

Information Asymmetries, Borrowing Costs and the Baring Crisis, 1880-1890

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Abstract

This paper analyzes the information structure of European financial markets on the eve of the Baring crisis in 1890. We argue that Baring was in a privileged position by having a lead on information about Argentina through its long-term relationship and through investing in information production. This situation led to conflicting interests because business advice and proper investors' advice were not always compatible. I demonstrate that, while secondary market prices between Argentina's long-term sovereign bonds and the U.K. consols remained stable throughout the 1880s, underwriting banks demanded higher fees and Argentina's government accepted leaving more money on the table by underpricing its IPOs as its fiscal position deteriorated.

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Introduction

On 16 November 1890, financial markets woke up to the news that one of the most honorable investment banks in the world, Baring Brothers, had overexposed itself by keeping a large amount of unsold and illiquid Argentinean securities; it was only able to continue operations thanks to an international bailout orchestrated by the Bank of England, which injected a large sum of liquidity to prevent a banking panic that could have triggered an earthquake at the very center of the international financial system: the City of London.

The so called Baring crisis has a long tradition in the economic literature on financial crises. It has been studied from different perspectives, and apparently, after more than 100 years, we know everything. Some explanations strongly emphasize the balance of payment troubles of Argentina. Still others emphasize the inconsistency of monetary and fiscal policies. They all conclude that the years that preceded the crisis Argentina's economic situation had considerably deteriorated. None of these theories, however, explain why the enthusiasm of European Investors persisted until 1890, or why capital continued to flow until some months before the crisis. This behaviour is present in Miller's (1993) argument: Argentina attracted such amounts of capital because rates of return in England remained low. A simple calculation on international rates of return shows that Argentina's rates were not higher than elsewhere in other emerging markets. Finally, Kindleberger (1978) maintains that the main cause of the Baring crisis was investors' irrationality. However, there must have been a cause behind this supposed irrationality.

In this paper, I claim that the answer lies in the structure of 19th century financial markets, which led to conflicting interests of financial intermediaries. Baring acted as a main underwriter of Argentina's public offerings in the 1880s thus sending a confidence signal to investors. This bank had strongly invested in the long-term relationship with Argentina, acquiring information on its economic situation, dealing with prior defaults almost since the independence of the country in 1816, and succeeded in the business. Investors could access information only imperfectly, meaning that they had to rely on Baring's "seal of approval". The successive public offerings in the four years before the crisis did increase the borrowing costs of Argentine through higher underwriting fees and increased underpricing, attracting thus banks and investors to participate. In 1890, Baring and other financial intermediaries involved in the issues of Argentine securities were preparing a bail out conditioned on a financial restructure of the country. The announcement made by the National Bank, suspending the dividend payments in March, and the political crisis in July made impossible any issue of new bonds, which caused that the Argentina's underwriters remained with the illiquid, unsaleable bonds. The prices of Argentina's long-term bonds began to fall and Baring troubles became public by the end of the year.

I construct the argument as follows. I demonstrate that Baring had superior information through long-term business and through investment in information gathering. Investors could, however, know about the deteriorating position of Argentina's economy. Then I show that investors did not correctly appreciate the risk of Argentina's public offerings, but that banks did. Underwriting fees increased in the years previous to the crisis. Finally, I demonstrate that average rates of return of Emerging Markets long-term bonds fell, and thus, in order to attract investors, banks underpriced new Public Offerings. This variable has an anomalous behaviour during the subperiod of 1887-1892.

This paper is divided into four sections. In section I make a review of the literature on two axes: the open questions left by traditional theories that explain the Baring crisis and the theories which link the conflict of interests in the financial industry, the borrowing costs (underwriting fees and underpricing) and their determinants. In section II I review the information structure in the 1880s, dividing the information availability between Baring and investors. Section III provides the empirical evidence, and section IV concludes.

I. Literature review

Open questions on the Baring crisis

The "United States of South America",¹ the "promised land" for European emigrants, became also the favorite destination of European investors' capital during the 1880s. In Kindleberger's (1978) terms, the displacement that led to the 1880s lending boom was called Argentina. Economic growth had been impressive there since the previous crisis in 1876 (Cerro 2000; Cortés Conde 1979; Della Paolera 1988), thereby attracting an increasing number of European immigrants. Exports were booming as profitability in Agriculture increased from new colonized lands, encouraging railway construction and urban development (Rapoport 2000; Vitelli 1999; Davis and Gallman 2001). Even though Argentina had the same poor debtor record as most other Latin American countries, it successfully managed to survive the world crisis of the 1870s and thus to disassociate itself from the rest of the region, becoming one of the few Latin American countries to avoid default. Press evidence suggests that foreign investors began to reconsider their assessment of the country in the early 1880s as Argentina continued to service its debt punctually. It thus achieved a stable macroeconomic environment by controlling public expenditures, channelling international and external funds to infrastructure construction, and adopting the gold standard in 1882.

¹ This was the name used by writers and politicians to emphasize Argentina's potential at the end of the 19th-century and early 20th. See Whitaker (1938) and *The New York Times*, "James Bryce [British Ambassador in Argentina] prophesies a great South America", 29 September 1912.

This apparently prosperous economic context was not actually that brilliant overall. Fiscal imbalances caused a short-term crisis in 1885 (which made the paper peso fluctuate in the exchange markets, thus abandoning the gold standard),² which marked the beginning of the debacle. The second half of the decade was, in fact, characterized by a deteriorating macroeconomic and financial situation --- as shown, for instance, by Della Paolera (1994, 2001), Ford (1971), and Cortés Conde (1989). We have summarized some main indicators in Table 1, where the fiscal and monetary variables clearly show a deteriorating trend. Deficits were growing and were financed first by issuing debt and later by creating money through the free banking loan of 1887. This in turn caused the peso to depreciate strongly after 1888 (see Figure 1), creating a potential liquidity imbalance because most of Argentina's public debt was denominated in hard currency. In order to avoid debt service difficulties, the Government introduced a special duty of 15% over exports since 1885, increased the extraordinary revenues through the sale of public assets since 1887 and in 1890, it decided to negotiate a new loan in London.

This situation did not deter foreign investors from continuing to bet on Argentina's economic miracle. More than in any other Latin American country, capital continued to flow and reached a peak in 1888, two years before the crisis (Stone 1999). Capital flows did not cease until the trouble in Argentina became too obvious: political unrest and economic distress, including partial default in the first half of 1890.³

There is no consensus in Argentina's abundant historiography whether Argentina's macroeconomic policy was inappropriate and whether those debt levels were sustainable in the long run. Ford (1956) for instance argues that the Baring crisis was a "crisis of development", as Argentina has to meet its debt service in the short-run, while investment projects fostered exports only in the long-term. He suggests that capital flows in the 1880s were positive and necessary for the economic growth of the country. In a similar vein, Duncan (1983) argues that although the Government was perfectly aware that in the short-term default could not be avoided, it continued to borrow as part of a long-term development strategy. Investors were, following Duncan, the main victims of this strategy.

Whether investors were aware on this situation leading to a debt default is a different question. Wirth (1893) argues that already in 1886 investors

² This decision was supposed to be temporary, and the Government announced that Argentina would rejoin the Gold Standard two years later. The idea was abandoned with the Free Banking Law of 1887. See Mabragaña (1910).

³ For a historical review of Argentina's political situation see Cortes Conde and Gallo (1986). As we mentioned before, in March 1890, the National Bank of Argentina announced the suspension of dividend payments. The interests of the "hard-dollar" loan began also to be paid in paper pesos, instead of gold pesos.

suspected that Argentina was overborrowing. Joslin (1967) argues that in 1888 the director of The London & River Plate Bank could only explain the continued flow of funds by the low rates of interest prevailing in England. Eichengreen (1999) argues that the Baring crisis was not unexpected. These authors agree with contemporary views. The general mood in the financial press, as we will see below, was pessimistic. However, Argentina's long-term sovereign debt spreads over U.K. consols remained surprisingly stable during the years prior to the crisis—and only increase in the second half of 1890 (Figure 1). Besides, the last bonds issued in 1887 and 1889 had maturities which continued to be long: 1928 and 1926 respectively. These facts suggest that investors were not expecting a crisis and underestimated the risk, or that there was a problem of moral hazard, and markets expected Baring to act as Argentina's lender of last resort.

19th century financial markets and Borrowing costs

To answer these questions, I suggest looking at the functioning of 19th century primary financial markets. The mechanism of issuing new bonds that prevailed in that period seems pretty much what they are today. Jenks (1927), Suzuki (1994), and Flores (2007) offer a detailed description on the process through which a company or a Government accessed to external borrowing. They had to pass through a financial intermediary who had the choice either to take firm the bonds and later to place them (what we mean by underwriting); or to act merely as intermediaries and place the bonds in the market in exchange for a commission.

The borrowing Government had of course the possibility to prefer to deal with a particular intermediary, and viceversa. Depending on the necessity of the loan, the terms, and the system, a Government could choose from the offers passed by the intermediaries. Conversely, intermediaries could also decide which Public offerings seemed most interested from its business perspective and to bid and compete for getting them. They could also form syndicates to share the risk and to distribute securities in other financial centers.

Merchant banks and other financial institutions that participated in this business also acted as today's rating agencies and could recommend investors on the best investment opportunities (Flandreau, 2003). They were considered as a source of information to ordinary investors or as a press agency, as specific relationships developed with borrowing Governments and so, financial intermediaries could make public any news which could be relevant to investors. This fact gave scope to a potential conflict of interest, which could only be mitigated through the market mechanism as this was a repeated game and reputation mattered.⁴

⁴ See Flandreau and Flores 2007 for the early 19th century and Carter and Manaster (1990) for a theoretical view.

There is a large literature on the conflict of interest in the financial industry. In the U.S., there has been a long going debate on the conflicting interest that commercial banks may face when entering into activities such as public security underwriting. The consequence was the Glass-Steagall act of 1933, which effectively prohibited banks from underwriting securities. Many of the academic studies developed so far focus on the potential conflict of interest originated by the private information that commercial banks generate from lending relationships and the use of this information in underwriting their borrowers' public securities (Kroszner and Rajan, 1994; Crocket et al., 2004). These studies also try to find if these costs outweigh the potential gains from cost savings generated by informational economies of scope. Empirically, however, there is contrasted evidence on the negative consequences of the conflict of interests and investors already price assuming this fact. Kroszner and Rajan (1994) argue for instance that previous to the Glass-Steagall period, conflict of interest were not large and the rate of survival of investment-grade companies were higher for issues underwritten by commercial banks.

The Baring crisis can also be inscribed in this literature. Baring, and other financial intermediaries, issued bonds in the 1880s which found their way to the market, until the market ceased to buy the bonds. They received underwriting fees from issuers and recommended investors on the best opportunities. This argument, which we are to develop in this paper, follows the same vein as *The Times* in December 1890:

*"The Barings and other houses gave the support of their names much too freely to enterprises of all kinds in that country. The public, relying on the great firms who stood as sponsors for the new issues connected with these enterprises, invested money in them readily for many years, but two years ago the disposition to accept implicitly securities thus backed began to diminish. Shrewd people became uneasy at the extent to which the Argentine Republic was mortgaging its future and at the simultaneous eagerness manifested by the issuing houses to secure themselves at all hazards, the position of agents through which these mortgages were to be raised"*⁵

The financial market structure and the consequent conflict of interest can also affect total borrowing costs. In particular, I use some main concepts from the corporate financial literature and explain how information asymmetries determine these costs. Consider a Government willing to place new bonds into the market. The net proceeds from this Public Offering will be:

$$p_g = p_m - p_i - f$$

⁵ *The Times*, 22 December 1890.

This means that, the Government will receive from the loan it issues (p_g), the difference between the market price (p_m), which is defined as the first closing-price of the first day of trading, the price of issue (p_i), a concept called underpricing and the underwriting fee (f). In this paper we refer to underwriting as “firm taking”: banks bought the bonds from the Government at the price p_g ; the fee is thus simply the difference between the issue price and the price at which the Government sells the bonds to the underwriter. Although we already know that secondary market prices are determined on a number of factors which are related to the yield and risk of the bonds, we turn now to the factors that explain underwriting fees and underpricing.

Underwriting fees have been analyzed with respect to time and place; pioneering studies were Cohan (1961), West (1967), and Mendelson (1968). The determinants of these fees include the specific features of each issue (e.g., maturity of the bond, issue size), market structure and risk. For our purposes, the literature argues that there is a negative correlation between underwriting fees and credit quality for several reasons. Risky bonds face a smaller and less liquid market, which makes them more difficult to place. In the case of default, the financial intermediary’s reputation would suffer. Finally, the greater a new issue’s risk, the more difficult it becomes to estimate the issue price; compensation is naturally required for the additional effort (Livingston, Pratt, and Mann 1995; Melnik and Nissim 2003).

In contrast, there is little consensus on what determines the nature of underpricing. Following Ljungquist (2007), there exist four main groups of underpricing theories: asymmetric information, institutional reasons, control considerations and behavioural approaches. The asymmetric information theories are most established in the literature and have the most empirical support, and we aim to focus our study within this approach. Institutional theories, which explain underpricing through taxes, banks’ stabilization activities and others, should be tested in a longer time span and through different places to see if they apply in the 19th century financial context. Control theories concentrate on share holders’ behaviour once a company becomes public, and thus, do not apply to sovereign debt offerings. Finally, the more recent behavioural theories assume the presence of irrational investors who bid up the price of IPO shares beyond true value or that issuer do not put sufficient pressure on underwriter banks to have underpricing reduced.

For our purposes, the theories of information asymmetries are divided into three main subcategories. These are: winners-curse theories, the information revelation theories and signalling theories. On the first group of theories, the most known model is Rock’s (1986). He divides the pool of investors into two categories: informed and uninformed. Informed investors would only bid for Initial Public Offerings with a positive expected initial return. Uninformed investors bid without to every issue. This imposes a winner’s curse on uninformed investors, as they would receive all the shares of

unattractive offerings, whereas their demand for attractive offerings would be partially crowded out by informed investors. In order to keep the demand of uninformed investors positive (a necessary condition to assure the success of new Public Offerings), shares have to be underpriced. Empirically, this model implies that underpricing is lower if information is distributed more homogeneously across investor groups. It also implies that the greater the uncertainty is ex-ante, the higher is expected underpricing (Beatty and Ritter, 1986; Koh and Walter, 1989). It also implies that the underwriters' decision on the level of underpricing is crucial and can be related to its conflicting position: too much underpricing would induce a loss of business from the issuers; too little would induce a loss in the business from investors (Nanda and Yun, 1997; Dunbar, 2000).

Information revelation theories are more related to the bookbuilding process before shares allocation (Benveniste and Spindt, 1989; Benveniste and Wilhelm, 1990). In order to provide investors an appropriate incentive to reveal their information truthfully (by asking them their indication of interest before a Public Offering), they underprice the issue. These theories have also had empirical support. However, due to the fact that 19th century Public Offerings did not involve any underpricing, it is hard to see why these theories could apply. Finally, underpricing can also be used to signal the quality of a firm. Only high quality firms can "afford" to leave money on the table and thus, these should have the highest underpricing (Ibbotson, 1975).

II. Information Structure: Baring, the others, and the market

Before proceeding to look at the empirical evidence of borrowing costs, we will analyze the information structure in the late 1880s. I argue that Baring was better informed than ordinary investors.

How did Baring obtain its "privileged information"? Mainly, through personal relationships and through long-term, repeated transactions with the Government (at National and Provincial levels) and through trade finance. We now turn to describe this relationship, as we consider it as a key element behind Baring's behaviour in the 1880s.

The history of the relationship between Baring and Argentina has been described by historians such as Ferns (1960, 1992), Ziegler (1988), and Jones (1972). Primary sources used in these works include the Baring Archives, the Archives of the Bank of England, and (to a lesser extent) the *Memorias de Hacienda*—sources that we have also reviewed. These works describe in similar terms the particular relationship between Baring and Argentina since the country took its first loan in 1824. There is less agreement concerning the general perception that the Barings were the "bankers" of Argentina: although Ferns (1992) states firmly that Baring never considered itself the banker of Argentina, Ziegler (1988) argues the opposite.

Ferns gives several reasons for the false belief in Baring as Argentina's banker, beginning with the country's own borrowing history. Baring was the first "highly regarded firm of merchant bankers to float a loan of £1 million on behalf of the new-born United Provinces of the Rio de la Plata in 1824."⁶ The general attitude in the new independent countries of South America was that Baring participated, and was justified (following Ferns) because

*[the Barings] had an uneasy suspicion that they were missing the bus. They felt this particularly about the River Plate, to which area the British exported more than £1 million worth of goods in 1824 alone.*⁷

For a new borrower to enter the financial markets of Europe was no easy matter: borrowers had to demonstrate the profitability of their projects and the seriousness of their economic policies. A main obstacle was the dearth of information (Flandreau and Flores 2007). That is how the market understood things, and so did the Argentinean government. For instance, when the loan of 1822 for construction of the new port of Buenos Aires was approved by Congress, Ziegler wrote:

*The Minister of Finance in Buenos Aires had urged them [various Argentine associates] to involve Baring in the transaction if they possibly could, since nothing would help more to establish the country's credit.*⁸

However, like most Latin American countries, Argentina defaulted on its debt in 1828. Unlike other banks involved in Argentina's affairs, Baring was the only one to defend the interests of investors, succeeding eventually with an agreement in 1857. Baring pursued this agreement not to benefit Argentina or even the affected investors; it acted in its own interest to defend its reputation. Ziegler argues that Baring could continue to be trusted only by guaranteeing investors' revenues. In fact, after 1857, eight years passed before Baring decided to issue a new loan on behalf of Argentina. Even this minor issue (£0,55 million) was not a success, and Baring had to buy £0,2 million. Before the 1880s, Baring participated in two additional loans, even though two other British banks (Morgan and Murrieta) had entered the market for Argentina's loans.

The main activity of Baring in Argentina was trade finance through the commercial houses established in Argentina. In 1856 it was Zimmerman, Franzier and Co.; in 1873, S.G. Hale & Co. These activities provided Baring with some information about the state of affairs in Argentina. However, Baring did not consider this sufficient for issuing a new loan in London on behalf of the

⁶ Ferns, *Britain and Argentina*, p. 132.

⁷ Ibid.

⁸ Ziegler (1993, p. 101).

Argentinean government. Even so, such loans were in high demand with London investors. Ziegler agrees with Ferns about the ignorance of British investors and about the position of Baring as a well-regarded provider of information.

With the crisis of 1873, economic difficulties brought S.B. Hale and & Co. almost to bankruptcy. In order to overcome such difficulties, in 1876 Baring sent one of its own employees, Nicholas Bower, to provide information about investments in which Baring had a special interest (loans, short-term advances) and to work together with Hale. A detailed examination of the Baring Archives reveals that most information Baring possessed about Argentina in the 1870s and 1880s came from this correspondence with Bower and some telegraph messages when important events took place. The reports of Bower covered several aspects of the country: trade, prices, immigration, financial position, banks, natural resources, tradable assets, and so forth. Bower also established an almost personal relationship with Argentina's government. We have found written reports containing the exact same statistics as those published three months later in the *Memorias*, with additional comments expressing Bower's own point of view and derived from conversations with Argentinean politicians.

During the period 1877--1883 a constant flow of information was available to Baring, which had in Bower a reliable agent providing the bank with detailed reports on the economic situation, the state of their investments, and opportunities for new business. Financial markets seemed to have closely followed this relationship, because some reports and news reached the press through Baring's intermediary (acting as a kind of financial press agent). The information that Baring made public increased with uncertainty or when something extraordinary took place in Argentina.

However, this situation changed in 1883 for several reasons. On the one hand, there was increased competition (Jones, 1972; Marichal, 1984; Flores, 2004, 2007). With the entry of new banks for the issuing of new loans in the financial markets of Europe, the relationship between Baring and Argentina deteriorated.⁹ Jones wrote that "*Bower was at great pains to point out to the National Finance Minister the serious loss which the government had sustained through dealing with the French.*"¹⁰ In fact, Ferns argues that Baring was willing to formalize its relationship with Argentina and block thereby the entry of any new competitor. In 1880, Baring insisted on an "open line of credit secured by saleable assets" and that the government agrees to deal only with Baring for the issue of new loans. Both requests were declined by Argentina. On the other

⁹ Recall from financial theory literature that long-term relationships between a bank and a firm may benefit both agents: a firm may have an open credit line in difficult periods and the bank may assure positive profits in the long term. For a survey on such "relationship banking" see Boot (2000).

¹⁰ Jones (1972, p.5).

hand, the relationship between Bower and Baring changed, too, deteriorating after 1883. Baring decided to close its agency at Buenos Aires and continued to operate only through Hale & Co. Bower continued to work with Baring but in a rather different way. His reports subsequent to 1883 are much less detailed and frequent than those during the previous period (1877–1883).

Investors Information

Analyzing the socioeconomic relationships between Argentina and the United Kingdom in the 19th century, Ferns (1960) differentiated information levels for investors and financial intermediaries, where the former depended to a large extent on the latter. The obvious state of affairs is the conflict of interest that can still be found today: financial intermediaries played a major role in deciding where European capital was to be invested.

Here is how the information flows worked. Ferns emphasizes the low level of information of British investors. According to this author, investors neither know nor had the means to know how the money would be used. His evidence includes letters from the press and from committees formed to defend the interests of the bondholders. Some investors confused Argentina with Brazil and even with Mexico. The distinction between the province of Buenos Aires and the Argentine Republic was also too subtle for them. In this context, any investor eager to increase revenues could make decisions based on personal experience, investing in any asset that had already proved worthwhile. Following Ferns, financial intermediaries had a key role in recommending (or merely signalling via underwriting activities) particular investment choices. The names of Baring Brothers, Murrieta, and other big banking houses meant much more to investors than abstract countries. The banks' decision to enter Argentina's market served as a "certificate of confidence" and thus as a substitute for knowledge, initiative, and enterprise.

In general terms, we have also found in the financial press complaints from investors that no information was available to decide whether or not to invest in Argentina. For instance, quoting another source of information widely used in financial circles, the *Statesman Yearbook*, *The Buenos Aires Standard* wrote:

*Just now it is a question whether any human being has the remotest notion what the Argentine Republic owes in the aggregate, and how it compares with the resources on which it is supposed to be a lien; but the last issue of the Statesman's yearbook affords some clue to the imposing total...*¹¹

In fact, however, investors could know about the economic situation of Argentina. Table 2 shows the main sources through which an investor could

¹¹ Buenos Aires *Standard*, 1 September 1887.

look at economic and general information. In addition to private information that individuals could obtain from particular activities such as trade or migration, these sources include the reports of the Council of Foreign Bondholders (CFB), the Mulhall Statistics, local representatives' reports, the *Statesman Yearbook*, *Fenn on the Funds*, official documents, and the press. Table 2 also resumes the main message that we mentioned above: these sources were pessimistic on the near future of the country.

Perhaps the most conclusive source of the time on Argentina's economic state was *Fenn on the Funds*. The commonly known "trade test" used in this publication, a reference for British investors during the late 19th-century, has already been described by Flandreau and Zumer (2004). It evolved as a means to summarize, in one single figure, the most important economic variables regarding the economic health of any given country. The publication of 1889 provided a good explanation of this evolution and was a prototype of what was to become the modern country risk analysis. First, it explained that a country's debt was an important variable to consider as well as its trajectory in time. It made a distinction between debts incurred by countries for productive and other purposes (such as war, which was much more risky). It also rejected the "population test", which had made Honduras (in default at that time) appear to be more solvent (with £16 debt per capita) than England (£19) or Australia (£37). The publication presented new calculations on a ratio that took into account the wealth of the country --- in a context where no GDP figures were available --- and the interest rates of its debts.

The indicator in Fenn's compendium removed from the interest payments those revenues from the investments made with the resources of the loans. This amount was capitalized at a rate of 5% and divided by the population (i.e., it was a per capita indicator). Fenn also measured the exports per capita in order to have a wealth indicator, even though the publication recognized that this measure was far from a perfect "proxy" for the wealth of a country. We looked at the resulting indicators for several countries in 1889. Argentina's indicator is 5,35. This debt/exports ratio is higher than that of "well-behaved" countries (Belgium, 0,25; Sweden, 0,23; see Flandreau and Zumer 2004) but lower than that of the problematic countries of the period (Greece, 8.49; Portugal, 13,81). Argentina's ratio is also higher than that of South American comparable countries, such as Brazil (4,63) or Chile (1,12). Besides, Fenn's compendium gave a threshold of 4 to classify countries with possible indebtedness problems and Argentina was clearly on the wrong side of that threshold.

III. Empirical Evidence

The pricing of Argentina's debt

In this section we aim to show that investors did not correctly price Argentina's bonds. This means that we have to look at the macroeconomic fundamentals for the countries that borrowed in London in the 1880s, and look at their correlation with the spreads at issue of the Public Offerings.

We have included on the right side of the equation fiscal and monetary variables, following the model used in Flandreau and Zumer (2004). They are the following ratios: the interest service to public revenues, the reserves to banknotes, the exports to population, the deficit to public revenues and the exchange rate volatility. The period we are looking at is 1880 to 1895. Following the same authors, the Baring crisis acted as a wake-up call for investors: after 1895 pricing of Governments' long-term bonds began to rely more on debt burdens (the "tax test") rather than on exports levels (the "trade test"). This would imply that Argentina's debt burdens should have been translated into higher spreads (in secondary markets) if they had been properly priced. In our analysis of primary markets, we should observe the same pattern. Deteriorating economic fundamentals should be correlated to higher spreads at issue. The results are included in Table 3.

Data on macroeconomic variables are from Flandreau and Zumer (2004), Flores (2004) and Carmagnani for the Mexican fiscal variables. We exclude from our sample China, Uruguay and Nicaragua due to lack of data. All other countries which issued new bonds are in the sample. Prices at issue are from Suzuki's database, and England U.K. consols are from Klovland (1994). Excluding regressions (1) and (2), we have included only countries other than Argentina. In these first two regressions, the dummy variable for Argentina's observations resulted not significant. The results show that mainly the fiscal variables are significant, whereas the results are more ambiguous for monetary variables: only the exchange rate volatility is significant, although the sign changes for regressions (1) and (3).

We next use the coefficients in regression (5) to calculate the counterfactual spreads at issue of Argentina's Public offerings to test if Argentina's Public offerings were priced differently from other countries. The result is shown in Figure 2. We observe that actual and simulated prices of issue only differ systematically in the late 1880s. They approach in the non-issued loan of 1890, as problems in Argentina became public.

Underwriting fees

If we look at the London sovereign bond issues of the 1880s, most of the loans were *not* taken firm.¹² Nonetheless, a main feature of Argentina's loans

¹² The data used in this section is from debt contracts between banks and borrowing governments. Such contracts are available at the issuing banks' archives (Rothschild, ING

was that almost all of them were taken firm, and this helps explain why banks formed syndicates to mitigate the risk of failure in their bond issues. From a sample of 28 issues that took place in the 1880s, 16 were taken firm. Figure 3 shows the underwriting fees paid by different countries with respect to the spread at issue. The rhombuses show the fees of third countries; the triangles show Argentina's fees. We can see that, for equal levels of spreads, Argentina was paying higher levels of fees which suggest a mispricing of this country's risk in secondary markets. Finally, the squares depict two unissued loans of 1890, whose underwriter was Baring. It seemed that the desperate situation of both River Plate countries obliged them to accept having to pay those fees.

An additional test for the existence of information asymmetries are the correlation coefficients between these fees and spreads at issue. For third countries, this coefficient is for the years 1880-1889 0,21. For Argentina's Public Offerings, this coefficient was -0,31. If we compare the simulated spreads at issue from the previous subsection, this coefficient becomes 0,25, a strikingly similar value than for Public Offerings of third countries. This fact suggests that the pricing of Argentina's debt was coherent with what the market's pricing for other bonds.

Underpricing

Before we proceed to look at the empirical evidence on the existence of Underpricing, we return to the question on why did investors continue to participate in Argentina's Public Issues. We have calculated the constant average compound rates of return, and the results are shown in Table 4. We observe that these rates were very volatile, mainly in the two years prior to 1890, the crisis year. We also observe that Argentina's own Public offerings were not the most profitable and, more important, they considerably decreased in the last years. Baring was no longer the synonymous of capital gains.

The fall in rates of return also explain why investors would become "intolerant" to new debt issues. This is compatible with the general pattern of underpricing that we observe between 1880 and 1895. The data of the first day of trading closing-prices are from the Times. Figure 4 shows the behaviour of underpricing for the period. Several features can be observed. First, the level of underpricing is generally low, and in some cases we had cases of "overpricing". Second, underpricing (and its volatility) is more pronounced in the late 1880s until 1892. Third, after 1892, underpricing decreases again. It seems that uncertainty and underpricing should be correlated. These results may also be the outcome of our measures of underpricing: the date of issue and the date of the first day of trading differed, and these differences could take weeks and

Baring and Paribas). Additional information on Norway's contracts can be found in Klovland (2005).

even months. However, this should not deter us to find evidence of underpricing.

Figure 5 test the hypothesis whether higher risk is positively correlated with higher underwriting. It seems that there exists, indeed, a positive correlation. However, Argentina's issues do not seem more underpriced than other countries. In order to test this fact more formally, we have run some regressions with a variable of risk (spread at issue) and a measure of uncertainty. We use as a proxy the average volatility of secondary market prices from bonds already in the market, in the year previous to the issue, minimizing thus the possibility of market rigging. In regression (1) we have included the whole period of 1880-1895, and found that none of the variables are significant. The best results we found are for the period 1887-1892, although the results are not consistent. It seems thus that the period of high underpricing was a general pattern and not selective, as if it was part of forcing a "boom" rather than a delivered policy from the banks.

IV. Conclusion

Under certain circumstances, reputation should make the financial intermediaries avoid cheating on investors. Instead, looking at Baring Archives it seems that Baring did not foresee an Argentinean default. The conditions of the 1890 contract obliged the country to reconduct its economic policy. There were three conditions imposed by Baring: no further issues of paper money, until the gold premium reach a level of 140. The second was the prohibition of any new external borrowing during two years. Finally, the fact that a part of the customs revenues be collected in gold pesos, strengthening the capacity of the Government to meet its debt service.

We can only speculate on whether Baring believed that the situation could be saved by agreeing to underwrite the last bailout loan of 1890 and mandating that Argentina redress its economic situation. This is not far from Ferns's own conclusion that the Baring crisis resulted from a misperception by investment bankers -- even though Baring agents were alert, competent, and cunning in their observations:

*...but we cannot escape the conclusion from the behaviour of the investment bankers that their understanding and judgment deteriorated in the 1880s and their responsibility and ignorance were factors in the Baring crisis of 1890--1891.*¹³

However, this could only occur because information asymmetries were huge in the 1880s, so these could also be held responsible for the Baring crisis. In fact, the information model prevailing at the period began to change in the early 1890s. Capital exports had a "sudden stop" during the 1890s, and the

¹³ Ferns, *Britain and Argentina*, p. 330.

information structure began to change. The reports of the CFB began to be more detailed, other banks followed Credit Lyonnais' unit of analysis, and the financial press experienced a new boom. Argentina was excluded from capital markets during some years and then Baring returned to business as the only merchant bank for all issues, recovering its quasi-monopolist position. Argentina did not experience additional crises before World War I. Nonetheless, even in this new context of increased information availability (and thus higher "transparency"), there continued to be financial crises throughout the world.

Finally, it seems that markets could be aware of problems in Argentina even though they had less information than banks. The attitude of financial intermediaries, however, was to send confidence signals by issuing new bonds as demand existed. This behavior was motivated by desire for short-term gains. Baring, in contrast, relied on a long-term relationship and had different incentives from those of competing banks. It remains to test whether this behavior was characteristic of 19th-century finance and to compare it with present-day investment banking.

Archives

ING Baring Archives: Box Hc4.1.71, Box Hc4 1.113

Crédit Lyonnais' Historical Archives: Boxes DEEF 73404-8 and DEEF 73415.

Paribas Archives: 102.955, Box 404.

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Tables and Figures

Table 1. Argentina's macroeconomic indicators. Sources: Della Parlera (1988), Flores (2004).

Years	Real GDP Growth (%)	Paper peso depreciation in %)	Inflation (%)	Deficit to ordinary public revenue	Debt service to ordinary public revenue	Percentage of Debt Service paid in Gold
1885	6,0	37,0	22,8	48,2	30,5	77,8
1886	0,0	1,5	3,1	35,0	50,9	68,0
1887	12,0	-2,9	-4,0	18,9	43,4	60,7
1888	9,9	9,6	0,0	34,9	47,4	89,5
1889	17,2	21,6	19,8	34,4	62,7	93,3
1890	-4,3	43,3	40,9	25,4	NA	NA

Table 2. Source of Information, other than Official Sources.

Source	Information Disclosure	What did it say
Reports of the Council of the Corporation of Foreign Bondholders	Dispute on Hard-Dollars loan; fiscal variables and state of current account	Concerns on increase of expenses and debt. In 1889 converted hard-dollars loan were paid in paper pesos
Mulhall Statistics	Wealth estimates, debt level, demographic and geographic data on the country.	1890: increase in debt higher than increase in wealth.
Local representatives (General Council of the Argentine Republic and South American Exchange and Information Office)	General information for merchants and potential emigrants.	Communicated through the press mainly Argentina's official messages.
British representatives at Buenos Aires	General, political and social and economic information. State of trade and immigration	Focused on the gold premium and increase in public debt. Concerns about the financial fragility of the Government and about the monetary policy.
Statesman Yearbook	Macroeconomic and fiscal variables (total indebtedness, trade balance, public deficit and debt service	Argentina's figures are mainly budgets. A ratio of debt service to public revenue can be nonetheless calculated, for an average of 33% for 1886-1889.
Fenn on the Funds	Trade test (Ratio of Net debt per head to Annual exports per head). A value of the ratio of more than 4 (benchmark value) is considered an early warning signal.	Argentina's value is 5.35, higher than well behaved countries such as Belgium (0,25) or Sweden (0,23) but lower than other problematic countries such as Greece (8,49) or Portugal (13,81)

Table 3. Dependent variable: Spread at Issue (excl. Argentina, unless regressions 2 and 3), 1880-1895.

Variable	1	2	3	4	5	6
Debt Service / Revenue	3,65* (2,45)	4,36* (5,43)				5,76* (9,53)
Reserve / Bank notes	0,39 (0,31)	0,46 (0,46)	2,67* (2,94)	0,85 (0,6)		
Exports / Population	14,8 (1,14)	14,96 (1,49)		18,9 (1,29)		
Deficits / Public revenue	-0,88 (-0,91)		-2,79* (-4,28)	-2,43* (-2,94)	-3,13* (-4,49)	
Exchange rate volatility	-0,59 (-0,41)	-0,85 (-1,15)	2,4* (4,23)	2,2 (2,23)*	4,48* (3,43)	
Argentina		1,33 (1,97)	-0,14 (-0,19)			
Number of observations	21	27	35	21	29	33
R2	0,002	-0,03	-1,08	-0,37	-1,38	-0,26

t-Statistics in parenthesis, *- Significant at the 5% level.

Table 4. Rates of return on Public Offerings in London, 1885-1889, december 1889.

Country	Year	Int. (%)	Return on Security	Return on Consols	Excess Return
Chile	1885	4.5	6.6	3.5	3.0
Brazil	1886	5	6.8	3.7	3.1
Argentina	1886	5	9.4	3.7	5.7
Chile	1886	4.5	4.6	3.4	1.2
Nicaragua	1886	6	7.2	3.6	3.6
Argentina	1887	5	5.2	2.8	2.3
Chile	1887	4.5	5.5	2.3	3.2
Greece	1887	4	3.9	3.0	0.8
Brazil	1888	4.5	-5.3	1.1	-6.4
Argentina	1888	4.5	2.2	2.2	0.0
Greece	1888	6	15.3	1.3	14.0
Mexico	1888	6	15.4	0.8	14.6
Uruguay	1888	6	-3.8	1.2	-5.0
Brazil	1889	4	-16.9	0.4	-17.3
Argentina	1889	4.5	-6.1	0.03	-6.1
Chile	1889	4.5	1.7	0.7	1.0
Greece	1889	4	5.6	0.3	0.9

Table 5. Dependent variable: Underpricing, 1880-1895 and 1885-1890
(Regressions (2) to (4)).

Variable	(1)	(2)	(3)	(4)
Spread	0,21 (0,67)	0,88 (1,35)	0,76* (2,05)	
Volatility	8,16 (0,97)	2,37 (0,16)		18,8 (1,98)
Argentina	1,48 (0,82)			
Number of Observations	46	20	22	
R2	0,05	0,09	0,06	

t-Statistics in parenthesis, *- Significant at the 5% level.

Figure 1: Spreads and Argentina's exchange rate prior and during the Baring crisis.

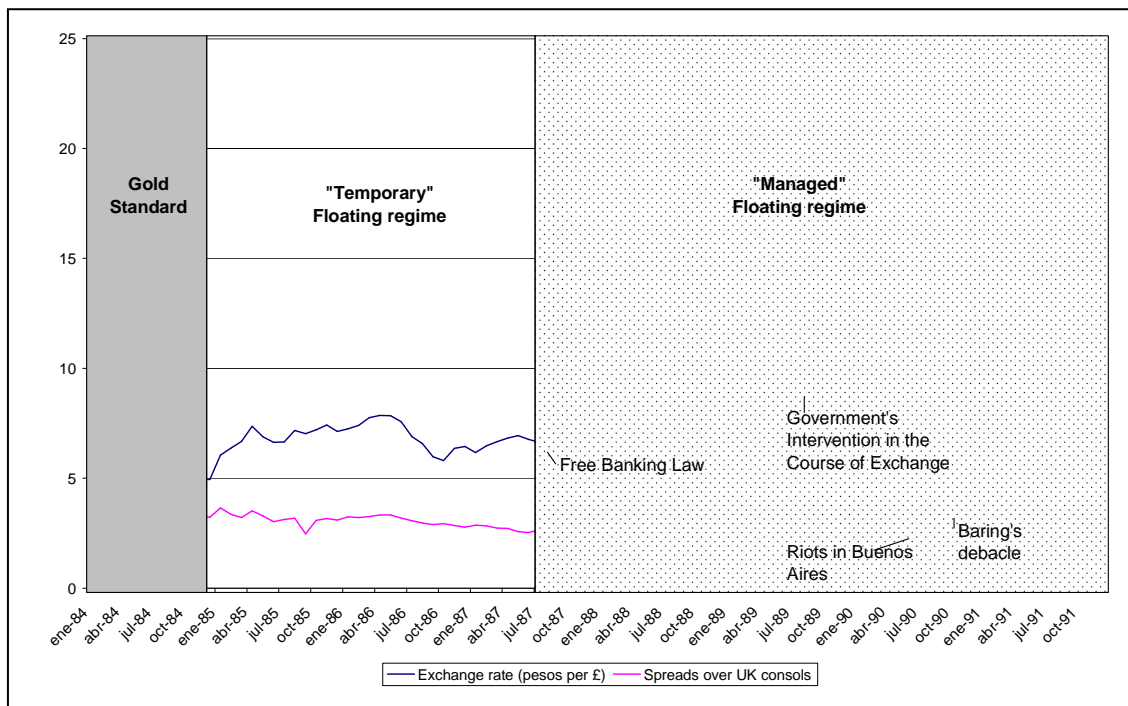


Figure 2. Argentina's prices at issue and simulated

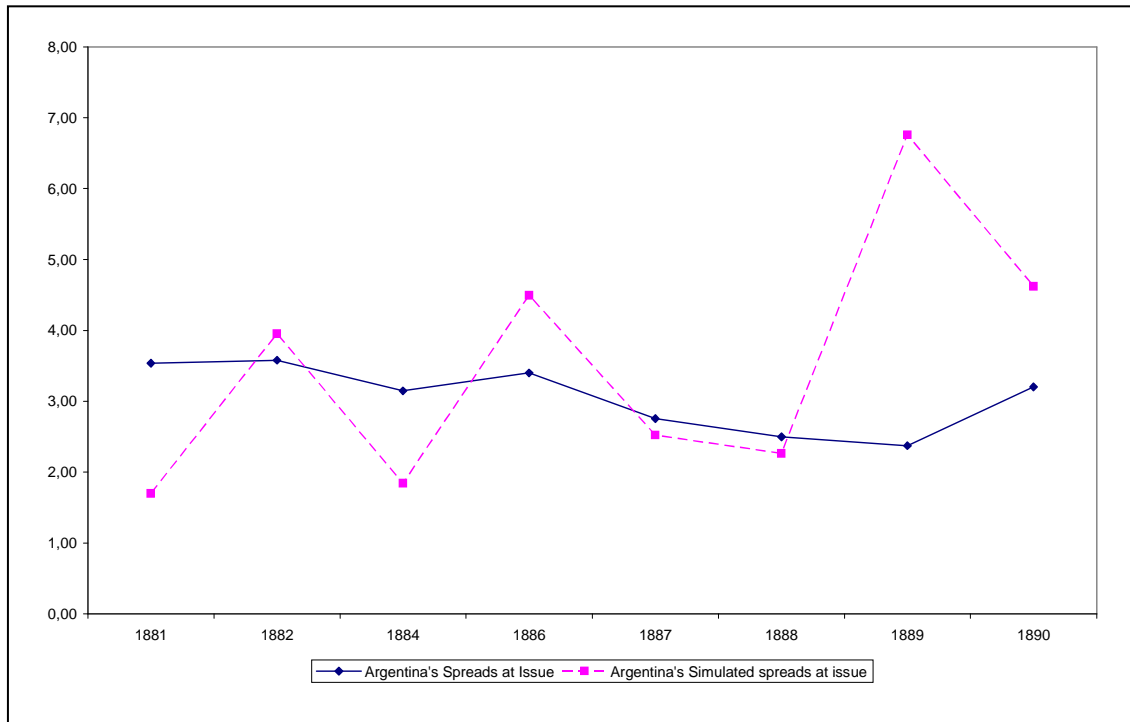


Figure 3. Underwriting fees and spreads.

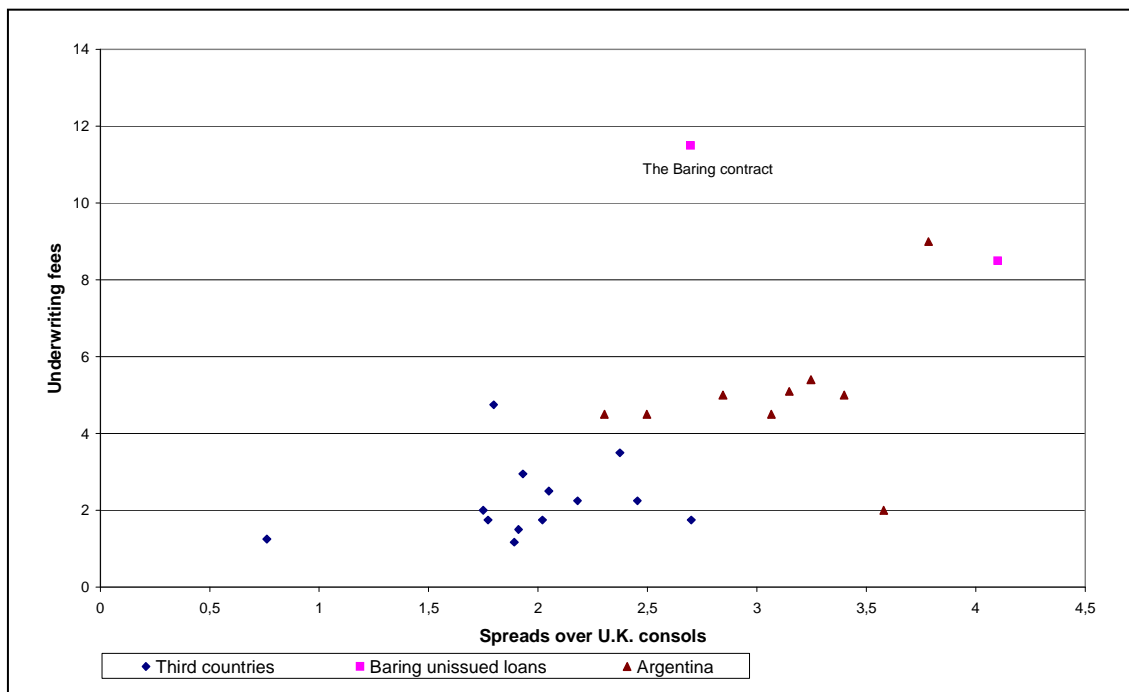


Figure 4. Underpricing 1880-1895

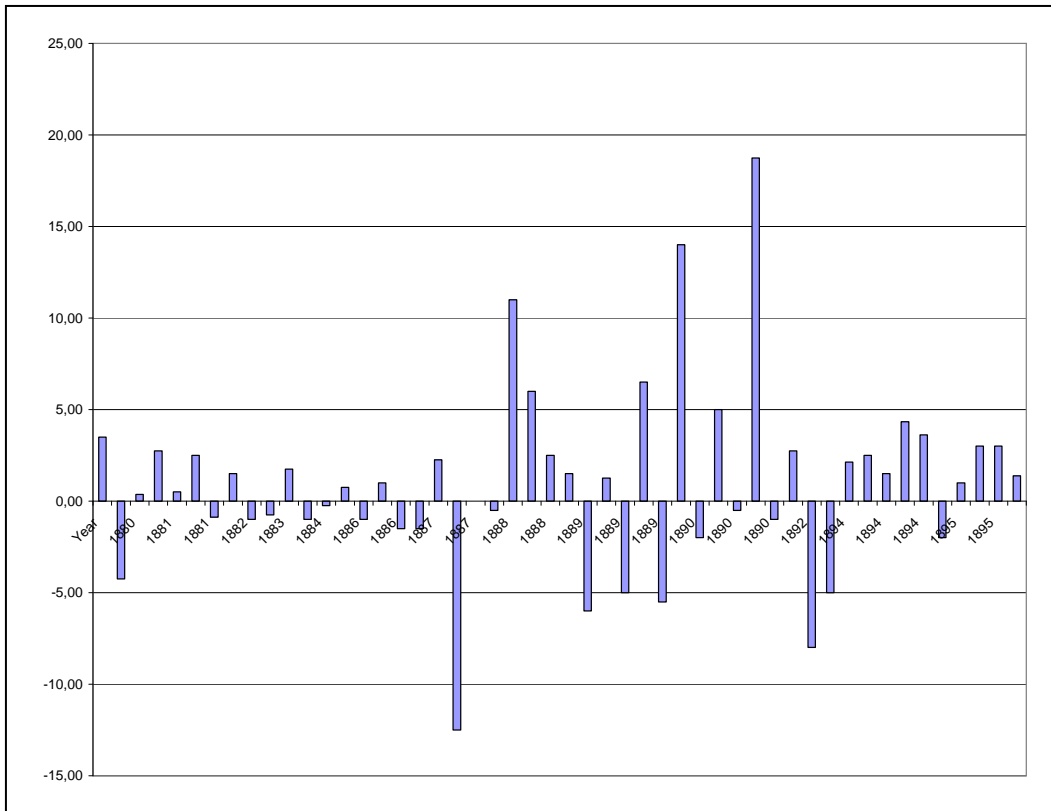


Figure 5. Underpricing and Spreads on U.K. consols.

