96 |
| J.&.S Ricardo | 2 | 1 | 1 | 5.68 | 8.6 | 4 | 1 | 6.36 |
| B. A. Goldschmidt | 12.45 | 4 | 3 | 3.37 | BUST ! | | | |
| Barclay, Herring, Richardson | 4.63 | 2 | 2 | 4.16 | BUST ! | | | |
| Hullet Brothers | 1 | 1 | 1 | 4.75 | OUT ! | | | |
| Herring, Graham and Powles | 2 | 1 | 1 | 3.39 | OUT ! | | | |
| Thomas Kinder | 1.2 | 1 | 1 | 3.14 | OUT ! | | | |
| Haldimand & Sons | 12.9 ^(b) | 1 | 1 | 5.03 | OUT ! | | | |
| James Campbell | 1.4 | 1 | 1 | 12.85 | OUT ! | | | |
| Loughman, Son & O'Brians | 0.8 | 1 | 1 | 5.32 | OUT ! | | | |
| Thomas & William King | | | | | 0.313 | 1 | 0 | 3.11 |
| Wright | | | | | 0.45 | 1 | 0 | |
| I.L. Goldsmid | | | | | 2.9 | 3 | 0 | 3.54 |

Source: Authors' database. Default windows (1815-1825) and (1826-1840).

Notes: (a) We have not included the two loans from Baring to Austria and Russia in the 1810s, for lack of information on terms. Note that these loans are curiously excluded from standard lists. On the other hand, this table lists as a "Baring loan" the Buenos Aires loan of 1824 although this one should more adequately be associated with Robertson. (b) Details.