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Conflicts of Interest, Reputation, and the Interwar Debt Crisis:

Banksters or Bad Luck?

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[1] We thank, without implications, Barry Eichengreen, Mitu Gulati, Eric Hilt, and Mira Wilkins for helpful comments. We are also grateful to the curators of the Morgan Library in New York City for having given us unlimited access to JP Morgan's *Syndicate Books* as well as the librarians at the Graduate Institute and at the United Nations, Geneva, for patience and support. The views expressed in this paper are the authors' only and need not reflect, and should not be represented as, the views of the United Nations.

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I Introduction

This paper provides new evidence on the behavior of the financial intermediaries that operated in the New York foreign government bond market during the period leading to the interwar debt crisis. This crisis was a major event during which nearly 40 percent of international sovereign and sub-sovereign bonds went into default. This led to claims that the "originate and distribute" model in sovereign lending had failed miserably (Madden et al., 1937). While the perception that banks had proven unable to manage their conflicts of interest was one of the justifications for the Glass Steagall Act of 1933 (Carosso, 1970, Benston, 1990), to the best of our knowledge, there has not been any attempt to formally test this hypothesis. The objective of this paper is to fill this gap in the literature by conducting an econometric study of the determinants of bankers' behavior in the 1920s. Although our contribution is empirical, we use insight from recent theoretical work to exploit interesting dimensions of the novel dataset that we have constructed.

Our results suggest that in the period we study the desire to build and maintain prestige and reputation played an important role in mitigating conflicts of interest. We argue that the malfunctioning of the international capital market was not as pervasive as previously thought and conclude that anecdotal reports by contemporaries may have overplayed the few cases in which some banks did indeed adopt fraudulent behavior.

We provide two distinct but complementary ways to think about intermediaries' incentives. First, we check whether bankers' concerns over reputation played a role in determining the quality of the bonds they underwrote. Second, we test for bad behavior ("banksterism") by exploiting information about underwriting fees charged by bankers.

In order to conduct these tests we use a new dataset that covers the universe of bonds issued in New York during the 1920s by foreign sovereign, sub-sovereign, sovereign-owned, and sub-sovereign-owned entities.[2] In building our dataset, we painstakingly matched information from different sources on bond characteristics (such as credit rating, spread at issue, maturity, size of the issue, and default status), on underwriting fees, and on the type (investment bank versus commercial bank) and prestige of the main underwriter. While we were able to obtain information on bond characteristics from Moody's *Governments and Municipals* annual handbooks, to collect data on underwriting fees we had to go back to the original documents of US Congressional commissions. We also checked these published sources against primary (handwritten, archival) material principally from the Morgan Library in New York City. Finally, we gathered both systematic and anecdotal evidence on a large number of individual issues in order to increase the informational content of each data point.

[2] . We do not consider Canadian bonds as the conventional wisdom was that Canada could not be treated as a fully foreign issuer (Mintz, 1951).

We think that the construction and description of this dataset is another contribution of our paper to the sovereign debt literature.

We find that the experience of the 1920s is consistent with modern theoretical arguments about reputational concerns. In particular, we show that bonds underwritten by less prestigious houses were more likely to default even after controlling for *ex-ante* measures of bond quality (such as rating or spread at issue). This suggests that market leaders worried about retaining their prestige and hence were particularly careful in selecting the bonds they underwrote. Our results are also consistent with the notion that prestigious underwriters did not try to use their reputation to extract anomalous fees from borrowers.

Our paper relates to three strands of literature. The first strand looks at whether commercial banks faced stronger conflicts of interest with respect to investment banks (Benston, 1990). Several legal documents and policy papers emphasized the alleged role of delinquent practices during the 1920s. They argued that such practices led to a loss of confidence in commercial banks that engaged in underwriting securities through their "Security Affiliates" (Fein, 1986). However, economists always found limited traction for the argument that commercial banks were more likely to sell low quality paper with respect to investment banks. Like the typewriter in the 19th century, the poor empirical foundations of this view have been rediscovered several times during the 20th century. Immediately after the crisis, Moore (1934) compared the corporate portfolio of the top eight investment banks with that of the top eight commercial banks and did not find any substantial difference. Shortly thereafter, Edwards (1942) conducted a comparative analysis of the domestic corporate bond market and argued that the conflict of interest laden commercial bank is a myth rather than a legend for a "legend at least has an element of historic truth." (Edwards 1942, p. 232). More recent econometric work by Kroszner and Rajan (1994) and by Ang and Richardson (1994) looks at the US corporate bond market during the interwar period and confirms these previous findings. Our paper brings a sovereign debt angle to this literature. This is important because information problems are more pervasive in the sovereign debt market (countries do not publish audited accounts and can rarely post collateral) and so is the potential scope for misbehavior and misrepresentation. Even though foreign government bonds accounted for a small percentage of total securities issued on the NYSE during the 1920s, the first massive wave of defaults in the interwar period concerned sovereign bonds. These defaults led to the US Senate hearings in 1931-1932 and were central in the debates that led to the Glass-Steagall Act in 1933 (Carosso, 1970, Benston, 1990). Our analysis of the market for foreign government bonds corroborates the results obtained by authors who focused on the corporate debt market and provides no support for the idea that commercial and investment banks behaved differently when they underwrote sovereign bonds.

The fact that previous research failed to find any difference between commercial banks and investment banks does not necessarily mean that banks at large did not face conflicts of interest. We discuss this issue by looking at the relationship between reputation and conflicts of interest and relate our findings to modern theories of signaling and certification which suggest that reputation interacts with market structure. Our results are consistent with several theoretical models which emphasize that a concern for reputation helps supporting quality provision in markets, where information problems would otherwise preclude it (Shapiro, 1983, Klein and Leffler, 1984, Bar-Isaac and Tadelis, 2008, Chemmanur and Fulghieri, 1994).[3] In particular, we find that prestigious underwriters who might have been tempted to overprice low quality securities refrained from it, presumably to avoid damage to their reputation. Our findings are also in line with empirical work by Carter, Dark, and Singh (1998) who show that securities issued by prestigious banks outperform those issued by ordinary ones.[4]

Finally, our paper relates to the literature that looks at the macroeconomic causes and consequences of the wave of defaults of the 1930s and emphasizes the role of bad luck. Eichengreen and Portes (1986) find that rising debt burdens and deteriorated terms of trade increased the likelihood and magnitude of default. While a high debt burden is consistent with underwriters' failure to check reckless borrowing, bankers cannot be blamed for defaults caused by adverse terms of trade shocks.[5] Eichengreen (1992) suggests that the Great Depression had much to do with policy errors in developed countries of which developing countries' governments are exonerated. Taken together, these findings suggest that many of the defaults of the 1930s could not have been anticipated by the underwriting banks. Therefore the large number of bonds that defaulted cannot be taken as an indication of bankers' greed. Our micro-perspective brings fresh evidence on the matter. By eliminating the hypothesis of bad behavior, we strengthen that of bad luck and reinforce the claims of the macroeconomic literature.

The remainder of the paper is organized as follows. Section II provides a brief overview of the historical context of the episode which is the object of our study. Section III describes the construction of our dataset and presents some summary statistics on the structure of the New York market for sovereign debt during the 1920s. Section IV studies the

[3] . The idea is that, in a repeated game, sellers with a reputation for quality can extract future rents from current investment in reputation (see DeLong, 1990, for a historical perspective).

[4] . Along similar lines, Beatty and Ritter (1986) show that underwriters whose offerings under-perform lose market share. Finally, Booth and Smith (1986) show that security prices are positively correlated with the reputation of the underwriter. This latter fact is consistent with the idea that reputation contributes to solving problems arising from asymmetric information between intermediaries and investors.

[5] Moreover, Eichengreen and Portes's (1986) calculations of internal rates of returns for government bonds show only modest losses for buy and hold investors.

determinants of the probability of default and tests alternative hypothesis on the matter. Section V looks at whether bankers concealed information from the public in order to extract higher revenues. Section VI concludes.

II Historical Background

II.a The boom and the bust

During the 1920s, the New York Stock Exchange experienced a flurry of foreign bond issues. Issue of foreign government bonds in the US had begun before World War I. Before 1914, Wall Street institutions were frequently involved in international syndicates (Carosso and Sylla, 1991). However, their market share remained modest compared to that of the then ruling European houses (Lewis, 1938).[6] Following the outbreak of World War I, the United States began playing a leading role through the financing of Great Britain and France, beginning with the Anglo-French war loan of 1915. Several short and long-term bonds were floated during the period 1915-1917 on the New York Stock Exchange.[7] The size and scope of New York issues increased in the 1920s, and came to include sovereign, sub-sovereign, government-guaranteed, and corporate securities from Latin America, Europe, and the Far East (Lewis 1938, Stallings 1987).

This expansion of the New York market for sovereign debt was briefly interrupted in 1923 and then peaked in 1927 (Young, 1930). Reflux started in 1928 and issues stalled after the crash of 1929. While domestic and foreign fixed income securities held fairly well in the immediate aftermath of the crash, the outlook deteriorated in the Spring of 1931, following the Central European and German Crisis. Things got worse after the Sterling crisis of September 1931. Investors began questioning the creditworthiness of sovereign and sub-sovereign borrowers and foreign bonds experienced a dramatic decline. Rating agencies started a wave of massive downgrades and default rates picked up. About 12 percent of outstanding sovereign bonds defaulted in 1931. The proportion of defaulted bonds climbed to 22 percent in 1932, 30 percent in 1933 and reached 38 percent in 1936 (Flandreau, Gaillard and Packer, 2009). These events were part of a protracted process where policy failures, deflation, and lack of international cooperation interacted with one another, causing havoc in the global financial system (Eichengreen 1992).

There is broad consensus on the main causes of the boom and bust cycle of 1920-1931 (Young, 1930, Lewis, 1938, Madden et al., 1937, Eichengreen, 1989). They include the shift of the US current account from a structural deficit to a structural surplus, the accommodating monetary policy that was associated with the Gold Exchange Standard

[6] . The exceptions were some issues that fell within America's sphere of influence, such as Central America and the Caribbean, Liberia, and China.
[7] . See Moody's Manual (1918) for details.

(Friedman and Schwartz, 1963), and financial innovation. With respect to this last factor, U.S. policymakers have been blamed for liberalizing the procedures for issuing foreign bonds in the US market (Edwards, 1927, describes the changes in regulation implemented in 1923) and for introducing new products (the Liberty Bonds) which may have given investors in foreign sovereign bonds a false impression of security.[8]

According to many, however, the market expanded (and eventually collapsed) because some underwriting banks were willing to issue low quality bonds without revealing the true risk associated with these securities (Madden et al., 1937, Mintz, 1951, U.S. Congress, 1932, pp. 1268-1272, Kamm, 1952, and Rippy, 1950). Many observers argued that the problem was particularly serious for the so-called security affiliates of commercial banks which were often accused to push bonds on the depositors of their parent banks.[9]

This latter view became the dominant one and fed public resentment when, in the Fall of 1931, investors faced enormous paper losses on their portfolio of foreign securities.[10] The US press took up the cudgel against bankers and accused them of carelessness and bad judgment in the underwriting and placement of foreign bonds. Bankers were also accused of disregarding the interests of investors. William Randolph Hearst's *New York American*, a daily, started a campaign against bankers describing the losses incurred by investors in foreign bonds and contrasting these with the profits made by the bankers who issued these securities. Madden et al. (1937, p. 204) report that "there was considerable resentment among investors" and it was chiefly directed against the "bankers who originated and distributed these securities" and "unloaded these securities on a gullible public with no consideration other than that of making profits". Similarly, Kuczynski (1932, p. 1) argued that:

> … the heavy drop in prices in German bonds following the default of many South American loans has aroused a bitter feeling against the 'international banker'. One factor which particularly irritates the public is the belief that the bankers derived excessive profits from the sale of these bonds while investors who had to resell them suffered severe losses.

II.b The blame game and the political reaction

Problems in the market for foreign securities sparked a blaming game and lawmakers became involved. On December 10, 1931, Senator Hiram Johnson of California, a maverick Republican "Progressive" who was opposed to Hoover and would endorse Roosevelt,

[8] . Liberty bonds (issued between April 1917 and September 1918) were debt swaps between the US Government and financially weak allied countries whereby US fiscal authorities provided default insurance to foreign governments' creditors.

[9] . Security affiliates were vehicles designed to circumvent regulatory limitations that existed precisely to prevent commercial banks from getting involved in origination (Carosso, 1970).

[10] . Flandreau, Gaillard and Packer (2009) estimate that by mid-September 1931, the average market value of foreign government bonds rated A and Baa stood at (relative to their par value of 100) 58.1 and 50.4 respectively. Comparable figures for domestic corporate bonds were 85.7 (A) and 75.3 (Baa).

introduced in the Senate a resolution authorizing the Senate Committee on Finance to "investigate the same floatation and allocation by bankers, banking institutions, corporations and individuals of foreign bonds or securities in the United States."

Between December 1931 and February 1932, as defaults accelerated, the senior management or partners of leading investment banking houses and commercial banks involved in originating and distributing foreign securities testified on their activities. The Senate Committee was chaired by Senator Smoot yet hearings turned out to be heavily influenced by Johnson, although he was not formally a member of this Committee.[11] Johnson led many of the Senate Committee's interviews and pushed for material to be disclosed and appended to the Senate minutes. Hearings before this Committee disclosed elements that the public could interpret as a lack of monitoring by American bankers and items that had a smell of malpractices. These included bribery (the son of Peruvian President Leguia had been paid as "advisor" for New York firms) and price rigging (the syndicate for the Young loan to Germany in 1930 was reported to have supported the price of the issue for a while).[12]

Bankers argued that this was old news in global finance. However, bond prices kept falling and, in the country of Arsène Pujo and Louis Brandeis, these revelations caused popular outrage.[13] The high point in public resentment was reached during a second series of hearings by the Senate Committee on Banking and Currency. This Committee was authorized by a resolution of March 2, 1932 (and set up on March 4, 1932) to investigate stock exchange practices. However, its scope was later enlarged to include investment banking practices. The Senate Committee on Banking and Currency attracted considerable public focus and press coverage thanks to the personality of its fourth chief counsel, Ferdinand Pecora.[14]

Pecora tried intermediaries and found them guilty. Important members of the Wall Street financial establishment were again called as witness for the Senate Committee on Banking and Currency. Leading bankers such as Otto H. Kahn from Kuhn and Loeb, Charles E. Mitchell from National City Bank, Thomas W. Lamont from J. P. Morgan, and Winthrop W. Aldrich from Chase National Bank were examined. The Pecora hearings painted a frightening picture of corrupt banks selling junk securities to an ignorant public. Foreign government bonds again captured the limelight when Charles E. Mitchell described the loans

[11] As a result, this Senate Committee has occasionally been referred to as "Johnson's Committee" (Hulbert, 1983, and Eichengreen, 1989).
[12] U.S. Senate (1932). See Rippy (1950) for an overview of scandals in Latin American loan negotiations.
[13] Arsène Pujo was a lawyer from Louisiana. The Pujo committee was set up in 1912 to investigate the "money trust". Louis D. Brandeis was the author of a celebrated 1914 pamphlet against bankers. At the time of the Senate Commission, Brandeis sat in the Supreme Court.
[14] . Ferdinand Pecora's own account is found in Pecora (1939).

of National City Bank and of its security affiliate (the National City Company) to the Brazilian state of Minas Gerais and Peru (Carosso, 1970, p. 330-31, Benston, 1990).[15]

Before the crisis, investment banks worried about the entry of new competitors and complained that allowing commercial banks into the underwriting business could be destabilizing (Carosso, 1970). The bond debacle of 1931 was an opportunity to repeat older arguments with more emphasis and audience. In 1931, Lord Kindersley, of the house of Lazard a "merchant bank" (i.e., investment bank) in London, with outfits in Paris and New York would declare before the British Macmillan Committee that underwriting banks in New York could not trustfully serve their customer in the sovereign debt market "owing to the role of commercial banks".[16] Otto Kahn, of the House of Kuhn and Loeb, made the following declaration before the Senate Committee on Finance:

> Such practices as what you might term "strong-arm methods" of selling, making raids on rather unwilling buyers, exorcizing undue persuasiveness tempting buyers by excessive facilities, inducements or exactions, in short, high-powered methods of salesmanship are against the dignity and the ethics of banking. They are not within the permissible functions of a bank or banker and, least of all, within the permissible functions of a bank of deposit.[17]

This was nothing compared to the inflamed atmosphere of the Pecora hearings. The National City Company, Chase Securities Corporation and more generally the Security Affiliates of Commercial banks were thoroughly bruised in Pecora's hands. At that time the expression "high powered salesmanship" became synonymous to National City Bank and more generally to the allegedly aggressive sales practice of security affiliates.[18]

The declarations by Winthrop W. Aldrich, who became executive head of Chase Bank in January 1931, played a key role in popularizing the notion that there was something special with the way commercial banks' security affiliates had failed (Carosso, 1970). Aldrich criticized his predecessor Albert Wiggins and stated that "spirit of speculation had to be eradicated from the management of commercial banks" by separating completely investment and commercial banking from one another (Carosso, 1970, p. 347).[19]

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[15] . The Peruvian loans had been originated by Seligman, but National City Bank helped distributing them.

[16] . Macmillan Committee, *Minutes of Evidence*, p. 77.

[17] . Senate Committee on Finance, p. 394. A little earlier in the interview (p. 342), Kahn stated "As to the matter of high powered salesmanship to which you have referred, that is a practice which has been exaggerated and overdone."

[18] . According to Huertas and Silverman (1986) attention to the National City Company is explained by Pecora's need for a star villain. One aggravating circumstance was that when the bond market collapsed, National City Bank bore no residual exposure, having already disposed of the securities it underwrote. Its balance sheet, in 1933, was said to be "the envy of every bank in the United States" (Huertas and Silverman, 1986, p. 86).

[19] . Chase itself was leading the way out and at the time of the hearings a special committee was preparing a plan to separate the two parts of the bank.

Private investment banks were comparatively less tarnished because "as Pecora viewed them, the sins of the private bankers were of a more subtle nature" (Carosso, 1970, p 340). Pecora mentioned later to Carosso that several bankers confided with him they felt the situation had run out of control and that the subcommittee was "doing a much needed job of housecleaning" (Carosso, 1970, p. 349).[20] The hearings mobilized public support for new financial laws, paving the way for the Banking Act of 1933 (known as the Glass-Steagall Act), which separated investment banking (or origination) from commercial banking (or distribution). The explicit goal of the Act was to address conflicts of interest and restore credibility in battered capital markets. Some authors have discussed whether Glass-Steagall was a case of regulatory capture that enabled to stifle competition (Tabarrok, 1998, Mahoney, 2001, Calomiris 2000).

II.c Market discipline

A neglected question is the extent to which all types of banks (investment banks and security affiliates) were subjected to some type of market discipline. In the hearings of the 1930s, several bankers insisted they were careful because they were motivated by what Kahn called an "enlightened self-interest" (Senate Committee, p. 352) that required them to fight side by side with investors rather than seek to abuse them. The following exchange, taken from the interview of Otto Kahn provides a typical illustration:

> Kahn: I think that the banker is called upon to exercise a greater degree of care than pretty nearly anyone else who is dealing with the public, because he is dealing with a commodity as to which he is considered to be an expert adviser and as to which many people rely on his integrity.
> Sen. Johnson: And judgment?
> Kahn: His integrity and judgment […] He must resolutely decline, whatever be the monetary inducement, to attach that trademark and that responsibility to any securities as to the soundness of which there is, or ought to be, any doubt in his own mind. If he does not do all that, he is not the kind of banker that deserves to live."[21]

To what extent did this idealized picture of what bankers ought to do conform to reality? On the one hand, Cleveland and Huertas (1985) argue in favor of reputational models and conclude that "enlightened self-interest" was the best antidote to "high power salesmanship":

[20] Pecora alluded to a conversation with Otto Kahn. When asked by the Senate Committee on Finance whether he felt that the trouble in foreign government debts had developed because everybody had become to some extent a "brokerage house", the same Otto Kahn responded "Yes, emphatically yes".
[21] . U.S. Congress, Senate (1932, p. 353). Lamont, of JP Morgan concurred: "on the whole, American banking houses are very careful to secure complete and adequate information in any instance that you might have in mind" U.S. Congress, Senate (1932, p. 48).

> "For a firm like the National City Company [National City Bank's security affiliate], an established firm with a reputation to protect, there was little or no incentive to sell deliberately overpriced securities. The inevitable decline in the market price of such securities would damage the underwriter's credibility with the investors, making it more difficult for the underwriter to sell securities in the future […] During the 1920s the National City Company exercised precisely this in selecting issues for sale to the public"[22]

On the other hand, Madden et al. (1937, p. 231) contend that while there were some "honest errors," certain houses "must bear a substantial share of the blame for the losses sustained by American investors in foreign securities". They claim there was "undue eagerness to participate in foreign financing for the sake of profits to be made" for it "is undeniable that many of the foreign loans now in default would never have been made if the bankers had been guided solely by conservative principles rather than by pecuniary considerations." Mintz (1951) reports some evidence that is consistent with concerns over reputation but she says that reputation did not restrain bankers' behavior during the second half of the 1920s because of what would be called today investors' "irrational exuberance". Eichengreen (1989) recognizes the general logic of the reputation argument but is skeptical about its validity. He argues that it might have applied to the concentrated London market but not to the (then) incipient, highly competitive, New York market:

> "While this logic [that of the reputation argument] is impeccable, it may apply imperfectly to the 1920s by virtue of the fact that many institutional participants in the international bond market were recent entrants […] If, in the long run, track record in comparison with incumbents will drive unsuccessful entrants out of the market, there is no reason to suppose that these forces had much effects between 1921 and 1929". [23]

While this reasoning is compelling, Carosso and Sylla (1991) suggest that the foreign bond activity before WWI was captured by a handful of banks operating as a cartel which sought to promote the interest of the New York market against international competition.[24] Our own exploration of JP Morgan's archives found evidence of collusive behavior in line with the pre-1914 patterns.[25] Similar groups of banks took charge of successive issues by the same country. The Guaranty Trust, the National City Bank, and Kuhn and Loeb were generally found together in Morgan's underwriting syndicates or offering groups. Continuing pre-WWI

[22] . Cleveland and Huertas (1985, p. 177)
[23] . Eichengreen (1989, p.122-23). This view is also consistent with Winkler's (1933) emphasis on the role of unrestrained bankers' competition in the interwar debt collapse.
[24] . In 1909, these banks (which included JP Morgan, Kuhn and Loeb, the National City Bank, and the First National Bank of New York) banded together to form the "American group" which sought to secure a Chinese government loan. The same houses also formed the "North American Group" with the objective of competing with the house of Speyer in Latin America. Under the terms of the arrangement banks participated to one another's deals.
[25] . JP Morgan's Syndicate Books, Morgan Library, New York City.

patterns, Morgan interwar groupings had names such as "the South American Group."[26] There are also frequent references to allotments being made "arbitrarily" suggesting that syndicate leader(s) could control the distribution of securities and provide rents to insiders.[27] Kahn admitted before the Senate Committee on Finance that there was "a typical Morgan syndicate and a typical Kuhn, Loeb and Co syndicate, and the like".[28] The evidence seems to run against the notion of a hyper-competitive New York market.[29]

Such insights are supported by systematic statistical measures of competition. Flandreau et al. (2009) report a Herfindhal-Hirschman concentration index of 2869 for foreign sovereign debt issues in New York during the 1920s (1920-1930). This is well above the conventional threshold for "high concentration" of 1800 and is the highest concentration index among all previous and subsequent markets and periods they study. While there might have been new entrants in the New York market, incumbents were able to retain their dominant position.

III The Data

III.a Data collection

We study the behavior of financial intermediaries that operated in the New York market during the interwar period with a new dataset that covers the universe of sovereign international bonds denominated in US dollars, with maturity of at least one year, issued in New York between 1920 and 1929.

To build our dataset we started with Young's (1930) list of foreign bonds issued in the NYSE between 1914 and 1929. We obtained security-level data on month and year of issue, amount, maturity, coupon, and yield at issue for all bonds issued by sovereign, sub-sovereign, sovereign and sub-sovereign owned entities. Next, we matched the data obtained from Young (1930) with information on spreads, rating at issue, underwriting fees and default history. [30]

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[26] . JP Morgan Archive, Syndicate Books, 9, 167.
[27] . JP Morgan Archive, Syndicate Books 11, 19, 1924 French external loan.
[28] . Senate Committee, p. 348.
[29] . The fact that the cartels included both investment banks (JP Morgan and Kuhn and Loeb) and commercial banks with security affiliates (the Guaranty and the National City Bank) belies any attempt to draw a sharp contrast between investment banks and commercial banks. In 1927, JP Morgan banded together with the National City Company in the loan to Peru originated by Seligman. In 1929 JP Morgan cooperated with the National City Company in the infamous Chile and Minas Gerais loans. In these arrangements, the National City Company bore the liability risk, as JP Morgan did not appear as chief underwriter. However, its banding with National City shows the extent to which the divide between investment and commercial banks is arbitrary, and perhaps even meaningless.

[30] . We calculated spreads using US government bond yields as a benchmark (see http://www.fraser.stlouisfed.org).

We collected the data for bond credit ratings immediately after issue from Moody's *Government and Municipals Manuals,* which are available from 1918 onwards (at the time, Moody's scale used a 9 notch system starting with Aaa, Aa, A, Baa, all the way down to C).

To identify the lead underwriter of each issue, we matched the list of underwriters reported in Moody's *Manuals* with the house identified as "manager" in the minutes of the US Senate Committee on Finance Hearings *Sale of Foreign Bonds or Securities in the United States.*[31] We then validated our data using JP Morgan's Syndicate Books.[32] This coding strategy yielded a list of 44 underwriters and 322 securities, representing all international sovereign and sub-sovereign bonds issued in New York during the period under consideration.

Moody's *Manuals* were also our source for default dates. Rather than focusing on the general state of default that a country might or might not have been in, we worked on bond-level data because different bonds issued by the same country could have a different default history. Since there were almost no defaults before 1931, we carefully examined the *Manuals* from 1932 to 1940 to identify all bond-level default episodes.[33]

The next step consisted of assigning bank types to individual underwriters. This was not an easy task as the conventional practice of distinguishing between commercial banks and investment banks is fraught with difficulty. Kroszner and Rajan (1994) suggest using certain key words such as "national", "bank" or "trust" to identify security affiliates.[34] We decided to document each case from leading sources in business history. Working with the indexes of Peach (1941) and Carosso (1973) we were able to pin down most of the banks in our 44 institutions list.[35] This coding strategy allowed us to split our sample of 44 underwriters into a

[31] . U.S. Congress, Senate (1931 1932). In general, the first underwriter in the list provided by Moody's is also identified as the lead underwriter in the Senate Committee Hearings. When the Senate Committee did not provide information on the lead underwriter (this was the case for some small, and unknown houses), we identified the lead underwriter by using the first name listed by Moody's. Mintz (1951) adopted a similar strategy but she only covered 11 underwriters.

[32] . This led us to reassign two Norwegian loans which we had previously attributed to JP Morgan to National City Bank (our results are robust to assigning these two bonds to JP Morgan).

[33] China defaulted in 1921 on a pre 1920 issue, which is, therefore, not included in our dataset. Two Brazilian sub-sovereign defaults (Santa Catharina and Ceara, respectively in 1926 and 1927), by contrast, are included in our sample and coded as defaulted.

[34] . Edwards (1942) argues that there were three groups of banks involved in originating corporate securities: affiliates, non-affiliates (such investment trusts not related to a commercial bank); and private or unincorporated houses. Attention to specific cases reveals further complications. Some investment banks did set up their own networks of salesmen. For instance, Dillon, Read and Co. had a network of 4,000 salesmen (Roberts 1992). It is interesting to note that the literature has been obsessed with the "danger" of commercial banks over-stepping the turf of investment banks. However, the opposite was just as true. The extent to which this makes investment banks and commercial banks unidentifiable is never discussed. Through interlocking directorates, some were also able to control given commercial banks. Edwards (1942) and Carosso (1970) also note that investment banks such as JP Morgan did take deposits for large customers.

[35] Peach (1941) provides a discussion of security affiliates. Carosso (1970) covers the evolution of investment banking and provides a host of details on individual houses. Remaining cases required extra

subsample of 36 investment banks, which issued 243 bonds and 8 security affiliates, which issued 79 bonds (a full list of underwriters is provided in the appendix).

Finally, we matched our data with information on underwriting fees. This was the most difficult endeavor in our project. During the "Money Trust" investigation before WWI lawyers had tried to force JP Morgan to provide data on underwriting fees, to no avail. In the early 1930s, Kuczynski (1932) complained that such information was not in the public domain. However, under pressure by Senator Johnson, the US Senate Committee on Finance transformed itself into a statistical machinery and managed to append several tables to bankers' interviews. While non-standardized and thus requiring much care in data gathering, these tables contain detailed information that can be used to reconstruct underwriting fees. Lewis (1938) was the first to use this information to estimate underwriting fees for a number of countries and years and her data has been used by Eichengreen (1989). However, as Lewis (1938) aggregated fees across different underwriters and sometimes interpolated the data, we had to start from scratch and use the primary source (the Senate Committee on Finance) in order to obtain bond-level information on underwriting fees. For a few bonds, which were not covered by the Senate Committee on Finance, we were able to obtain information from Kuczynski (1932) and Rippy (1950). After matching our 322 bonds with the list of securities for which we were able to obtain fees, we obtained a dataset of 249 securities.

We think that there are good reasons to trust our main source of information on fees. Since the Senate Committee was evaluating the accusation that bankers had over-charged their client countries, underwriters had no incentives to inflate the actual fees. At the same time, given that high fees were often considered evidence of bankers' corrupt practices and a sign of the exploitation of innocent borrowers, the latter had every incentive to denounce any underreporting of the true underwriting fees they had been subjected to.[36] We also checked the quality of the information on underwriting fees collected by the Senate Committee on Finance by matching our results with the underwriting fees reported by JP Morgan's Syndicate Books (to the best of our knowledge this is the only accessible repository of underwriting contracts for that period). We were able to double-check figures for a substantial portion of loans because Morgan's Syndicate Books report information on Morgan's deals, on National City Company's deals where JP Morgan was a partner, and on deals where the

investigation. For example, we were able to identify the Royal Financial Corporation, a minor market participant, through an ad in the January 3, 1919 issue of *The Monetary Times*, a Canadian publication.

[36] . As defaults spread and governments were toppled, successor regimes sued earlier rulers and this gave much publicity to the terms of the loans. In the case of Peru, the former president Augusto Leguia and his son Juan Leguia were trialed for illegal enrichment (see Senate Committee on Finance, p. 1279-80, and Rippy, 1950).

National City Company was only a distributor but reserved a share to Morgan (these were routine arrangements consistent with the collusive practices discussed in Section II).[37]

III.b A First look at the data

Before moving to a formal econometric analysis, we describe the main characteristics of our dataset. Table 1 reports descriptive statistics and slices our sample along two dimensions: investment banks versus security affiliates and major versus smaller underwriters. We arbitrarily defined as "major" all underwriters with a market share greater than 5 percent.

Panel A uses information for all underwriters. It shows that the average underwriter had a market share of approximately 2 percent, but that the largest underwriter (JP Morgan) controlled more than 30 percent of the market for foreign government bonds. The average bond included in our sample has a face value of nearly USD16 million (the median is USD10 million) and a maturity of 25 years. Average spreads hovered around 3.2 percent and underwriting fees were roughly 5.8 percent. The average rating of bonds issued in this period was close to A (the median rating was exactly A).[38] An average A rating appears to be high, if one considers that about two thirds of the bonds issued in the period under observation eventually defaulted.

Panels B and C of Table 1 report summary statistics for the subsample of bonds issued by bank affiliates and investment banks, respectively. We are particularly interested in seeing if the there are differences in the "quality" of the bonds issued by the two types of underwriters. We gauge quality by looking at the *ex ante* and *ex post* performance of Wall Street firms involved in foreign government bond underwriting. We measure *ex ante* performance by looking at the average credit rating of bonds underwritten by a given bank. To measure *ex post* performance, we look at default rates.[39] Armed with these definitions of quality, Panel D of Table 1 compares the two subsamples and shows that, by and large, the bonds issued by the two groups of underwriters have similar characteristics in terms of quality both ex-ante and ex-post.[40] The findings of Panel D are consistent with previous work that

[37] . Unfortunately, we were unable to check whether misreporting of fees was more serious for bonds issued by smaller institutions.

[38] . In order to compute average ratings, we assign numeric values to Moody's rating. Our coding is as follows: 0 for non rated bonds; 1 for bonds rated B and Ba (there is only one bond rated B in the sample); 2 for bonds rated Baa; 3 for bonds rated A; 4 for bonds rated Aa; 5 for bonds rated Aaa.

[39] This dichotomous variable may be criticized on the account that what really matters is recovery ratios. However, we were not able to obtain information on recovery ratios for the majority of the defaulting bond included in our sample. An alternative suggested by Moore (1934) and Kroszner and Rajan (1994) is to use bond prices at certain dates.

[40] The only differences are that investment banks charge fees which are slightly higher than the fees charged by bank affiliates (the difference is 70 basis points and, with a p value of 0.11, it is close to being statistically significant at the 10 percent confidence level) and that bonds issued by investment banks have average spreads which are higher than the spreads on bonds issued by bank affiliates (the difference is 30 basis points and it is statistically significant at the one percent confidence level).

found no statistically significant difference between the quality of domestic corporate bonds underwritten by investment banks and the quality of bonds underwritten by affiliates (Moore, 1934, Huertas and Silverman, 1986, Kroszner and Rajan, 1994). In particular, our data show no statistically significant difference between default rates of bonds underwritten by investment banks and bonds underwritten by security affiliates of commercial banks. They show a small difference in ex ante quality as measured by spreads and credit rating, but they suggest that, if anything, bank affiliates underwrote higher quality bonds with respect to investment banks.

Panels E and F of Table 1 split the sample between major underwriters and smaller underwriters. Our sample includes 6 underwriters and 157 bonds in the first category and 38 underwriters with 165 bonds in the second category. Panel G compares the two subsamples and shows that the bonds issued by the two types of underwriters differ along many dimensions. Major underwriters are characterized by lower default rates, smaller average fees and spreads, higher average amounts, and higher credit rating. The only dimension along which we do not find a statistically significant difference between the two groups is average maturity.

Table 2 takes a closer look at the composition of credit ratings by type of issuer. The first two columns compare security affiliates with investment banks and the last two columns compare major underwriters with smaller ones. When we focus on the security affiliates versus investment banks split, we find no clear relationship between *ex ante* quality of bonds and the type of underwriter. Security affiliates issued a larger share of Aaa bonds than investment banks (20.2 percent of the total number of bonds issued by bank affiliates versus 7.8 percent of the total number of bonds issued by investment banks) and of Ba bonds (15.2 percent versus 9.9 percent). Investment banks, instead, issued a larger share of Baa bonds (31.3 percent versus 12.7 percent).

The differences between major and smaller underwriters are, instead, clearer. Major underwriters issued high quality bonds and small underwriters issued lower quality bonds. About 40 percent of bonds issued by major underwriters were rated Aaa or Aa. The corresponding share for smaller underwriters was about 10 percent. The other end of the spectrum (the Baa to B range as there were no securities whose grade at issue was below B) amounted to only about 24 percent of the issues by major underwriters but more than 50 percent of bonds issued by smaller underwriters.

Thus, a cursory look at the data indicates that the size of the underwriters appears to be more important than the type of underwriter in determining the quality of the issued bonds. In the next section, we relate market size to an economically meaningful variable such as prestige and provide econometric evidence of the relation between prestige and gate-keeping.

IV Prestige and Gate-keeping in Foreign Governments Debt Markets

The previous section showed that there is almost no difference between the average quality (both *ex ante* and *ex post*) of bonds underwritten by security affiliates and that of bonds underwritten by investment banks. It also presented evidence in support of the idea that larger houses tended to underwrite higher quality bonds both *ex ante* and *ex post*.

In this section, we focus on *ex-post* performance and check whether underwriter characteristics are associated with default probability, conditional on information on bond characteristics which was publicly available when the bond was originally issued. In particular, we test the hypothesis that self-discipline in bond underwriting was provided by the fear that issuing bad securities would damage the underwriter's credibility. We do this by checking whether bigger banks were more selective in their underwriting decisions because they had more to lose.

We also check whether our data support the idea that security affiliates and investment banks faced different set of incentives and whether this difference in incentives led the former to less selective underwriting decisions. We conduct this test because, as discussed in Section II, one of the reasons why the Glass-Steagall Act forced commercial banks to abandon their underwriting business was that the Pecora Hearings concluded that commercial banks had incentives to underwrite low quality bonds and reported anecdotal evidence pertaining to the foreign bond market (of course, it is not clear why underwriting low quality bonds is bad per se, more on this below).

We test these hypotheses by estimating a set of bond-level Probit regressions where the dependent variable takes a value of one if the bond ever defaulted in the subsequent period and zero otherwise and the explanatory variables measure bond and underwriter characteristics. Our two main variables of interest are the type of underwriter and prestige.

We measure the type of underwriter by using the split between bank affiliates and investment bank described in Section III. In particular, we use a dummy variable (INVBANK) that takes a value of one if the underwriter is an investment bank and zero if it is a security affiliate.[41] We do not expect that this variable will show up as significant for foreign sovereign debt when it never did in previous studies of corporate debt. Yet, it is useful to introduce it as background and also in order to underline the novelty of our contribution, which is to include a measure of prestige.

Quantifying prestige is more complicated as this is a variable that can be measured in a variety of ways. Carter and Manaster (1990) rely on the "starring order" on stock offering "tombstone" announcements that are published in the press. While we saw in the Morgan

[41] Since there is limited bond-level variation in underwriter characteristics, we cluster the standard error at the underwriter level.

archive some prospectuses that displayed banks according to their seniority in underwriting and suggest that such measures could also be constructed for the interwar period, we do not have sufficient information to rank all underwriters included in our sample. An alternative is contemporaries' opinion as captured in the work of economic historians. For instance, by reading Carosso (1970) and Carosso and Sylla (1991) it is clear that JP Morgan was the most prestigious house in sovereign underwriting, and the one with an established track record before WWI. However, it is impossible to use these sources to find opinions for all underwriting houses included in our dataset. A possible proxy (which we use in our robustness analysis) is to assign a high level of prestige to the pre-1914 investment bank leaders (Kuhn & Loeb and, of course, JP Morgan) and to the security affiliates whose parent commercial banks were involved in distributing securities in association with JP Morgan before WWI (these would include New York's National City Company set up by the National City Bank and the Guaranty Company set up by the Guaranty Trust, a JP Morgan *protégé*).

Another possible criterion of banks' prestige is the size of their capital. Michaely and Shaw (1994) emphasize the strategic role of capital in providing incentives for careful decisions since banks with a large capital stand to lose more if they make mistakes. However, there are two problems with using capital as a measure of prestige. The first is a practical one, as it is difficult to obtain estimates of equity capital at relevant dates for all banks included in our datasets. The second is more conceptual: Presence of competition between investment boutiques and large commercial banks with a vastly diversified portfolio casts doubt upon the comparability of capital stocks. Probably some adjustment would be necessary, but the form of such adjustment is not clear.[42] A useful alternative, therefore, is to follow Megginson and Weiss (1991) who advocate relative market share as an indicator of prestige. This indicator has also the advantage of being continuous and is the one that we will use in our empirical analysis. An indicator of prestige based on market share is also consistent with the suggestion to identify as "prestigious" the four banks with a substantial pre-1914 activity. These banks were also among the five underwriters which during the 1920s had the largest market share.

Table 3 shows our baseline results. All coefficients are transformed into marginal effects and they can be interpreted as the effect of a change in the explanatory variable on the probability of default, with the effect evaluated at the mean of the explanatory variables. The first column only controls for underwriter's characteristics and shows that prestige (PRESTIGE) has a strong negative correlation with the probability of default. The point estimates suggest that a 1 percentage point increase in prestige is associated with almost a 2 percentage-point reduction in the probability of default. As already suggested by Table 1, and consistently with the results of Moore (1934) and Kroszner and Rajan (1994), we find no

[42] If data were available, one could try to adjust total capital by using the share of business generated by underwriting services.

difference between the default rate of bonds issued by investment banks and the default rate of bonds issued by bank affiliates.

Column 2 controls for the spread at issue (SPREAD) and shows that this variable predicts default. The effect is both statistically and economically significant. The point estimate suggests that a one percentage point increase in spread is associated with a 27 percent increase in the probability of default. Controlling for spreads reduces the impact of prestige on the probability of default (the coefficient of PRESTIGE goes from -1.8 to -1.3), but its effect remains statistically and economically significant. We still find that investment banks are not significantly different from bank affiliates.

In Column 3, we include a set of rating dummies (the excluded Group is Aaa) and show that bonds rated Aaa and Aa have probabilities of defaults which are significantly lower than those of bonds rated A, Baa, Ba, and NR. However, we find no significant differences within these two groups.[43] Controlling for credit ratings reduces the correlation between prestige and the probability of default, but we still find that the PRESTIGE variable is highly statistically and economically significant. This indicates that the prestige of the issuing house contains information which was not fully captured by the rating agencies.

The lack of significant differences within high (Aaa and Aa) and low (A, Baa, Ba, and NR) ratings suggests that we can collapse these sub categories with a dummy variable (LOWRAT) that takes a value of one for bonds rated A, Baa, Ba, B, and for non-rated bonds and zero for bonds rated Aaa and Aa. Having this variable will be useful to explore interactions between credit rating and other variables.

Column 4 uses the LOWRAT dummy and shows that our results are basically unchanged. Since it may be questionable to group A-rated bonds together with low-rated bonds, we build another low rating dummy (LOWRAT1) which does not include A-rated bonds. We use this dummy in column 5 (together with the A-rating dummy) and show that our results are unchanged and that A-rated bonds are undistinguishable from bonds in the LOWRAT1 category.

In column 6, we show that once we control for rating, spreads at issuance are no longer statistically significant, but prestige remains significant (we obtain the same result if we use separate rating dummies instead of the LOWRAT dummy). Column 7 controls for the maturity of the bond and the log of the face value of the bond (ln(FACE VALUE) and MATURITY measure the amount of the bond in logs and original maturity, respectively). We find that long-dated bonds were more likely to default, but that the size of the bond has no significant correlation with the probability of default. We still find that PRESTIGE is

[43] A formal test showing that each of the A, Baa, Ba, and NR dummies are not significantly different from each other is available upon request. For a discussion of the performance of rating agencies during the interwar period, see Flandreau, Gaillard, and Packer (2009).

significantly associated with the probability of default. In the last column, we control for year of issuance fixed effects. While we find that SPREAD becomes marginally significant and duration is no longer significant, there is no substantial change in the statistical and economic significance of our proxy for underwriter's prestige.

The lack of significance in the investment bank dummy could be driven by the presence of a correlation between this variable and our measure of prestige. In Table 4 we re-estimate all the regressions of Table 3 by excluding PRESTIGE. We find that the results are unchanged and that the investment bank dummy is never statistically significant. In Table 5, we augment our baseline model with a dummy variable that takes value one for sovereign bonds (SOVEREIGN) and with the interaction between the sovereign dummy and the LOWRAT dummy (SOV_LR). We find that neither variable is statistically significant and that controlling for these two variables yield results that are similar to those of Table 3.

Our previous results showed that bonds underwritten by prestigious houses were less likely to default even after controlling for credit rating. We expect that this cherry picking effect of prestigious underwriters should be particularly strong for low rated bonds where asymmetric information and overall uncertainty was more pervasive. In other words, we expect that a Baa-rated bond underwritten by JP Morgan should be less likely to default than another Baa-rated bond underwritten by a less prestigious house. To test this hypothesis, we look at the incidence of prestige and issuer type on different types of bonds. We do this by interacting the type of issuer with the quality of the bond as proxied by rating at issuance. Formally, we estimate the following probit model:

$$\Pr(D_{i,j}=1)=\Phi\begin{pmatrix} IB_j(\alpha_1+\alpha_2 LOWRAT_{i,j})+PRESTIGE_j(\beta_1+\beta_2 LOWRAT_{i,j})+ \\ +\gamma LOWRAT_{i,j}+\delta' X_{i,j}+u_{i,j} \end{pmatrix}$$

Where $D_{i,j}$ is a dummy variable that takes a value of one if bond *i*, underwritten by bank *j* defaulted and zero otherwise, *IB* is a dummy variable that takes value one if the underwriting bank is an investment bank and zero if the underwriter is a bank affiliate, *LOWRAT* is the low rating dummy, *PRESTIGE* is our proxy for the prestige of the underwriter, *X* captures a set of other bond characteristics, *u* is a normally distributed error term, and Φ is the normal probability distribution function.

Within this set up, α_1 measures if, other things equal, high rated bonds issued by investment banks have a different probability of default with respect to high rated bonds issued by bank affiliates. Similarly, $\alpha_1+\alpha_2$ measures if, other things equal, low rated bonds issued by investment banks have a different probability of default with respect to low rated

bonds issued by bank affiliates. The difference between the probability of default of high rated and low rated bonds issued by investment banks is captured by $\gamma + \alpha_2$, and γ measures the difference between the probability of default of high rated and low rated bonds issued by bank affiliates. Similarly, β_1 measures how underwriter's prestige affects the probability of default for high-rated bonds and $\beta_1 + \beta_2$ measures how underwriter's prestige affects the probability of default for low-rated bonds. Finally, β_2 measures the difference between the way in which prestige affects the probability of default in high rated bonds and the probability of default in low rated bonds.

Table 6 reports the results. In column 1, we estimate the model without the prestige interaction (i.e., we set β_2=0) and in column 2, we estimate the model without the investment bank interaction (we set α_2=0). In column 3, we estimate the model with the two interactions but without other bond-level controls, in column 4 we introduce bond-level controls, and in column 5 we use bond-level controls and year fixed effects. All the regressions of Table 6 find that the interaction term is positive but not statistically significant for the investment bank versus affiliate category and negative and statistically significant for the prestige interactive term. In fact, Table 6 shows that when we include the interaction between prestige and LOWRAT, the main effect of PRESTIGE is no longer statistically significant. This result suggests that an important benefit (in terms of reduced probability of default) of prestigious underwriters comes from their ability to pick low-rated instruments with lower default risk.

So far, we worked with a dependent variable that takes a value of one if a bond ever defaulted and zero otherwise. As a robustness check, we substitute our dependent variable with a variable that takes a value of one if a bond defaulted before the beginning of World War II (i.e., before August 31, 1939) and zero otherwise.[44] The rationale for using this alternative definition of default is that even careful underwriters could not have anticipated war-induced defaults. As consequence, we expect that using this alternative definition of default will strengthen our previous finding on the role of reputation. Table 7 shows that this is indeed the case. We still find that prestige is strongly correlated with lower probability of default and, as expected, we find that the negative correlation between prestige and the probability of default becomes stronger when we focus on pre-World War II defaults (this is because some countries that remained credit-worthy until WWII defaulted with the outbreak of the war).

[44] Our sample of 322 bonds includes 214 default episodes. Among these defaults, 194 took place before the beginning of World War II. The countries that issued the bonds that defaulted after the beginning of World War II are: Czechoslovakia (1 bond); Denmark (7 bonds); Estonia (1 bond); Haiti (2 bonds); Italy (4 bonds); and Japan (5 bonds).

In Table 8 we check whether our results are robust to different subsamples and definition of variables. The first two columns substitute our continuous measure of prestige with a dummy variable which takes a value of one for the banks which were part of the American Group (JP Morgan, Kuhn and Loeb, the National City Bank, and the Guarantee Trust) and zero for all other underwriters. While Column 1 shows that the effect of prestige is negative but not statistically significant, Column 2 confirms our previous result that low rated bonds underwritten by more prestigious houses had significantly lower default rates with respect to other low rated bonds. In columns 3 and 4 we show that our results on the credit enhancement role of prestigious underwriters are robust to dropping JP Morgan from our sample. Finally, the last four columns of the table show that our results are not driven by a specific sub-period and hold for both the 1920-25 period and the 1926-29 period.

The results of this section provide strong evidence in support to the idea that prestigious underwriters used two strategies to protect their reputation. First, they tended to underwrite bonds with higher observable quality (Table 2 shows that major underwriters issued 85 percent of Aaa rated bonds and 72 percent of Aa rated bonds). Second, they were also able to cherry pick bonds with good *ex-post* performance (as measured by low default rates) relative to their credit rating. In fact, our results show that it is in the low-rated segment of the bond market that the credit enhancement role of prestigious underwriters was particularly important. This result is interesting, because it shows that prestigious underwriters were adding value compared to rating agencies in helping certifying more dubious securities. This runs against the notion of banksterism since prestige and reputation were used to help countries that would tend to default less than the rest, not to force-feed worse securities on ignorant underwriters. At the anecdotal level, but supporting our econometric results, we remark that no security underwritten by JP Morgan defaulted before 1934. After that point, the global debt debacle had reached its climax, so that a greater responsibility for default may have been assigned to bad luck. Symmetrically, apart from the securities underwritten by Kidder and by Kissel (which were paid back in 1931), the eighteen smallest underwriters had a default rate of 100%.

Our findings are consistent with modern models of certification. They may reflect that prestigious houses had access to a superior screening technology and sought to reveal their greater skills to the public by selecting good securities. Alternatively, this is also the kind of outcome one would expect in a world where all underwriters have the same set of information, but only those with a large market share can credibly certify the quality of the bonds they underwrite. The outcome of such a regime is one where small underwriters remain small because they cannot be trusted. Finally, there might have been no difference in the unobservable quality of the bonds subscribed by the two types of underwriters, but only houses with a reputation might have been able and willing to sustain the market for the bonds

they underwrote in case of payment problems as happens in models of relationship banking (Boot, 2000).

To conclude, while consistent with earlier evidence on corporate securities pointing to the irrelevance of the investment bank vs. commercial bank split (Moore, 1934, Edwards, 1942, Kroszner and Rajan, 1994), our results bring an entirely new light on the determinants of bankers' behavior during the 1920s. The behavior we identify is consistent with: (a) insights from modern financial economics (e.g. Chemmanur and Fulghieri, 1994, Michaely and Shaw, 1994, Carter, Dark, and Singh, 1998); (b) claims from bankers before the Senate Commission (e.g. Otto Kahn as quoted above); and (c) work by earlier business historians (Cleveland and Huertas, 1985). Our findings, instead, contradict previous claims that reputational concerns either existed but were not powerful enough (Mintz, 1951) or simply failed to operate (Eichengreen, 1989).

V. Evidence from Bankers' Fees

During the 1930s high fees were often used as *prima facie* evidence of wrong doing. The standard argument was that since bankers had pocketed high revenues they must have known that the bonds were risky. In the Senate Committee Hearings, Senator Gore argued that the fact that bankers stood in between borrowers and lenders created incentives to misrepresent facts in order to get rid of the securities more easily:

> "Senator Gore: You say the originating or managing house takes these bonds from the issuing government at a fixed price?
> Mr Kahn: Yes, Senator.
> Senator Gore: He stands on the breach; he takes the loss if he is stuck?
> Mr Kahn: Yes."[45]

This explains contemporaries' interest for collecting information on fees.[46] There is in fact evidence that bankers charged higher fees for bonds that eventually defaulted with respect to bonds that never defaulted. In our sample the average fee for defaulting bonds is 6.4 percent and the average fee for non-defaulting bonds is 4.5 percent.

Bankers responded to these accusations by arguing that, because of the presence of asymmetric information, riskier bonds were also those which were more difficult to

[45] . Senate Committee on Finance, p. 352. A metaphor revealing of the mindset of the time came up during the Senate Committee on Finance hearings when Charles E. Mitchell was compared to an alcohol seller (this was Prohibition time): "With reference to foreign bonds, said Senator Connally, you are like the saloon keeper who never drank. His whiskey was made to sell not to drink?" (Senate Committee on Finance, p. 81).

[46] . Collecting data on fees had already been a central concern of the Pujo Committee on the Money Trust in 1912. However at the time, the concern was about showing that they were exorbitant and revealed the monopoly position of JP Morgan and its associates.

underwrite and place. Higher fees were thus justified by the fact that these bonds required "more of a process of enlightenment and explanation."[47] Flandreau et al. (2009) report data on fees for a number of historical episodes with sovereign debt underwriting. Fees in New York during the 1920s were not out of line with other periods when full underwriting (i.e., outright purchase of the securities from the issuer at a guaranteed price) was the dominant underwriting pattern.[48] They also show that, in all such episodes, there was a strong correlation between fees and spreads at issue. This makes sense, because securities that were understood to be more volatile *ex ante* also involved greater underwriting risks, required larger compensation, and tended to default more often.[49] Therefore, the fact that banks charged higher underwriting fees for bonds that eventually defaulted does not necessarily mean that bankers misbehaved or misrepresented the risk associated with these bonds.

Issuing low quality bonds is not evidence of bad behavior, either. Smaller underwriters may have issued lower quality bonds that were shunned by prestigious ones. If they did not lie or misrepresent the low quality of the bonds they were underwriting, they did not do anything wrong. Even if they asked for higher fees, these banks provided a service by bringing to the market bonds that nobody else would underwrite. In order to make the case that some banks misbehaved, that they indeed were banksters, it is necessary to show that underwriters knew that they were issuing low quality bonds but hid this information and profited from doing so. For instance, banksterism would be consistent with a situation in which banks were able to charge higher fees by misrepresenting the quality of the securities they underwrote and managing to place these securities at spreads which were too low given their intrinsic default risk.

However, a bank's success in misrepresenting the attractiveness of the bonds it underwrote should be proportional to the bank's reputation and prestige. Less prestigious underwriters should not have been able to extract excessive fees by talking up securities of inferior quality. Being ordinary, their words should have added little value to the security they underwrote. It is therefore likely that the ability of smaller underwriters to place low quality bonds at high prices (low spreads) would be due to high demand for such securities in the presence of "irrational exuberance" (Lewis, 1938, Mintz, 1951).[50]

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[47] . See Lamont's testimony (Senate Committee on Finance, p. 19-20).

[48] . They show that underwriting fees were much higher in the past than in modern markets but explain this pattern with the fact that "best efforts" is the dominant underwriting pattern today. "Best efforts" implies no substantial risk taking by underwriters.

[49] . Flandreau et al. (2009) construct a model showing that volatility (and thus measures of risk such as spreads at issue or ratings) should be correlated with fees.

[50] . Mintz, (1951, p. 82): "Investors in foreign bonds had not suffered any loss for a long time; on the contrary, they had repeatedly made sizable profits. This pleasant state came to be regarded as normal; investors assumed the world had entered a period of permanent defaultless prosperity". Lewis (1938, p. 382): "It is doubtful, however, whether the public would have listened to advice if it had reached them. Foreign bonds were a gamble and in the late 1920's the country was in a gambling mood".

By contrast, prestigious underwriters did have the power to extract a short-term economic benefit by misrepresenting facts. This, we argue, is true "banksterism". The question is whether inadequate short-term individual incentives (in the form of bonuses and other performance-related compensation structures) were sufficient to push these institutions towards a behavior that could eventually destroy their brand and credibility.[51] Contemporaries thought that this was the case and they blamed banks for having used their brand and credibility to lure investors into dangerous ventures. The famous and oft-cited statement by Senator Gore during the Senate Finance Committee's hearings that "bonds were bought by Tom, Dick and Harry […] without any reference to the solidity or solvency of the bonds or the concern issuing them, but entirely on the faith of the house issuing them in New York" captures this definition of banksterism.

Therefore, depending on the type of underwriter, there are different possible explanations for high fees. While less prestigious underwriters could charge high fees only in the presence of "irrational exuberance," more established houses could have earned excessive fees by using their prestige to talk up worthless bonds. Only the second explanation is consistent with banksterism. We contrast these two possible explanations by checking whether, conditional on publicly available information, banks charged higher underwriting fees for bonds that eventually defaulted and prestigious houses charged higher fees for bonds that eventually defaulted.

We start by looking at the simple correlation between defaults and fees and show that if we do not control for publicly available information at the time of issuance (i.e., bond and underwriter characteristics) banks did indeed charge higher underwriting fees on bonds which will eventually default (Column 1 of Table 9). This outcome is consistent with the contemporary discourse that associated high fees with default and thus hinted at the inappropriateness of these banks underwriting decisions. However, such a result is also what one would expect to get if one does not control for other variables. Other things equal, riskier bonds are more difficult to underwrite and place and they lead to higher underwriting exposure; these factors had to be compensated for with higher fees. The relevant question is whether banks charged high fees, conditional to what markets knew about the quality of the bonds. Columns 2-4 of Table 9 show that this is not the case. The relationship between fees and default disappears once we control for publicly available information such as spread at issue, credit rating at issue, and bond and issuer characteristics. In Column 5 we interact prestige with future default. While the coefficient of the interactive term is not statistically significant, its negative sign provides strong evidence that prestigious houses did not extract

[51] . Bonus did come up as an issue during the Pecora hearings (Huertas and Silverman, 1986, discuss of the role of bonuses in the National City Bank). In a different but related vein, Kroszner and Rajan (1997) discuss organizational features designed to mitigate conflicts of interest.

higher fees for securities that would later default. This result stands against the banksterism hypothesis as defined above. The last column of the table controls for year of issuance fixed effects, a variable closely correlated with default history (Figure 1).[52] Again, we find that the default dummy is not statistically significant and that the interaction between default and prestige is negative (albeit not statistically significant).

In Table 10 we check whether our results are robust to alternative subsamples and variable definitions. The first two columns split the sample between investment banks and security affiliates. The default variable is not statistically significant in the subsample of investment banks (column 1) and *negative* and marginally significant in the subsample of securities affiliates (column 2). Column 2 is the only case in which we find some evidence of banksterism, as the prestige default interaction is positive and marginally significant. This result is, however, completely driven by one outlier (State of Parana 1928 issued by Chase securities). If this observation is dropped from the sample the main effect of default and the interaction between default and prestige become insignificant. Note that Chase with 1.5 percent of the overall market for foreign government debt was hardly a prestigious player in the market although it comes as number 4 and close to number 3 among Security Affiliates (see Table A in appendix). Columns 3-5 show that our baseline results are robust to using the alternative definition of prestige described in the previous section and to applying this definition of prestige separately to investment banks and security affiliates. In fact, column 3 shows that defaulted bonds underwritten by the four senior banks (Guaranty, National City, Kuhn, JP Morgan) banks had significantly lower fees than defaulted bonds underwritten by other banks. Finally, columns 6 and 7 show that our results are not driven by a specific time period and that they are robust to splitting our sample into two sub-periods (1920-25 and 1926-29).

Taken together, our results indicate that, in the case of international sovereign bonds, wrongdoing had more to do with anecdote than with robust, economically large, and statistically significant effects.

VI Conclusions

There are interesting parallels between the current situation and the one that followed the 1929 stock market crash and the 1931-33 debt crisis. Then, like now, bad behavior in financial industry was seen at the culprit of the crisis. Then, like now, a number of financial intermediaries have been accused of reaping large gains while offloading large losses on third parties (investors then, the public sector now). Then, like now, observers emphasized the

[52] . Less than 10 percent of bonds issued in 1920 eventually defaulted, against more than 80 percent for bonds issued after 1926; all bonds issued in 1929 defaulted.

danger of new financial instruments and of the "originate and distribute" model of finance. Then, like now, the crisis sparked strong political pressure for tighter financial regulation.

This list suggests that there is much that modern policymakers can learn from history. Since part of the regulatory reform that followed the crisis of 1929-33 was justified by alleged wrongdoings in the underwriting business of commercial and investment banks, we develop a number of tests of such behavior. In particular, we take a fresh look at the historical experience of the 1920s and revisit the historical counterpart to the modern "originate and distribute" disaster. We explore the incentives of financial intermediaries for the provision and revelation of information on the bonds they underwrote by focusing on the New York market for sovereign bonds, which experienced a near total collapse after 1931.

By and large, we find no evidence of systematic misbehavior on the part of investment and commercial banks that operated in this market. This does not necessarily mean that the regulatory reforms implemented in the 1930s were not warranted or that they had negative effects (this is a question that goes well beyond the scope of the paper), but it does mean that it would be wrong to justify such reforms on the basis of the conventional allegations.

What is new in our approach and has no rigorous statistical counterpart in previous research we are aware of (apart from the suggestions in Mintz, 1951), is that we find strong evidence that bankers were careful in selecting securities for marketing. We also show that the more prestigious a bank was, the more careful its choices were. Finally, despite contemporary focus and outrage with allegedly anomalous underwriting fees, we find no evidence that banks misrepresented the securities they underwrote and sold them to the public at inflated prices while pocketing extra fees. In other words, we find no evidence of "banksterism" in the market for international sovereign bonds. As the case for banksterism becomes less convincing, the case for bad luck – meaning an unexpected shock or unpredicted policy errors when dealing with that shock – becomes more plausible.

Our findings open several avenues for future research. Questions that we tackle in a companion paper (Flandreau, Gaillard, and Panizza, 2010) include: were prestigious houses credible? Were spreads at issuance for low rated bonds underwritten by more prestigious houses significantly lower than the spreads of similar bonds issued by less prestigious houses? Did more prestigious houses charge higher underwriting fees for their credit enhancement services?

A more fundamental question is whether the forces at work during the 1920s also operate today. The irony of the historical experience is that, while we find no evidence of misbehavior, contemporaries were under the impression that banksterism was the main cause of the crisis. This is a reflection worth pondering in the light of the current debate. Stories that focus on conflict of interests make a good sell but the extent to which they are true is a

different matter. Regarding today's crisis, some observers have expressed their doubt on the validity of arguments suggesting that concerns for reputation or the fear of losing market shares played a role in mitigating the behavior that allegedly led to the current crisis. For instance, in a recent reflection upon the lessons from the sub-prime crisis, Daron Acemoglu (2009) notes:

> Our logic and models suggested that even if we could not trust individuals, particularly when information was imperfect and regulation lackluster, we could trust the long-lived large firms—companies such as the Enron's, the Bear Stearn's, the Merrill Lynch's, and the Lehman Brothers' of this world—to monitor themselves and their own because they had accumulated sufficient reputation capital. Our faith in long-lived large organizations was shaken but still standing after the accounting scandals in Enron and other giants of the early 2000s. It may now have suffered the death blow".

If this is correct, future research ought to understand why size and reputation, which were once moderators of wrongful behavior no longer operate in the way they used to.

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Table 1: Descriptive Statistics

Panel A: All Underwriters (44 underwriters, 322 bonds)					
	Mean	Median	Stand. Dev.	Min.	Max
Prestige	0.023	0.01	0.053	0.0002	0.31
Default	0.66	1	0.47	0	1
Fee (%)[a]	5.78	5.07	3.13	1.12	23.69
Spread (%)	3.22	3.41	0.83	0.42	4.89
Maturity (Years)	25.2	25	8.42	2	50
Amount ($mil)	15.77	9.85	18.85	0.148	150
Rating	2.74	3	1.28	0	5
Panel B: Security Affiliates (8 underwriters, 79 bonds)					
	Mean	Median	Stand. Dev.	Min.	Max
Prestige	0.032	0.013	0.049	0.0004	0.14
Default	0.59	1	0.49	0	1
Fee (%)[b]	5.21	4.52	2.91	1.92	15.12
Spread (%)	2.94	3.04	0.94	0.42	4.75
Maturity (Years)	25.9	25.5	7.57	3	40
Amount ($mil)	16.49	15	12.59	0.5	55
Rating	2.97	3	1.47	0	5
Panel C: Investment Banks (36 underwriters, 243 bonds)					
	Mean	Median	Stand. Dev.	Min.	Max
Prestige	0.021	0.003	0.055	0.0002	0.31
Default	0.68	1	0.47	0	1
Fee (%)[c]	6.00	5.32	3.19	1.12	23.69
Spread (%)	3.30	3.50	0.78	1.23	4.89
Maturity (Years)	24.87	25	8.68	2	50
Amount ($mil)	15.54	8	20.50	0.15	150
Rating	2.67	3	1.19	0	5
Panel D: Differences between Security affiliates and investment banks (mean tests)					
	Difference	t-stats	p-value		
Prestige	0.011	0.52	0.60		
Default	-0.09	1.52	0.13		
Fee[a]	-0.79	1.84	0.07		
Spread	-0.38	3.53	0.00		
Maturity	1.03	0.95	0.35		
Amount	0.96	0.39	0.69		
Rating	0.31	1.88	0.06		
Panel E: Major Underwriters (6 Underwriters, 157 bonds)					
	Mean	Median	Stand. Dev.	Min.	Max
Prestige	0.12	0.07	0.10	0.06	0.31
Default	0.51	1	0.50	0	1
Fee (%)[d]	4.82	4.45	1.92	1.12	12
Spread (%)	2.93	2.96	0.86	0.42	4.55
Maturity (Years)	25.43	25	8.93	2	50
Amount ($mil)	23.15	18	22.94	1.75	150
Rating	3.16	3	1.33	0	5
Panel F: Smaller Underwriters (38 Underwriters, 165 bonds)					
	Mean	Median	Stand. Dev.	Min.	Max
Prestige	0.007	0.003	0.10	0.0002	0.04
Default	0.81	1	0.39	0	1
Fee (%)[e]	6.99	6.28	3.88	1.45	23.69
Spread (%)	3.50	3.6	0.70	1.29	4.89
Maturity (Years)	24.84	25	7.92	5	45
Amount ($mil)	8.76	5	9.66	0.148	50
Rating	2.33	2	1.08	0	5
Panel G: Differences between major and smaller underwriters (mean tests)					
	Difference	t-stats	p-value		
Prestige	0.11	7.28	0.00		
Default	-0.29	5.77	0.00		
Fee (%)[a]	-2.16	5.74	0.00		
Spread (%)	-0.57	6.51	0.00		
Maturity (Years)	0.53	0.56	0.57		
Amount ($mil)	14.39	7.40	0.00		
Rating	0.83	6.15	0.00		

[a] 27 underwriters, 249 bonds; [b] 7 underwriters, 70 bonds; [c] 20 underwriters, 179 bonds; [d] 6 underwriters, 139 bonds, [e] 21 underwriters, 110 bonds.

Table 2: Rating Distribution by Type of Underwriter

Moody's rating at issuance	Security affiliates	Investment banks	Major underwriters	Smaller underwriters	All
Aaa (number of bonds)	16	19	30	5	35
Percentage of total Aaa rated bonds	45.71	54.29	85.71	14.29	100.00
Percentage of Aaa bonds over total bonds issued by underwriter's type	20.25	7.82	19.11	3.03	10.87
Aa (number of bonds)	12	35	34	13	47
Percentage of total Aa rated bonds	25.53	74.47	72.34	27.66	100.00
Percentage of Aa bonds over total bonds issued by underwriter's type	15.19	14.40	21.66	7.88	14.60
A (number of bonds)	25	78	49	54	103
Percentage of total A rated bonds	24.27	75.73	47.57	52.43	100.00
Percentage of A bonds over total bonds issued by underwriter's type	31.65	32.10	31.21	32.73	31.99
Baa (number of bonds)	10	76	26	60	86
Percentage of total Baa rated bonds	11.63	88.37	30.23	69.77	100.00
Percentage of Baa bonds over total bonds issued by underwriter's type	12.66	31.28	16.56	36.36	26.71
Ba (number of bonds)	12	24	12	24	36
Percentage of total Ba rated bonds	33.33	66.67	33.33	66.67	100.00
Percentage of Ba bonds over total bonds issued by underwriter's type	15.19	9.88	7.64	14.55	11.18
B (number of bonds)	0	1	0	1	1
Percentage of total B rated bonds	0	100.00	0	100.00	100.00
Percentage of B rated bonds over total bonds issued by underwriter's type	0	0.4	0	0.61	0.31
NR (number of bonds)	4	10	6	8	14
Percentage of total NR bonds	28.57	71.43	42.86	57.14	100.00
Percentage of NR bonds over total bonds issued by underwriter's type	5.06	4.12	3.82	4.85	4.35
Total	79	243	157	165	322
	24.53	75.47	48.76	51.24	100
	100.00	100.00	100.00	100.00	100.00

Table 3: Probit estimations of the determinants of the probability of DEFAULT

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PRESTIGE	-1.811***	-1.255***	-0.786***	-0.794***	-0.756***	-0.768***	-0.666***	-0.631**
	(0.150)	(0.162)	(0.188)	(0.177)	(0.199)	(0.181)	(0.243)	(0.283)
INVBANK	0.0600	-0.0442	0.0129	-0.0104	-0.0125	-0.0285	-0.0149	0.0220
	(0.0647)	(0.0548)	(0.0541)	(0.0516)	(0.0522)	(0.0570)	(0.0534)	(0.0555)
Aa			-0.0274					
			(0.190)					
A			0.475***		0.500***			
			(0.0552)		(0.0431)			
Baa			0.438***					
			(0.0590)					
Ba			0.399***					
			(0.0378)					
NR			0.325***					
			(0.0330)					
SPREAD		0.274***				0.0893	0.0913	0.0885*
		(0.0366)				(0.0566)	(0.0571)	(0.0512)
LOWRAT				0.656***		0.573***	0.605***	0.589***
				(0.0421)		(0.0718)	(0.0675)	(0.0750)
LOWRAT1					0.581***			
					(0.0387)			
MATURITY							0.0103**	0.00735
							(0.00504)	(0.00578)
ln(FACE VALUE)							-0.0132	0.0132
							(0.0301)	(0.0333)
Year FE	NO	NO	NO	NO	NO	NO	NO	YES
Observations	322	317	322	322	322	317	317	306

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: Probit estimations of the determinants of the probability of DEFAULT

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
INVBANK	0.0923	-0.0317	0.0231	0.000285	-0.00444	-0.0193	-0.0116	0.0223
	(0.0820)	(0.0707)	(0.0682)	(0.0679)	(0.0654)	(0.0711)	(0.0616)	(0.0614)
Aa			-0.0307					
			(0.186)					
A			0.497***		0.522***			
			(0.0686)		(0.0400)			
Baa			0.470***					
			(0.0712)					
Ba			0.411***					
			(0.0461)					
NR			0.332***					
			(0.0395)					
SPREAD		0.308***				0.0956*	0.0913	0.0888*
		(0.0482)				(0.0563)	(0.0573)	(0.0531)
LOWRAT				0.695***		0.613***	0.627***	0.610***
				(0.0390)		(0.0579)	(0.0633)	(0.0761)
LOWRAT1					0.623***			
					(0.0336)			
MATURITY							0.0115**	0.00848
							(0.00502)	(0.00576)
ln(FACE VALUE)							-0.0411	-0.0152
							(0.0263)	(0.0240)
Year FE	NO	NO	NO	NO	NO	NO	NO	YES
Observations	322	317	322	322	322	317	317	306

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 5: Probit estimations of the determinants of the probability of DEFAULT, Sovereign versus non-Sovereign

	(1)	(2)	(3)
PRESTIGE	-0.805***	-0.463*	-0.460*
	(0.287)	(0.259)	(0.278)
INVBANK	0.0730	0.00251	0.0352
	(0.0515)	(0.0557)	(0.0567)
LOWRAT		0.695***	0.663***
		(0.0817)	(0.0862)
SPREAD		0.0507	0.0662
		(0.0572)	(0.0510)
MATURITY		0.0105**	0.00807
		(0.00465)	(0.00538)
ln(FACE VALUE)		0.0240	0.0430
		(0.0364)	(0.0401)
SOVEREIGN	-0.630***	-0.182	-0.167
	(0.103)	(0.199)	(0.191)
SOV*LOWRAT	0.429***	-0.107	-0.0788
	(0.0558)	(0.196)	(0.204)
Year FE	NO	NO	YES
Observations	322	317	306

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Probit estimations of the determinants of the probability of DEFAULT, interaction effects

	(1)	(2)	(3)	(4)	(5)
PRESTIGE	-0.781***	-0.0788	-0.0447	0.0979	0.240
	(0.173)	(0.280)	(0.342)	(0.367)	(0.473)
INVBANK	-0.0279	-0.0400	-0.0681	-0.0797	-0.0594
	(0.0756)	(0.0531)	(0.0746)	(0.0739)	(0.0996)
LOWRAT	0.644***	0.682***	0.663***	0.677***	0.665***
	(0.0582)	(0.0419)	(0.0375)	(0.0494)	(0.0788)
PRESTIGE*LOWRAT		-1.257***	-1.273***	-1.271***	-1.527**
		(0.463)	(0.481)	(0.461)	(0.607)
INVBANK*LOWRAT	0.0260		0.0428	0.0800	0.0935
	(0.114)		(0.0975)	(0.110)	(0.128)
ln(FACE VALUE)				-0.0172	0.0137
				(0.0317)	(0.0358)
MATURITY				0.0108**	0.00706
				(0.00526)	(0.00616)
Year FE	NO	NO	NO	NO	YES
Observations	322	322	322	322	311
LR+INVBANK*LOWRAT=0	71.41		63.42	58.04	47.94
Prob>F	0.00		0.00	0.00	0.00

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Probit estimations of the determinants of the probability of DEFAULT before World War II

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PRESTIGE	-2.837***	-2.236***	-2.837***	-1.439***	-1.283***	-1.439***	-1.237***
	(0.296)	(0.338)	(0.296)	(0.360)	(0.321)	(0.366)	(0.364)
INVBANK	0.0569	-0.0647	0.0569	-0.0428	-0.0498	-0.0461	-0.0409
	(0.0865)	(0.0760)	(0.0865)	(0.0417)	(0.0418)	(0.0415)	(0.0420)
A				1.000***	1.000***	1.000***	1.000***
				(0.000185)	(0.000315)	(0.000124)	(0.000356)
BAA				0.999***	0.999***		
				(0.000563)	(0.00120)		
BA				0.973***	0.975***		
				(0.00635)	(0.0105)		
NR				0.924***	0.933***		
				(0.0167)	(0.0204)		
SPREAD		0.353***			0.0558		0.0507
		(0.0554)			(0.0408)		(0.0442)
LOWRAT1						0.999***	0.999***
						(0.000281)	(0.00108)
MATURITY							0.00383
							(0.00399)
ln(FACE VALUE)							-0.00229
							(0.0241)
Observations	322	317	322	321	316	322	317

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 8: Probit estimations of the determinants of the probability of DEFAULT. Robustness to alternative samples and variable definitions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PRESTIGE	-0.0676	0.191	-1.040	1.110	-1.269***	0.143	-0.478***	-0.286
	(0.0762)	(0.131)	(0.699)	(0.949)	(0.473)	(0.840)	(0.153)	(0.334)
INVBANK	-0.0256	-0.0383	-0.0361	-0.00347	-0.140**	-0.289*	0.0667	0.136
	(0.0586)	(0.0447)	(0.0694)	(0.0941)	(0.0682)	(0.157)	(0.0517)	(0.141)
LOWRAT	0.690***	0.820***	0.706***	0.703***	0.678***	0.678***	0.580***	0.682***
	(0.0511)	(0.0646)	(0.0550)	(0.0512)	(0.0611)	(0.0782)	(0.0756)	(0.117)
PRESTIGE*LOWRAT		-0.394**		-2.708**		-2.194**		-0.577***
		(0.154)		(1.139)		(0.910)		(0.175)
INVBANK*LOWRAT		-0.0138		-0.0387		0.165		-0.0952
		(0.0809)		(0.110)		(0.197)		(0.117)
ln(FACE VALUE)	-0.0368	-0.0404	-0.0154	-0.0136	0.0455	0.0518	0.00583	0.0131
	(0.0302)	(0.0312)	(0.0302)	(0.0326)	(0.0598)	(0.0672)	(0.0317)	(0.0341)
MATURITY	0.0115**	0.0125**	0.00869*	0.00943*	0.0159**	0.0186**	0.000847	-0.000615
	(0.00541)	(0.00547)	(0.00512)	(0.00496)	(0.00780)	(0.00817)	(0.00593)	(0.00593)
Observations	322	322	288	288	144	144	178	178
Sample	All banks All years Alternative definition of prestige	All banks All years Alternative definition of prestige	Excluding JP Morgan All years	Excluding JP Morgan All years	All banks 1920-25	All banks 1920-25	All banks 1926-29	All banks 1926-29

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 9: Underwriters' FEE and future DEFAULTS

	(1)	(2)	(3)	(4)	(5)	(6)
DEFAULT	1.866***	-0.0608	0.165	0.106	0.489	1.243
	(0.597)	(0.371)	(0.377)	(0.399)	(0.682)	(0.825)
SPREAD		2.114***	1.751***	1.613***	1.588***	1.379***
		(0.356)	(0.282)	(0.321)	(0.330)	(0.337)
Aa			-0.478	-0.472	-0.336	-0.410
			(0.411)	(0.468)	(0.467)	(0.457)
A			-0.719	-1.161*	-1.057*	-0.897
			(0.551)	(0.628)	(0.593)	(0.673)
Baa			0.409	-0.365	-0.246	0.371
			(0.896)	(0.757)	(0.792)	(0.907)
Ba			1.800	0.886	0.944	1.519
			(1.212)	(1.107)	(1.119)	(1.130)
NR			-2.246***	-2.482***	-2.409***	-1.218
			(0.740)	(0.831)	(0.824)	(0.724)
ln(F. VALUE)				-0.503	-0.470	-0.589**
				(0.303)	(0.289)	(0.237)
MATURITY				-0.0230	-0.0242	0.0123
				(0.0220)	(0.0216)	(0.0186)
SOVEREIGN				0.236	0.192	0.108
				(0.456)	(0.450)	(0.389)
PRESTIGE				-3.343***	-1.906	-1.551
				(1.196)	(1.304)	(1.576)
INVBANK				0.324	0.222	-0.0118
				(0.467)	(0.471)	(0.469)
PREST*DEF					-3.652	-3.281
					(3.365)	(3.549)
Constant	4.555***	-0.909	0.280	2.938**	2.734**	3.849***
	(0.222)	(0.904)	(0.529)	(1.121)	(1.066)	(0.835)
Observations	250	250	250	250	250	250
R-squared	0.081	0.310	0.378	0.423	0.425	0.573
Year fixed effects	NO	NO	NO	NO	NO	YES

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Table 10: Underwriters' FEE and future DEFAULTS: Robustness analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
DEFAULT	0.658	-1.494*	0.863	0.565	-0.478	1.632	0.111
	(0.878)	(0.622)	(0.646)	(0.768)	(1.227)	(1.279)	(0.516)
SPREAD	1.661***	1.527***	1.500***	1.532***	1.392***	1.350***	1.873***
	(0.397)	(0.281)	(0.331)	(0.382)	(0.280)	(0.458)	(0.595)
Aa	-0.642	0.286	-0.318	-0.776	0.421	-0.642	-0.526
	(0.533)	(0.873)	(0.458)	(0.493)	(0.901)	(0.393)	(0.711)
A	-1.367*	-0.929	-1.013*	-1.302*	-0.692	-1.058	-1.359
	(0.708)	(0.587)	(0.573)	(0.697)	(0.691)	(0.757)	(1.100)
Baa	-0.173	-2.434**	-0.232	-0.164	-2.095**	1.379	-0.974
	(0.875)	(0.932)	(0.793)	(0.872)	(0.762)	(1.308)	(1.240)
Ba	-0.228	2.423*	0.866	-0.100	2.274*	2.355	0.0125
	(1.451)	(0.996)	(1.047)	(1.426)	(1.028)	(1.729)	(1.836)
NR	-3.217***	-0.882	-2.363***	-3.252***	-0.439	-1.753*	-1.985*
	(0.953)	(0.685)	(0.845)	(0.953)	(0.991)	(0.942)	(1.077)
ln(F. VALUE)	-0.217	-1.171**	-0.466	-0.256	-1.090**	-0.331	-0.615*
	(0.301)	(0.413)	(0.293)	(0.332)	(0.435)	(0.237)	(0.310)
MATURITY	-0.0227	-0.0312	-0.0231	-0.0156	-0.0292	0.00351	-0.0163
	(0.0272)	(0.0256)	(0.0224)	(0.0283)	(0.0252)	(0.0277)	(0.0312)
SOVEREIGN	-0.000884	0.504	0.0797	-0.245	0.518*	-0.769	0.693
	(0.608)	(0.286)	(0.430)	(0.577)	(0.224)	(0.566)	(0.563)
PRESTIGE	-2.607*	-2.499	-0.0972	-0.398	-0.127	0.355	-3.150
	(1.370)	(4.424)	(0.351)	(0.525)	(0.654)	(1.562)	(2.396)
INVBANK			-0.218			0.501	0.0629
			(0.378)			(0.405)	(0.716)
PREST*DEF	-4.036	9.066*	-1.368*	-1.059	-0.0629	-6.826	-0.852
	(3.825)	(3.825)	(0.710)	(0.653)	(1.054)	(6.708)	(2.952)
Constant	2.380*	4.980*	3.042***	2.702**	4.766*	2.593	1.798
	(1.181)	(2.063)	(1.056)	(1.113)	(2.138)	(1.760)	(1.290)
Observations	177	73	250	177	73	117	133
R-squared	0.351	0.782	0.435	0.351	0.776	0.576	0.462
Sample	All years Investment banks	All years Security affiliates	All years All banks Alternative definition of prestige	All years Investment banks Alternative definition of prestige	All years Security Affiliates Alternative definition of prestige	1920-25 All banks	1926-29 All banks

The coefficients are marginal effects. Robust standard errors in parentheses. Standard errors are clustered at the underwriter level. *** p<0.01, ** p<0.05, * p<0.1.

Figure 1: Share of defaulted bonds by year of issuance

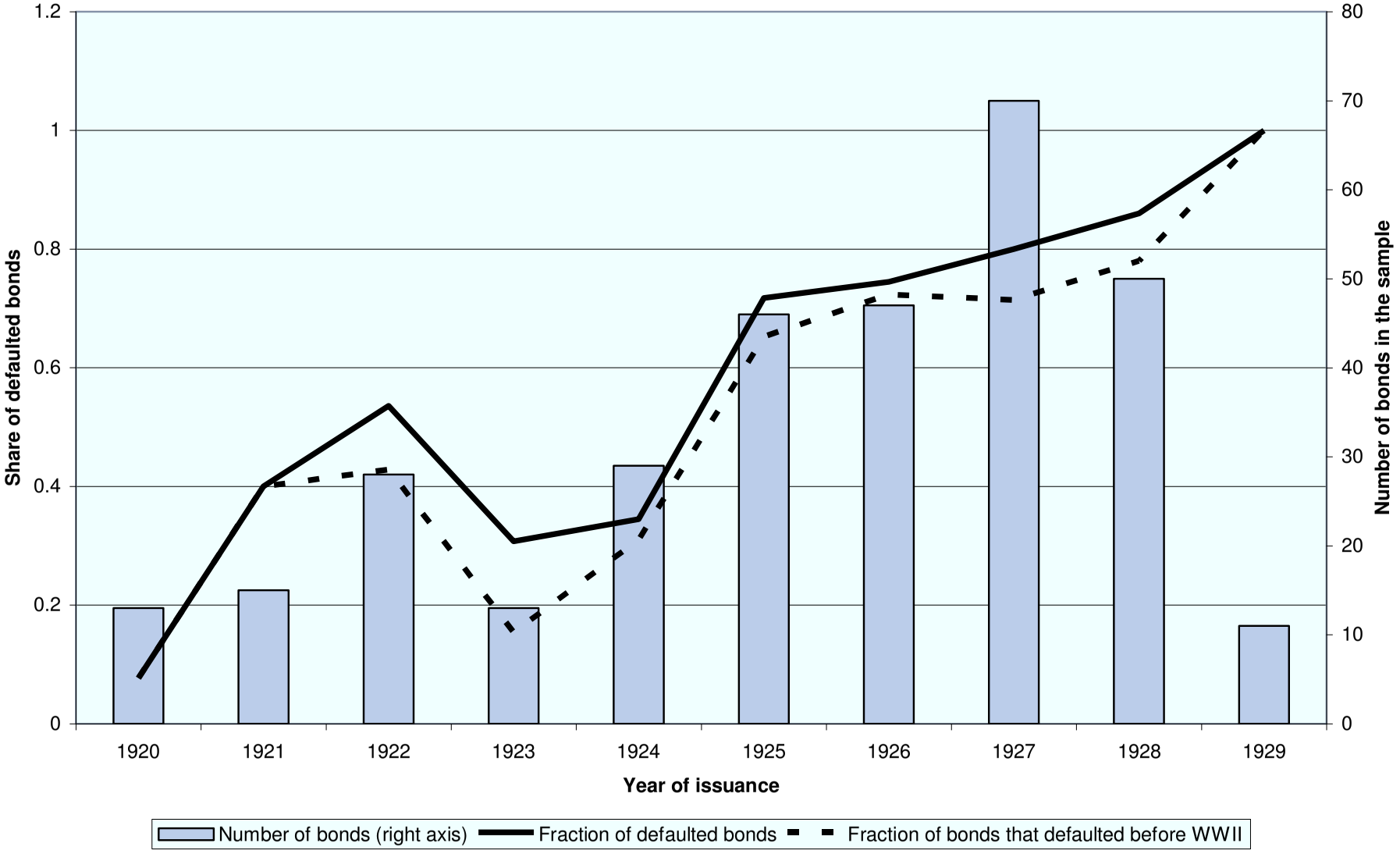

Table A: List of Lead Underwriters (Managers) Involved in Foreign Government Issues 1920-1929.

Underwriter name	Invest Bank	Prestige index	Number of bonds in the sample	Average rating	Average Spread (%)	Average Fee (%)	Average Amount (million USD)	Share of defaulted bonds	Average Maturity (years)
Bankers Trust	0	0.0132	2	1.50	3.87	6.98	28.88	1.00	27.50
Central Trust Co. of Illinois	0	0.0005	5	1.00	4.43	14.39	0.50	1.00	17.00
Chase Securities	0	0.0149	4	2.50	3.20	5.20	16.02	0.50	30.75
Equitable Trust	0	0.0163	6	3.50	2.94	4.84	12.70	0.50	25.00
First National Corp., Boston	0	0.0059	2	2.00	3.63	7.76	12.10	0.50	30.00
Grace National Co.	0	0.0030	1	2.00	3.86	NA	14.00	1.00	31.00
Guaranty Trust	0	0.0594	15	3.67	2.62	3.68	18.89	0.53	27.53
National City Cy	0	0.1311	41	3.38	2.82	4.68	14.78	0.61	25.68
A. G. Becker	1	0.0004	1	2.00	NA	NA	1.75	1.00	NA
A.M Lamport	1	0.0013	1	1.00	3.99	NA	6.50	1.00	25.00
Ames, Emerich	1	0.0045	9	2.00	3.44	8.54	2.48	0.78	17.22
Baker, Kellogg	1	0.0027	4	2.00	4.01	7.06	3.24	1.00	22.50
Blair	1	0.0902	29	2.41	3.50	6.26	12.75	0.62	21.41
Blyth, Witter	1	0.0120	10	2.30	3.82	10.21	4.68	0.50	22.30
Brown Bros	1	0.0153	9	3.89	2.43	2.93	7.99	0.56	30.00
C. B. Richard	1	0.0003	1	2.00	4.23	NA	1.50	1.00	30.00
Dillon Read	1	0.0644	16	2.38	3.47	6.97	18.76	0.81	29.44
F.J. Lisman	1	0.0057	7	1.86	3.78	14.55	4.14	1.00	26.29
Hallgarten	1	0.0459	13	2.62	3.37	5.55	14.36	0.85	29.15
Halsey Stuart	1	0.0010	1	2.00	3.65	NA	5.00	1.00	25.00
Harris, Forbes	1	0.0154	7	2.75	3.43	6.56	10.37	0.86	20.43
J. G. White	1	0.0008	1	2.00	3.92	NA	4.00	1.00	40.00
J. Nickerson & Co	1	0.0005	1	2.00	4.31	NA	2.50	1.00	30.00
J. S. Bache	1	0.0004	1	2.00	3.72	NA	2.00	1.00	25.00
JPM	1	0.3092	37	4.00	2.64	4.12	41.74	0.22	25.08
JW Seligman	1	0.0251	9	2.00	3.90	8.01	11.94	1.00	26.67
Kidder, Peabody	1	0.0020	1	2.00	2.18	NA	9.98	0.00	5.00
Kissel, Kinnicutt	1	0.0009	2	3.00	2.64	NA	2.40	0.00	32.50
Kuhn Loeb	1	0.0614	19	3.58	2.69	4.47	16.32	0.47	27.05
Lee, Higginson	1	0.0294	18	3.20	3.07	5.31	7.88	0.78	26.56
Marshall Field, Glore, Ward	1	0.0005	2	1.00	4.23	10.47	1.32	1.00	19.50
Morgan, Livermore	1	0.0002	1	3.00	2.63	NA	1.00	1.00	20.00
Otis	1	0.0002	1	3.00	3.02	NA	1.00	1.00	20.00
P.W. Chapman	1	0.0013	1	1.00	4.05	NA	6.50	1.00	25.00
Paine, Webber	1	0.0004	1	1.00	4.21	NA	2.12	1.00	23.00
Redmond	1	0.0010	3	2.33	3.88	5.84	1.67	1.00	21.67
Rollins & Sons	1	0.0037	4	1.50	3.66	3.11	4.26	1.00	26.75
Royal Financial Corp. Vancouver	1	0.0004	3	3.00	3.36	NA	0.38	1.00	15.33
Schuyler Earl	1	0.0005	1	1.00	4.55	NA	2.52	1.00	21.00
Spencer Trask	1	0.0052	2	2.00	3.65	9.19	13.13	0.50	25.00
Speyer	1	0.0301	17	2.65	3.81	6.06	7.66	0.94	27.12
Stone & Webster and Blodget Inc.	1	0.0042	2	2.00	4.75	NA	8.50	1.00	30.00
W. A. Harriman	1	0.0029	3	3.33	2.72	4.12	4.83	0.67	23.33
White, Weld	1	0.0166	8	2.25	3.46	2.91	9.41	0.75	21.63

Notes: All averages are un-weighted. Rating is computed following procedure in footnote 37. Share of defaulted bonds is number of bonds falling into default before end of WWII compared to total number issued 1920-1929.