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## LENDING BOOMS, UNDERWRITING AND COMPETITION: THE BARING CRISIS REVISITED

### Abstract

This paper aims to provide new light on a famous episode in financial history, the so called Baring crisis. Taking a microeconomic approach, this paper addresses issues that were not emphasized in traditional explanations of the crisis. We analyze borrowing costs in the 1880s using new data from debt contracts. We argue that, despite a worsening macroeconomic situation in Argentina, its Government continued to have capital market access besides decreasing borrowing costs. This paper suggests that competition between financial intermediaries was a main cause behind the crisis.

### INTRODUCTION

This paper aims to provide new light on one of the most famous events in financial history. During the 1880s, Latin American countries experienced a foreign investment boom. A major part of these flows took the form of sovereign debt, and the bonds were traded in the main European financial centers. In 1890, as a result of a mix of a liberal monetary policy and macroeconomic imbalances, Argentina suspended debt service causing the “Baring” crisis, as the house of Baring had to call for financial support<sup>1</sup>. Historians and economists have long discussed the causes of the Argentinean default. More recently, a different literature has debated whether the crisis triggered contagion<sup>2</sup>. The fact is that after the crisis

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<sup>1</sup> Baring was Argentina’s main underwriter since the independence of the country. The failure of several bond issues and Baring own overexposure of Argentina’s bonds caused its later collapse. On a detailed description of the Baring crisis see Marichal, *A century of debt crises*, Clapham, *The Bank of England: A history*, or Della Paolera, *Straining with the Anchor*.

<sup>2</sup> Triner, “International Capital and the Brazilian Encilhamento, 1889-1892 : An Early Example of Contagion among Emerging Markets?” ; Mauro, Sussman and Yafeh. “Emerging Market Spreads : Then Versus Now”.

there was a sudden standstill in capital exports from the main financial centers to the rest of the world. In this paper, we suggest that the reason for excessive lending before the crisis and the stop in capital exports are truly the two sides of the same coin.

Unlike the traditional literature, we use microeconomic insights to identify a puzzle: Argentina's borrowing costs decreased during the 1880s despite a worsening macroeconomic situation. Empirical evidence comes from debt contracts, which have never been used for this kind of analysis. This new data is a rich source and suggests that conventional explanations are insufficient.

This paper is divided into five sections. First, we review the literature on the 1890 crisis and show that they cannot account for the continued lending. We then describe the debt issue mechanism for foreign Governments at the end of the 19<sup>th</sup> century. In the third section we present a simple model of risk sharing between banks and Governments comparing both monopoly and competition between financial intermediaries. Fourth, we analyze Argentina's Governments borrowing from 1880-1889. Evidence shows that banks displayed an unusual risk taking behavior despite deteriorating fundamentals in Argentina. In the fifth section we present several arguments that suggest that increasing competition between financial intermediaries was a key factor behind the crisis.

## THE BARING CRISIS: EXISTING THEORIES

A brief overview of more than 100 years of economic analysis on the Baring crisis may sound too ambitious. However, we may say that this financial episode has traditionally been looked at from a macroeconomic point of view. Conventional explanations expose

problems mainly within the demand side (mainly Argentina's economic policies). The only existing supply side theory, explaining problems with the lender is Kindleberger's theory of speculative manias.

Williams (1920) is the pioneering study. His reasoning supposes that the Baring crisis was due to increasing commercial deficits in Argentina during the 1880s. As foreign capital flows were necessary to minimize exchange rate depreciation, the freezing of these flows translated in exchange rate depreciation and thus an external crisis (foreign debt was denominated in foreign currency).

Prebisch (1919) similarly analyses the cyclical aspects of external factors (capital flows and exports) and its repercussions on the Argentinean economy. Using the same data as Williams, the Baring crisis was preceded by an expansive phase in the world economy, also fed by a rise in demand for external loans by the Government. This situation resulted in credit expansion, consumption increase, excessive confidence and a general feeling of prosperity that translated into financial and property speculation. When the Bank of England raised its interest rates in the late 1880s, capital flows stopped and caused the precipitation of Argentina in the deepest phase of the crisis.

Adopting a similar view, Ford (1962) suggests that imbalances in the external sector were responsible for the convertibility failure in the 1880s, due to the different phases in capital flows: indebtedness was followed by an increase in imports and currency depreciation. As for Prebisch, as these flows stopped, debt service had to still be paid in gold. This phase deteriorated because during the period, investment returns did not sufficiently compensate

for the increase in imports and debt payments. In 1890, Argentina was particularly affected by this fact, which was reinforced by the macroeconomic politics of the 1880s that encouraged credit expansion although investment returns in the export sector were not yet adequate to cover external payments.

An alternative view is presented in the work of Cortes Conde (1989). Following a monetarist analysis, Cortes Conde writes that the Baring crisis had its root in Argentina's monetary policies. As a response to credit increases and money supply, public purchased gold anticipating currency devaluation, causing reserve outflows and money depreciation, which translated in difficulties to meet the debt service of the country.

Della Paolera (1995, 2001) expands this view to encompass the fiscal side. He argues that the Baring crisis was caused by inconsistent monetary and fiscal policies in Argentina during the 1880s, seeking, on the one side, to return to currency convertibility but running persistent fiscal deficits on the other. Even though there existed a slight improvement by 1886, fiscal matters became fragile from 1888, affecting public's perception of inflation, thereby causing people to fly from paper currency into specie inciting currency depreciation. The process was reinforced by further money creation to finance deficits and the impossibility to obtain access to capital markets.

On the supply side, Kindleberger (1996) questions investors' rationality, and suggests that the Baring crisis was a typical investment bubble. Low rates in British investments and a sudden favorable perspective in Argentina caused the displacement necessary for a boom in Argentinean financial assets. He argues that the Baring crisis followed a typical euphoria-

distress path during the 1880s. However, Kindleberger identifies the downturn of the euphoria for Argentinean bonds in 1888 (two years before the outbreak of the crisis) when German investors sold their bonds to their British counterpart, even though the behavior of this second kind of investors continued in the opposite direction, attracting Kindleberger's attention as one of the few historical cases where "enthusiasm of one class of investor for a security failed to communicate itself long to another"<sup>3</sup>. The crisis precipitated when the true situation of Argentina was publicly known, namely, by the adverse events of 1890 such like a technical default in March or the political riots in Buenos Aires in July.

For us, fiscal and monetary policies were full of flaws and investors' sustained purchases not well advised. Taking into account key features of the 19<sup>th</sup> century international financial architecture we introduce new elements which lead to the crisis, as traditional explanations leave a number of important questions opened. Most important address the forecast of the crisis. The deteriorating financial situation of the country in general and of the fiscal position of the Government in particular, did not deter investors to channel new and increasing funds to Argentina. We can only wonder on how Argentina managed to continue having capital market access even some months before the outbreak of the crisis<sup>4</sup>.

Contemporary economists as well as later works of economic historians adhere to this view. For instance, Wirth (1893) pointed out that "In 1886, European investors already began to suspect that the Argentine credit was being overworked"<sup>5</sup>. Eichengreen (1999) argues that there existed fears for the stability of Argentine finances as early as 1886. Joslin (1963) also

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<sup>3</sup> Kindleberger, *Keynesianism vs monetarism, and other essays in financial history*.

<sup>4</sup> From a public finance point of view, Terry (1893) already signaled that Argentina's troubles began in 1885, with the suspension of the system of gold exchange standard. Duncan (1983) also pointed out that the financial policy of Argentina's Government in the late 1880s could only lead to bankrupt.

<sup>5</sup> Wirth, "The Crisis of 1890".

suggests that investors could expect the crisis in early 1888, and Della Paolera and Taylor remark that the first “technical default” of Argentina was in 1889, more than one year before the crisis<sup>6</sup>.

In fact, reports and publications of the time lead us to support this generalized consensus. Credit Lyonnais, a French deposit bank which became after 1890 a leading voice in European financial markets, advised against investing in Argentina<sup>7</sup> since 1887. Mulhall, a recognized statistician on economic matters in South America, suggested prudence about the immediate economic future of the country<sup>8</sup>. Financial press in Europe was increasingly hostile to Argentina, referring openly to the financial situation of the country as a “crisis” since<sup>9</sup> 1887. Finally, the publication “Fenn on the Funds” classified Argentina as a problem country in 1889 by calculating an “early warning” debt crisis indicator which took into account its debt service and its exports level<sup>10</sup>.

Interestingly, markets’ behavior did not reflect these views. Spreads of Argentinean public bonds on UK consoles remained stable during the late 1880s. Moreover, bonds on behalf of Argentina’s federal, provincial, and municipal Governments continued to be issued in European financial markets. Although speculation may have been persistent during the last years before the crisis, it is unlikely that it explains the whole story. Besides, a pure macroeconomic view remains also inadequate to understand what led to the crisis, as some macroeconomic variables considerably deteriorated in the last years. The answer, as it

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<sup>6</sup> Della Paolera and Taylor, *Straining with the anchor*, p. 19 .

<sup>7</sup> Crédit Lyonnais Archives, DEEF 73405.

<sup>8</sup> Some of Mulhall’s estimations on wealth and debt in the country were published in the Buenos Aires Standard, 26<sup>th</sup> February 1890.

<sup>9</sup> For instance, the Buenos Aires Standard on 22<sup>nd</sup> October 1887, or the Statist, 6<sup>th</sup> October 1888.

<sup>10</sup> On a detailed explanation of this index see Flandreau and Zumer (2003).

seems to us, may come from a microeconomic perspective, a fact that historians have long recognized. Understanding 19<sup>th</sup> century finance and capital flows requires precisely this kind of analysis, as suggested for instance by Marichal (1984):

*“We should note, however, that virtually all discussions that have been undertaken by economists [working on capital flows and exports to Argentina] are situated in a general – macro- context, without careful analysis on the details or characteristics of individual transactions –on a micro level- nor the specific strategies of the group of banks that directed the financial operations”*<sup>11</sup>

## TOWARD A MICROECONOMIC APPROACH: 19<sup>TH</sup> CENTURY CAPITAL MARKETS FOR SOVEREIGN PUBLIC OFFERINGS

This paper tries to fill the vacuum in the literature on the Baring crisis taking into account the industrial organization of international capital markets. In this section we will begin to answer the open questions named above by describing a specific channel that we consider vital in explaining the crisis. This channel is the sovereign debt issue mechanism<sup>12</sup>. The sources consulted for this section are both primary and secondary. We used classic works mainly concerned with London and Paris bond issues, although we include some German works. We also consulted the archives from banks in London and Paris. Our main sources were debt contracts, which we describe below, although we complemented the providing information and data with the surrounding correspondence.

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<sup>11</sup> Marichal, “Los Banqueros Europeos y los empréstitos Argentinos: Rivalidad y Colaboración, 1880-1890”, p.75.

<sup>12</sup> Today also called “Sovereign Initial Public Offerings (IPOs)”.

To begin with the secondary literature, we have on the one hand the classic works of Jenks (1927), Finnie (1934), Cairncross (1953) or more recently, Suzuki (1994). Nonetheless, these works ignore an important amount of literature describing debt issues in other countries, such as France or Germany, which developed parallel bond issue mechanisms not practiced in London<sup>13</sup>. In 19<sup>th</sup> century, European financial markets were very much integrated in many aspects, particularly in sovereign debt bond issues. We would not have the complete picture if we were only to analyze one market, for competition and solidarity interacted between and within these markets. We will focus on the main differences between financial places and on the role of the debt contracts in the whole mechanism.

Bond issues in the financial markets of late 19<sup>th</sup> century can be regarded as a four-stage process, although precise stages varied according to the countries, intermediaries involved, and markets. These stages are: 1) the search for an intermediary; 2) choice of issue system; 3) the planning of the issue; and 4) Market placement. The decision on how the bonds were to be issued was taken in the first two stages, and the terms were formalized in a document called the debt contract, signed between the financial intermediary and the Government.

We will now explain each stage in more detail.

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<sup>13</sup> It has been a general practice that these authors use almost the same primary sources. A first and basic reference is an article in *The Banker's Magazine* of July 1876, which describes the evolution of bonds' issues mechanism between the years 1860-1870 (although other press articles are sometimes cited, particularly in Suzuki's work). A second reference are the writings of O'Hagan, an active stock broker in foreign loans and an important supporter of banks' syndicalisation in order to diminish the risks from bonds' issues. A third and very recurrent reference is the work of Drummond-Wolf, H. *Rambling Collections*, vol. II. Finally, Jenks primarily uses the "Reports from the Select Committee on Loans to foreign states". While there exists a relative historical consensus in the description of the debt issue mechanism, economic formal analysis still remains at the very beginning. In this work we try to formalize some basic ideas to consider for future research.

1) The search for an intermediary. External borrowing through international financial markets required Governments to look for an intermediary<sup>14</sup>. In some cases, parliaments voted laws allowing the Government to look for funds for particular projects. An agent was named to negotiate in Europe a loan with financial intermediaries (mainly merchant banks). Banks could also take the initiative and propose their services to potential borrowers: for instance financial institutions, having to do with foreign business operated through agents of their own or commercial houses established in the country itself, which had developed closed relationships with local officials<sup>15</sup>.

A better understanding of this phase would imply a word about the structure of European Financial Markets. In London, the market for bond issues was dominated by a few merchant banks established several decades before the 1880s. Jenks observed that, from 1866, the most prominent banking houses in London were of foreign origin, like Frühling&Goschen or J.S. Morgan; others had branches in London, like the American house Morton & Rose; finally, some of them also operated in some of the main cities on the Continent, this being the case for houses like Rothschild and Stern and other less reputed like Bischoffsheim or Erlangers.

In Paris, foreign Government bond issues were mainly a business of the *banques d'affaires* (the French equivalent of the British merchant banks), although certain important *banques de depots* (commercial banks) could also participate in some stages of the bond issue. For

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<sup>14</sup> Nowadays called "Lead Managers"

<sup>15</sup> In a rather surprising manner, this second case has been overlooked in the secondary literature, although it was a general rule for some Latin American countries in the 1880s, and particularly for Argentina, at a time when bank competition to get issues was at peak.

the period 1860-1890, French banking experienced an important expansionary phase (including business with Latin America, see Regalsky (2002)). Bouvier writes that Crédit Lyonnais increased ten times its nominal capital between 1863 and 1881 (from 20 to 200 millions francs)<sup>16</sup> and expanded its activities towards foreign business. In particular, Crédit Lyonnais followed the path classified as “*extraordinary operations*”<sup>17</sup> which remained mainly within the hands of some big merchant banks or credit institutions, represented for instance by Société Générale or Paribas.

2) The Choice of issue system. Each bank could differentiate its services offering specific bonds’ issue systems, so that choosing a bank and setting a mechanism were jointly decided. The first step to be taken was about the most appropriate issue system, for which several possibilities existed. The simplest way was to use the system which the French called “*vente a commission*”(sale on commission). Banks acted merely as distributors, receiving subscriptions from investors for the purchase of bonds, and more generally doing every necessary administrative step for the floating of the loan. For each service, banks received a commission as a percentage of each bond handled<sup>18</sup>. If a bond issue failed, banks held no responsibility. The Governments of rich countries of Western Europe often charged the domestic banks with this possibility. However, Governments could have preference for cash, and receiving it with full certainty involved the formation of bank syndicates<sup>19</sup>. These

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<sup>16</sup> Bouvier, *Histoire Economique et Histoire Sociale. Recherches sur le capitalisme contemporain*.

<sup>17</sup> This term was used by Henri Germain, president of the Administration Board of Crédit Lyonnais. According to Germain, operations involving foreign Governments and French investments in foreign loans were the principal activities of this column. An “*operation extraordinaire*” was the one which was highly profitable but also highly risky. This required a bank to realize serious and systematic studies on business and on competition from other banks. See Bouvier, op. cit.

<sup>18</sup> These commissions could involve several kinds: placement, guichet, brokerage, etc..

<sup>19</sup> Tchernoff defines a financial syndicate as a “means to concentrate capitals, particularly floating capitals, to canalize them to an economic, industrial or financial object”. Tchernoff, *Les syndicats financiers: syndicats d’émission et de placement, syndicats de blocage, syndicats de résistance, syndicats de bourse, investment trust et holding : suivi de formules d’application*.

syndicates bought part or the whole amount of bonds and placed them themselves later on (Lotz, pp.5). This system was specially used in France and Germany, although it became common practice in other European countries.

In Paris, syndicates were classified into two groups. A “firm offer” syndicate could subscribe a certain amount of bonds, or buy directly from the Government, taking itself a part or the complete risk of a bond issue’s failure. A “guarantee syndicate” was represented by a manager who, in return for a commission, “committed to find underwriters, otherwise he would take firm the remaining of the issue”<sup>20</sup>. This guarantee system was analogous to the “underwriting system” in London. In order to assure the success of the bond issue and diminish the risk of the business, the issuers dealt with persons or institutions to engage in taking a certain amount of the bonds in the case the public would not have taken the whole issue.

By the 1880s, the formation of syndicates in London was a practice developed several decades before (Finnie, 1934). It had an essential function, which was to provide a service of risk insurance against market uncertainty. As Suzuki wrote, “the primary role of a syndicate was to ensure a firm placement of the loan on the market”<sup>21</sup>. Risk-sharing between the members of syndicates should make the business more attractive: the risk from high-amount loans decreased, as well as the risk of issue (due to the borrower). On the

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<sup>20</sup> Tchernoff, *Les syndicats financiers*, p. 34.

<sup>21</sup> Suzuki, *op.cit.* pp.26.

other hand, syndicates were also a mean to guarantee the Governments the placement of a part or the whole issue<sup>22</sup>.

3) *Planning of the issue*. This stage depended completely on the issue system chosen. In the case of syndicates, several points had to be specified from the very beginning: the quantity of bonds to be guaranteed, the nominal rate and issue price, and every loan feature so that banks could decide to adhere to the syndicate or not. Banks had also to agree on other aspects: the starting date of the syndicate, its duration, expenses and expected benefits. Benefits depended on different commissions mentioned above, and in the case of the guarantee syndicates, also on the manager's remuneration. This kind of syndicate also demanded a commission for each bond guaranteed, as well as a placement commission for the unsold bonds to be distributed between the members of the syndicate and a counter commission. Managers of these syndicates reserved also a part of net benefits for the payment of their commission. On the other hand, underwriting syndicates obtained as an important benefit the difference between the price of issue and the price at which the Government sold the bonds (purchase price). Issue expenses could be taken in charge by either the Government or the syndicate, depending on the contract signed. Syndicate participants could be responsible for both the total results of the syndicate operations and the part assigned to them<sup>23</sup>.

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<sup>22</sup> Syndicate participants and underwriters did not need to be the same, although syndicates may be formed to underwrite a loan.

<sup>23</sup> Tchernoff writes that this depended on the syndicate system chosen. In theory, two different systems existed. The first was called "*Lyonnais*" (from Lyon, where this system was common). On the non-placed remainder of a bond issue, each participant was to receive a proportional part according to its number of placed bonds (in other words, each bank was only responsible for the difference between its syndical part and the number of bonds that it was able to place). The second system was called "*de la repartition a la parisienne*". If all or a part of a bond issue taken firm was not placed, they were to be distributed proportionally between the participants. In practice, however, a considerable number of hybrid systems existed. A syndicate manager could, for instance, modify to his preference placement commissions, cession to other intermediaries or bond placement prices. Tchernoff, pp.75

In the underwriting system, issuers contacted investors or institutions ready to commit to subscribe the issue in the case the public did not take the entire or part of the issue.

Underwriters were usually business partners of the issuers, or had relationships with one of their brokers (those charged to place the bonds; brokers could also play the role of an underwriter): merchants, manufacturers, or other financial institutions. Merchant bankers active in bond issue matters generally engaged a part of their assets in underwriting operations in both own issued bonds and other bonds considered attractive to them.

4) *Market placement*: In Paris there existed three ways to place a bond issue. The first was through public offering, which consisted of an announcement that public subscriptions to an issue were to take place in certain banks or financial institutions which were designed in the prospectus or other publicity modalities<sup>24</sup>. Second, through introduction to the stock market. This implied that issuers needed to decide the introduction price. Tchernoff explains that the limits of variation were quite narrow. For instance, if similar bonds were quoted already in the market, the new issue could not exceed the price. Furthermore, bond issues depended strongly on temporary movements. Some authors sustain that issuers made use of “fictitious” operations to inflate bond prices. This practice was supposed to be widely used in London, where introduction in the stock market was the most common manner to place bonds. Members of syndicates, underwriters and brokers purchased bonds even before the publication of the prospectus. Jenks wrote that “Ability to make the market rather than financial prestige was the crucial qualification for a successful dealer in

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<sup>24</sup> This practice was also used in London and other European financial markets.

Government loans” (pp.278). Curiously, following Cairncross one of the most remarkable exceptions of financial intermediaries not following this practice was precisely Baring<sup>25</sup>. Third, through the banks. Issuers could make use of bank branches against a commission (called “placement” or “counter” commission). If these banks were themselves issuers, it was on their own interest to directly recommend the bonds to clients in their establishments. A main characteristic of this system is that no other publicity took place with the exception of the direct recommendations<sup>26</sup>.

The whole process described above is shown in Figure 1. The schema shows the four stages involved until the bonds arrived to final investors. In the simplest model, the financial intermediary is the only agent between the Government and final investor. However, other kind of more complicated structures could emerge, as we will later see. For instance, intermediaries could constitute syndicates at any stage depending on the issue, market situation or place of issue. They could also engage other underwriters or make any kind of agreement in order to assure the best results for their issues.

As already mentioned, debt contracts are important because they summarize the information of the process described above. They were signed by the interested parts (Governments and issue banks) from the very beginning, and they determine all the conditions of the bond issues. Quantitative data can be extracted from that document,

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<sup>25</sup> Cairncross, p.(93). However, a turning point conducing to Barings’ failure was the underwriting of the Drainage and Waterworks of Buenos Aires, as markets rejected the Public offering. See Ferns (1963)

<sup>26</sup> This fact would explain why today researchers are not able to find prospectus on certain loans of the period. For instance, the non-existence of the documents seems to be an impediment to the widening to the Mosley’s (2002) contracts database.

including indebtedness costs, risk-sharing, participants' names and numbers, etc. We will now turn to the theoretical section of our analysis.

## THE MODEL

In this section we develop a simple model of underwriting. We assume two kinds of agents, borrowers (Governments) and lenders (banks), which have conflicting interests. The model predicts that under competition between financial intermediaries the cost of underwriting decreases.

We assume that a Government follows an optimal consumption path, and indebtedness plays a relevant tool for consumption smoothing. At any time, the parliament votes a fixed amount to be borrowed,  $L$ , including interest and issue costs. Bond issues are normalized to 1, so that:

$$L = (1 + i) \tag{1}$$

where  $i$  is the yearly interest rate to be paid by the government.

The outcome of each bond issue is a priori unknown. We define  $\alpha$  as a random variable normally distributed measuring any market's liquidity shock, indexed in a closed interval (figure 2). This variable is exogenous and is known by both agents.:

$$\alpha \sim U[-\underline{\alpha}; \underline{\alpha}], \underline{\alpha} \leq 1$$

Consider now the case of the banks. A bank willing to undertake an Initial Public Offering (IPO) through the underwriting system faces a liquidity risk if it does not succeed in placing the bonds. We define  $\varphi$  as the liquidity cost for keeping an unsold bond ( $0 < \varphi < 1$ ).

This would imply, for instance, that from an underwriting bank's point of view the yield of an issue, at each period, is:

$$1 + i - \phi$$

Measuring the total cost for a bank underwriting an issue implies taking into account two possible outcomes:

- 1) Outcome 1: The market absorbs the whole amount of the issue at the expected price (or higher). In this case the bank assumes no costs (Costs equal to zero)
- 2) Outcome 2: The market faces a negative liquidity shock and it does not absorb the whole amount or the price is lower than expected.

Total costs can thus be written as the sum of all possible results multiplied by their respective probabilities. In other words:

**Total underwriting cost = Probability of State 1 multiplied by zero + Probability of State 2 multiplied by the cost of non placement.**

Following the distribution of  $\alpha$ , we can measure total costs (anticipated loss) for the underwriting Bank:

$$C = \frac{1}{2\alpha} \int_{-\alpha}^0 -\alpha \phi d\alpha \quad (2)$$

and solving for  $\alpha$ , this would result in

$$C = \frac{1}{4} \phi \alpha \quad (3)$$

Let us now translate this costs to the underwriting fee,  $f$ . From the precedent section it should be clear that Governments expect to "leave the least on the table". We define  $p$  as the purchase price that banks pay to the Governments for the bonds, and it defines the proportion of the loan that is received by the Government. In other terms:

$$p = 1 - f; p \leq 1 \quad (4)$$

In order to compare  $f$  in two cases, monopoly and competition, we will assume from standard microeconomic theory that, in a pure competitive case, profits equal to zero, meaning that:

$$f_{comp} = \frac{1}{4} \phi \alpha \quad (5)$$

A bank's market power implies the existence of a potential positive profit from underwriting an IPO. A monopolist maximizes its profits by charging an underwriting fee that would make a Government indifferent whether contracting underwriting or facing the risk itself (sale on commission system). Using a CRRA utility function for the government, defined as:

$$U(C) = \frac{C^{1-\gamma}}{1-\gamma} \quad (6)$$

We proceed to the equalization of its expected utility with the commission system with its utility with underwriting:

$$E(U) = U(1 - f) \quad (7)$$

The left-hand term can be calculated as:

$$E(U) = \frac{1}{2\alpha} \int_0^{\alpha} \frac{1^{1-\gamma}}{1-\gamma} d\alpha + \frac{1}{2\alpha} \int_{-\alpha}^0 \frac{(1+\alpha)^{1-\gamma}}{1-\gamma} d\alpha \quad (8)$$

Equation (8) divides the result of an IPO depending on the sign of the liquidity shock  $\alpha$ . A positive shock will have no additional effect on the Government expected income (the market absorbs the whole issue at a fixed price) but a negative shock will affect expected income by  $\alpha$ . By solving the integrals of (8) we get:

$$E(U) = \frac{1}{2(1-\gamma)} \left( 1 + \frac{1-(1-\alpha)^{2-\gamma}}{\alpha(2-\gamma)} \right) \quad (9)$$

This means that from equation (7) we can calculate  $f$ , and obtain:

$$f_{mon} = 1 - \left( \frac{1}{2} + \frac{1-(1-\alpha)^{2-\gamma}}{2\alpha(2-\gamma)} \right)^{1/(1-\gamma)} \quad (10)$$

In order to compare this value with the value of  $f$  under competition, it can be shown that

$$f_{mon} \geq f_{comp} \quad (11)$$

This is shown in Appendix 1.

Let us now turn to the decision on the proportion of the loan that is to be underwritten. The link between liquidity shocks and underwriting amounts is represented in figure 3. We will define  $\mu$  as the proportion of the loan that a bank underwrites. For positive liquidity shocks (represented by the value of  $\alpha$  on the X-axis) underwriting is not necessary and banks face no costs. Negative values of  $\alpha$  require that the banks buy a certain amount of the bonds. If the negative liquidity shock is higher than the fixed underwriting proportion agreed in the contract, the Government will be obliged to face the loss itself.

As shown in equation (2), the anticipated loss for the banks taking into account  $\mu$  will be:

$$C = \frac{1}{2\alpha} * 0 + \frac{1}{2\alpha} \left( \int_{-\mu}^0 -\alpha \varphi d\alpha + \int_{-\alpha}^{-\mu} -\mu \varphi d\alpha \right) \quad (12)$$

Solving the equation, we get:

$$C = \frac{3\varphi\mu^2}{4\alpha} - \frac{\mu\varphi}{2} \quad (13)$$

In a typical case of pure competition, defining:

$$f\mu = C \quad (14):$$

replacing the respective values, would result in:

$$f_{comp} = \frac{3\phi\mu}{4\alpha} - \frac{\phi}{2} \quad (15)$$

In order to measure the guaranteed proportion of an issue offered by a monopoly, as for the case of  $f$ , we compare the expected utility of the government when there is no underwriting with the case where we have underwriting. The expected utility function of the government can be rewritten as:

$$E(U) = \frac{(\mu - \mu f)^{1-\gamma}}{1-\gamma} \quad (16)$$

Replicating equation (7), we use the value of the expected utility in (16) and compare it with the expected utility when there is no underwriting, which allows us to get:

$$f_{mon} = 1 - \frac{\left(\frac{1}{2} + \frac{1 - (1 - \alpha)^{2-\gamma}}{2\alpha(2-\gamma)}\right)^{\frac{1}{1-\gamma}}}{\mu} \quad (17)$$

It can also be shown that for any value of  $\mu$ ,  $f_{comp}$  will always be lower than  $f_{mon}$ <sup>27</sup>. In fact, when the government is less risk averse (the value of  $\gamma$  approaches to zero)  $f_{mon}$  approaches  $f_{comp}$ .

We have calibrated our model with different parameters. Figures 4 to 7 show the results. Figure 4 represents the relationships (iso-utility curves) between the purchase price ( $p_a$ ) and  $\mu$  from a Government's perspective. Both, higher purchase prices and higher  $\mu$  are preferred, as they correspond to higher utility levels. The same relationship is shown in Figure 5 from a bank's perspective in the monopolist case. As we explained above, these are the highest fees (lowest purchase prices) that a bank can charge given the Government's preferences. The model predicts the intuitive result of conflicting interests between banks

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<sup>27</sup> This follows directly from demonstration in Appendix 1.

and Government. Figure 6 compares purchase prices and  $\mu$  for both, competition and monopoly. It demonstrates that competition favors Government's terms for underwriting. Figure 7 resumes the model in one single graphic, simulating a kind of Edgeworth box in order to emphasize this last result. The Government has its graphic origin in the southwest corner. Banks, have their graphic origin in the northeast corner. Goods 1 and 2 are  $\mu$  (underwriting proportion) and  $p_a$  (purchase price). Thus, from a Government's point of view, on the abscise axis we have  $\mu$ . For instance, if the whole amount of a loan is taken firm by the banks, we will situate the point on the right extreme of the X axis. Risk is completely taken by the banks. On the other hand, on the origin (left extreme) the risk is taken by the government: this may be the case, for instance, for the sale on commission system.

Good 2, represented on the ordinate axis, is the purchase price which corresponds to the net proportion of the nominal value of the loan received by the government<sup>28</sup>. From the banks' point of view, goods 1 and 2 are exactly the same, only going on the opposite direction. Their X-axis is the proportion of the loan not underwritten. In other words, the less they will take firm, the better their situation. Finally, good 2 is interpreted as the price to pay for the bonds. The banks, acting as "purchasers", will be interested in pay less for the bonds. Therefore, they will press on the opposite direction than the government.

## ARGENTINEAN CONTRACTS BEFORE THE BARING CRISIS

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<sup>28</sup> Empirically, in order to account for market movements, the pertinent variable to be represented as good 2 is the net purchase price as the percentage of the UK consols price, the benchmark or risk-less asset. We will modify this price in order to make in comparable to Latin American bonds' prices. We have adjusted the price assuming it presents the same coupon as the other bonds. For instance, if we were to compare it with a 5% Argentinean bond, we transform the UK price, supposing that it also offers a 5% coupon.

Our sources are almost every Argentinean, Brazilian and Chilean debt contracts for the period 1880-1890. Many of them can be found in the archives of the banks. For Argentina, an important amount of contracts for the period 1880 - 1913 are available in the Baring and Paribas archives. Other sources include Agote (different volumes) and Peña (1906), which contain information on contract and public finances of Argentina. With regards to Brazil, the Rothschild archives contain all the contracts of the period, although a good amount of information in those contracts can be found in other sources like the Brazilian Yearbook (different volumes) and in the Ministry of Finances reports <sup>29</sup>. Concerning Chile, the Rothschild archives contain some contracts, and we could find additional information in the Credit Lyonnais archives.

In this section we will concentrate on Argentina's contracts. The history of Argentina's external debt was, as for most Latin American countries, very eventful throughout the 19<sup>th</sup> century. For the purposes of our study, we will analyze the decade prior to the crisis, dividing it in three sub-periods (as done, for instance, by Peters (1934)). In the first sub-period, from 1880 to 1884, Argentina signed four contracts with European bankers. One important characteristic during these years was the dominance of French banks in the Argentinean national business, replacing British banks' dominating position and limiting it to bond placing activities. French banks affronted successfully British competition by constituting underwriting syndicates (later imitated by German banks), whereas British

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<sup>29</sup> These reports are available online. I thank Andre Villela for this and other useful information. The web address is: <http://brazil.crl.edu/bsd/bsd/hartness/fazend.html>.

banks acted alone and realized merely financial intermediation activities (with no risk-taking)<sup>30</sup>.

The second sub-period concentrates on the year 1885, a brief crisis period in Argentina (leaving a temporary gold standard regime). During this year, a contract was signed between Argentina's Government and European banks involved in Argentinean business, canceling two previous loans which had completely failed and converting the debt into a major long term loan and conceding a new short-term advance to alleviate a critical fiscal situation.

The third sub-period (1886-1889) begins with the issues of the long term loan (made in two parts, in January 1886 and 1887). It experiences an important "boom" in Argentinean national (five loans including three conversions), provincial and municipal bonds, and the entry of a new competitor: German banks.

First Sub-Period, the breakdown of British monopoly

Table 1 shows the loans that took place during these years. The first two loans were contracted with the Paribas syndicate<sup>31</sup>. It dominated the market for the issues of Argentina's National Government bonds during the first half of the 1880s. Regarding the first loan (called the "Railway Loan"), fierce competition between intermediaries marked its previous negotiation. For the first time since the independence of the country, Argentina's national Government received several offers from British and French banks even before promulgation of the law by the Argentinean parliament allowing the external

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<sup>30</sup> For a detailed description on French banks entering Argentinean business see Regalsky (1984).

<sup>31</sup> Members of that syndicate were: Paribas, Cahen d'Anvers and Comptoir d'Escompte.

loan<sup>32</sup>. An interesting feature of the loan is that the Government showed a strong preference for “firm offers”, thereby letting a good amount on the table, as the issue price was 91, when the purchase price for the bonds that the Government received was only<sup>33</sup> 82.

The second loan contracted by Paribas was the “Treasury loan” of a much smaller amount. It was also negotiated with a firm basis but the public offering resulted in an unexpected reduced underwriting fee for the Banks. Unfavorable conditions in European markets (Regalsky) and the high frequency of new bond issues (Jones) seem to be the principal factors lying behind these deceiving results.

Matters were more complicated later on. For the third loan (“National Bank Loan”), the same syndicate refused to take the whole loan on a firm basis at the first stage and, instead, opted to make a short-term advance to the Government and to have the possibility to buy firm in a one year period the totality of the loan or the nominal capital equivalent to the sum to be paid by the Argentinean Government.

For each of the Public Offerings, Baring acted as the sole issuer in London. That is, the French syndicate negotiated with Argentina’s Government the loans, and then agreed with Baring (and signed another contract) the conditions under which Baring would place the bonds in the London market.<sup>34</sup>

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<sup>32</sup> According to Regalsky, there existed four candidates ready to negotiate the loan issue: two English banks and two French syndicates (represented by Paribas and Société Générale, respectively). On the other hand, Jones writes that two other banks were also interested in the affaire: the Spanish bank Vega, Ibañez & Co. and Erlanger & Co. from London.

<sup>33</sup> The resulting underwriting fee, which was extraordinarily high, was unknown at the moment of the contract. Following Jones (1972), Argentina’s Government expected a negative shock which could cause prejudice to the credit of the country.

<sup>34</sup> A 1% placement commission on the nominal amount of the loan was stipulated for Baring, and the syndicate was in charge of all expenses for the issue. At the same time, commissions paid by the Argentinean government were to be shared between Baring and the Syndicate: 1% on coupon payments and ½% on redemption.

This sub-period ended with two loans negotiated almost at the same time with two different syndicates and which failed to be placed in the markets. The “Public Works” loan was signed with a new Anglo-French syndicate. The main cause behind the switch of bankers was the refusal of the Paribas syndicate to issue any new loan before the market had absorbed the whole amount of bonds from former issues that remained still in their hands. The new loan was also negotiated on a firm basis (although only one third of the issue). However, when the issue was on the eve of taking place on September 1884, rumors concerning convertibility suspension in Argentina were rife, and the syndicate was left with most bonds in their hands.<sup>35</sup>

Finally, the Paribas syndicate accepted to negotiate a new loan (called “Salubridad y Riachuelo”) on similar terms than the previous Public Works loan, although market conditions had meanwhile made the placement of the bonds impossible.

Figure 8 resumes the conditions of issue for the loans of this sub-period. It compares both, purchase and issue prices with secondary market prices for similar bonds (5% and 6%). Interestingly, the first two loans were considerably underpriced, for both, purchase and issue prices, but this feature disappears for the next loans, suggesting a market making strategy in the earlier years<sup>36</sup>. Again, the fact that underpricing disappears in the next years may be due to competition between banks’ syndicates, implicitly assuming more risk offering higher purchase prices and leaving less scope to define an attractive issue price.

Second Sub-Period, the Pellegrini agreement

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<sup>35</sup> H.E. Peters, *op. cit.*, pp. 39.

<sup>36</sup> On underpricing, see Ljungqvist (2004).

At this stage, the Argentinean Government found itself needing fresh funds to meet their short-term obligations. Particularly after the 1884 failures, a Government agent, Dr. Carlos Pellegrini, was sent to Europe to unblock the situation. The problem that he had to face was well summarized in a report to Argentina's Government:

*“Once he arrived, he found himself in an embarrassing situation; the French syndicate who took firm \$4,000,000 of the 12,000,000 Riachuelo loan, could not place the bonds on the market. Morgan, who took \$10,000,000 firm of the Public Works loan (\$30,000,000) could not place but £300,000. Between these syndicates rivalry impeded any action. In these circumstances, the agent began negotiations to unify both syndicates and incorporate the Baring banking house”<sup>37</sup>*

A first agreement between the Government and a “unified syndicate” of all banks participating in the 1884 loans was signed on the 6th and 7<sup>th</sup> of July, 1885<sup>38</sup>. The “*Salubridad y Riachuelo*” loan, taken by the Paribas syndicate, was completely cancelled (£2.4 million), whereas the “*Public works*” loan, taken by the Syndicate represented by Société Générale was cancelled (£4 million nominal worth bonds out of £6 million) only partially. On the other hand, the Government agreed to repurchase part of the loans taken firm by the banks. The arrangement “consolidated” both loans in one big issue amounting £8.4 million, which became the most important loan ever accorded to a Latin-American country.

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<sup>37</sup> Own translation from Spanish. Report of the Argentinean parliament, published in La Prensa, 21 October 1885.

<sup>38</sup> The banks participating in the agreement were: Paribas, Comptoir d'Escompte, Cahen d'Anvers, Société Générale, Crédit Industriel, Baring and the North American house of Morgan.

Obviously, no firm offer was made, and the bonds were to be placed in the market by the sale on commission system<sup>39</sup>. The contract presented two special features. First, the famous guarantee that Argentina's Government was obliged to cede to the bankers: the customs revenues<sup>40</sup>. The National Bank of Argentina, responsible for the collection of the Government's revenues, was charged for opening a special account to deposit the necessary funds to meet debt service. Second, Argentina's Government committed not to "*authorize or sanction, as long as this Government is in charge, the issue of any loan, without a formal previous agreement from the other contracting party*".<sup>41</sup> The contract referred particularly to a loan already voted by the parliament to raise the capital for the Bank of the Province of Buenos Ayres, the most important bank of the country.

However, matters did not happen as foreseen. The Argentinean parliament, to whose approval the agreement was conditioned, refused it on the 11<sup>th</sup> of August, giving as a main reason the inclusion of the guarantee clause, which was considered as "*depressive to the dignity of the country*".<sup>42</sup> We can only speculate about the real reasons of this refusal, and time gaining may be a plausible one. Within the next months, a new law was voted to take an external loan of £4 million. The "Bank of the Province of Buenos Ayres" loan was taken in charge by the provincial Government, and finally, on the 21<sup>st</sup> of October, 1885, the parliament voted a new agreement with the banks. Except a few insignificant modifications, the resulting new contract (called "the 1885 Agreement") was practically the same.

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<sup>39</sup> The Government paid 2.5% on the nominal amount of the bonds sold. Charges of the issue, brokerage, stamp, publicity and legal fees were all paid by the Government as well.

<sup>40</sup> Government revenues from the customs duties constituted in 1884 about 62%. Banks seem to have been aware of this fact. See Ferns, H.S. Britain and Argentina in the nineteenth century. Oxford : Clarendon Press, 1960 for a detailed discussion on the effects of the agreement. Also : Flores, Juan. The Pellegrini Agreement : A Historical Case of Moral Hazard ? Unpublished Manuscript, 2002.

<sup>41</sup> Own translation from French. Contract of July 1885, Paribas archives.

<sup>42</sup> La Prensa, op.cit.

Third Sub-period: 1886-1889, the loan boom

Despite the prohibitive clause not allowing the Argentinean Government to take new loans, in 1886 it continued to seek external funds. In October a contract was signed with Murrieta, for the extension of the “*North Station Railway*”. This bank had not participated in the 1885 agreement. In fact, no bank participating in that syndicate was allowed to contract new loans. However, the favorable results of the 1886 issue (the first part of the £8,4 millions loan) eased the market for new bonds. For instance, Baring could finally place a bond issue for the province of Buenos Ayres contracted several years before. But the turning point was the new competitors stalking the Argentinean market: the German banks.

On 25<sup>th</sup> of January, 1887, a French-German syndicate<sup>43</sup> signed a contract to advance the Argentinean National Bank the equivalent of £1,5 millions. As a guarantee, the syndicate would receive bonds equivalent to £2 million in internal debt (which were to be converted to external debt by a law to be passed by the Argentinean parliament). Some months later, an additional syndicate represented by Deutsche Bank<sup>44</sup> also signed a contract on a firm basis with Argentina’s Government on the 14<sup>th</sup> of July, 1887, and aimed to convert the 5% loans contracted at the beginning of the decade. Once again, lacking an English partner in the syndicate, Baring acted as the issuer in London, obtaining a favorable outcome.

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<sup>43</sup> The syndicate was formed by Disconto Gesellschaft, Norddeutsche Bank, Oppenheim and Banque d’Anvers

<sup>44</sup> The other participants were: Mendelsohn, Bank für Handel, Bethmann, Deutsche Vereinsbank, Disconto Gesellschaft, Norddeutsche Bank, Bleichschroder, Oppenheim, Cahen d’Anvers, Heine, Société Générale pour favoriser le développement du commerce et de l’Industrie en France, Société Générale du Crédit Industriel et Commerciale.

At the end of the decade, Argentina's National Government contracted two additional loans. A first contract was signed with a syndicate formed by German, French, and English banks. The second loan was contracted with the banking house of Stern. According to the first contract, the objective of the loan was the conversion of 6% bonds issued in the 1870s and the beginning of the 1880s. The syndicate, composed of eight banks, took firm the total amount of the loan. Finally, the second contract was taken by the sale on commission system. The loan to be converted was the much problematic "*Hard Dollar Loan*"<sup>45</sup>, to a 3 ½% coupon and 1% redemption.

From a total of eleven contracts<sup>46</sup>, eight were taken firm (totally or partially) either at the moment of the signature of the contract (6) or as an option (2). For the two contracts for which the loans were taken firm as *a posteriori* option, a short-term advance was included in the contract (both National Bank loans). The lowest net purchase price was the 1884 Public Works loan, and the highest was the Treasury 1882. Short-term advances implied interest rates of 7% (interest rate + commission), except the National Bank 1886 loan, which rate was 8% . Sale commissions for the loans not taken firm amounted to 2.5% on nominal capital, not taking into account the Hard Dollars conversion Loan, whose commission amounted only 1.25%. Complete contract features are resumed in Table 1.

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<sup>45</sup> This was an originally internal loan issued in 1876 with a nominal amount of 6 million gold pesos, bearing 9% annual interests and 4% redemption. Although at the time of the issue the price remained low (75), by 1881 the quotation was 122. The Government refused to redeem the bonds by purchase in the market and "*insisted upon its right to call at par, which was disputed by British holders*". For a detailed discussion on Argentina's conflicts with foreign bondholders see Peters (1934).

<sup>46</sup> There exists an additional contract, signed with Murrieta for a nominal amount of £0,6 millions, with a 5% coupon issued in June 1887. We have not found enough information to include this loan in our analysis.

In order to conclude this section, we can say that conditions concerning Argentina's external loans for 1880-1889 were quite volatiles. It seems that they were very favorable at the beginning of the decade, considerably deteriorating between 1884 and 1886, and improving the last years. In the next section we aim to show if these movements were coherent with economic fundamentals or which other factors determined Argentina's contract terms.

#### CONTRASTING THE MODEL WITH THE EMPIRICAL EVIDENCE

Having our theoretical model in mind, we can turn back to empirical evidence. Following the information presented in the last section, we can construct our negotiating diagram (from figure 7) for Argentina and its banks. It is shown in Figure 9<sup>47</sup> and Figure 10, constructed with the data from Table 1. Figure 9 shows the general path of Argentina's loans for the years 1880-1889, and Figure 10 focus on the five years previous to the crisis<sup>48</sup>. It shows that from the 1885 Agreement, there has been a considerable improvement in the terms of the later contracts from Argentina's Government perspective. For the 1886 National Bank Loan, banks underwrote half of the loan, with a better purchase price than the "minimum price" of the 1885 Agreement (in other words, fees were lower). By the end of the period, underwriting was complete for all the loans with higher purchase prices, resulting in maximum utility levels for the Government.

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<sup>47</sup> We left aside two loans, because they lacked of a minimum price.

<sup>48</sup> Loans for which we had enough quantitative information and which could be modeled were included in the figure.

What lies behind the results of this figures? There may be two answers. A first possibility are economic fundamentals. The Argentinean economic position was supposed to be closely followed by capital markets. Therefore, we expect that by having solid fundamentals, a Government would be able to access better terms on its loans, as the risk of default decreases. The stronger the fundamentals, the better these terms. As mentioned above, bankers expected diminished risks and higher profits of bond issues of “well-behaved” countries, having incentives to improve their offers concerning Government’s loans.

A second possibility is market failure. Regardless of fundamentals, banks may become more eager to get the loans as competition becomes decisive. They will behave as we expect from the model presented above, lowering the fees (offering higher purchase prices) and/or underwriting higher portions of the loans. This means that banks are obliged to make better offers concerning prices, but also to take greater risks. We will come back to this point in the next section. In order to identify the effects of both fundamentals and competition, we will take a closer look at their behavior during the decade.

We will begin with the Argentinean economic fundamentals. Table 2 shows some of the main variables than influence risk perception on a given country<sup>49</sup>. Most studies about late 19<sup>th</sup> century Argentina point out the generalized vision of a vigorous young country which attracted both labor and capital. The 1880s was particularly an expansionary period, where real GDP per capita estimates amount for an impressive 8% average growth (Cerro, 2000,

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<sup>49</sup> Some of them are taken following those suggested in the literature on 19th century finance. See Flandreau (2003).

Cortés Conde, 1979, Della Paolera, 1988). The other side of the coin, however, is the general fragility of the economy, which was to be abruptly corrected after the Baring crisis. Increasing twin deficits, only interrupted during the two years of the 1885 crisis, marked Argentina's external position. Gold standard was abandoned since 1885, and an increasing depreciation of the peso followed thereafter. Reserves in banks of issue were also decreasing in those years, but monetary issues were still booming.

Public finances not only on the national, but also on provincial and municipal Governments were deteriorating. In fact, a careful analysis of the fiscal position in the National Government such as presented by Della Paolera (2001), Regalsky (1987) or Duncan (1983) give a good idea of the troubles faced in Argentina to meet debt service. A pioneer analysis by Terry (1893), which was to become Finance minister during the 1890s, also shows that the deteriorating public finances began already in 1885.

A careful analysis of the Finance Ministry Reports would show some worrying signals, as noticed by the press and by different economic reports on Argentina. First, as already mentioned, public deficits were booming, financed through monetary issues since 1887 and external debt. Second, debt service as part of the public revenues was also increasing, in partly due to the increasing depreciation of the paper peso. Third, debt denominated in foreign currency (gold) was also higher, including the loans of 1887 and 1889, which converted some paper denominated loans into gold loans. Finally, since 1887, debt service

was met by extraordinary revenues, including sales of public assets and gold that entered into the Government arches by the Free Banking law<sup>50</sup>.

### COMPETITION AND THE BARING CRISIS

We have several reasons to believe that competition was a key factor behind the Baring crisis. First, previous works on Argentina's loans in the 1880s emphasize the competitive behavior of European bankers to get the "business". Second, comparing Argentina's situation with other Latin American countries where competition was limited (Chile) or inexistent (Brazil) may give us a clue of importance in competition facing the negotiation of debt contracts. Third, the terms of a contract signed between Baring and the Argentinean Government (finally not issued) was the worst of the decade from Argentina's perspective. It was negotiated at a time when Baring no longer had competition. Finally, and as a consequence of the 1890 crisis, Argentina's history of its reentrance to international capital markets was marked by the monopoly of Baring as the only bank in issuing the bonds. We will proceed to review each argument in detail.

Figure (11) shows an Index of competition between financial intermediaries. It measures the part of the market for the two and three dominant banks on the market (Murrieta and Baring). It is constructed on the cumulative value of the bonds on the market in each year. This index decreases in time, showing a clear downturn path during the decade previous to the crisis.

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<sup>50</sup> By this law, provinces were supposed to deposit gold in Exchange for National Government bonds in order to constitute the reserves of the new created provincial banks. On this Free banking law see Della Paolera (2001).

Argentina's historiography supports the fact that competition between bankers played in favor of Argentina in the form of decreasing borrowing costs. Jones (1984) offers a detailed analysis on competition for the first Argentinean loan in the 1880s (the "French loan"). The law approved by the Argentinean congress on a £2,4 million loan initiated a race between the offers by European banks to get the loan<sup>51</sup>. After a few months receiving several offers (see Table 3), the Argentinean government accepted the offer of the French syndicate represented by Paribas, which contemplated a firm offer with a net price of 82.

A second argument implies a comparison of Argentina's situation with other countries. Thus, in order to have this comparative benchmark, we will situate the Argentinean situation in a broader context, studying two additional Latin American countries. We will begin with Brazil, which signed four contracts with a monopoly, Rothschild. Relationship between that country's Government and Rothschild differed from Argentina's own relationship with any other bank. For instance, Rothschild was literally Brazil's only bank, in the sense that the government had its own account in Rothschild's balance sheet easing the monitoring through this account. It was called "Brazil agency":

*"This account shows the amount standing to the credit of the Brazilian government, and the amounts debited for dividends and for sinking funds charges. The account is balanced at the end of each month and a copy is sent to the government. It contains also a record of the installments received on account of each loan..."*<sup>52</sup>

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<sup>51</sup> Those banks included Barings, Stern, Vega Ibañez & Co, a French syndicate (BNPB, Comptoir de'Escompte and Cahen d'Anvers), Heine, Heimendahl, Murrieta, a second French syndicate and Erlanger.

<sup>52</sup> The Rothschild archives. Transactions of a Committee to enquire into the organization of the Accounts. 18 November 1908.

General conditions on the rest of Brazilian contracts are shown in Table 4. Unlike Argentina, Brazil was obliged to face all the risk of the issue (sale on commission system). On the other hand, Brazil benefited from better contract terms than Argentina. The minimum price (guaranteed) was generally higher, and commissions were lower. However, these differences between both countries tended to diminish, and, by the end of the period, they were at their minimum.

This dynamic comparison contrasts with Cairncross' (1953) argument about competition in European capital markets. Based on Peter's work (1934), Cairncross argued that Argentina, lacking a fix agent in London, negotiated its loans in worse terms than countries that had one. He mentions the case of Brazil to show his point, arguing that this country could get terms almost as good terms as Holland . We do not agree with this conclusion. First, as we have seen, Argentina was able to share the risks of its bonds' issues with the banks. Second, Cairncross looks only at the period 1880-1885, which sharply contrasts with the second half of the decade. And third, the macroeconomics and debt history of both countries contrasted sharply, as Argentina had defaulted several times on its external debt service while Brazil kept a perfect record, and this was reflected in the yields of their bonds.

A second interesting case was Chile, a country with which Argentina had a strong rivalry. Chile was indeed the country with the best terms concerning the countries we compare. Differences between both countries were more than marginal. Chile signed four contracts with European and American banking houses, in 1885, 1886, 1887 and 1889. The first contract was signed with City Bank but we could not get enough information to describe it.

Both 1886 and 1887 contracts were signed with Rothschild's, and in 1889 it was a syndicate represented by Deutsche Bank who floated the loan.

Looking at the Chilean economic fundamentals, this country had a stable but flexible exchange rate regime, and, more important, it was the less indebted country of the three. Table 5 shows its contracts terms and economic fundamentals. An striking feature is that, for 1886 and 1887, Rothschild took firm the whole amount of the loans, and for a relatively high price. In fact, Brazil and Chile can be directly comparable, as they negotiated with the same bank. For instance, for the 1887 Chilean loan, Rothschild underwrote the issue at a purchase price of 96, which meant very good contract terms as compared to any other Latin American country.

The most advantageous contract for Chile took place in 1889 and was signed with a German syndicate. It remained in similar terms than the contracts with Rothschild's, with yet another feature favorable to Chile, due to competition between banks. The syndicate paid the first coupon of the loan (lowering thus the final fee paid by Chile). As far as we know, no other Latin American country could get such a clause in its contracts, and this reflected the higher status of the Chilean credit in international financial markets. However, as it was for Brazil, differences between Argentina and Chile tended to diminish as we approached the end of the 1880s decade, and Argentinean latest loans' terms were only slightly below those for Chile. As we have seen, one possibility to explain this would be that the Argentinean economic fundamentals improved, whereas Chilean remained stable or worsened. But as we have seen, Argentinean fundamentals did not improve, and the Chilean did not change.

To conclude our comparison, we drew the same diagram as we did for Argentina for the loans floated on behalf of both, Brazil and Chile (Figure ...). As mention above, even if Argentina may have begun the decade with worse terms, it rapidly caught these differences by the end of the period. Clearly, economic fundamentals cannot explain this “convergence”.

The Baring contract of 1890 is another proof of the fact that macroeconomics and the fiscal position of the government were delegated to a second plan. Although, as we have seen, the trajectory of Argentina’s contract terms improved in the second half of the 1880, the crucial year of 1890 offers a completely different story. From the correspondence of Baring with other Bankers<sup>53</sup> we know that Baring tried to form a syndicate for a loan issue of £10 millions in order to improve the fiscal situation of Argentina’s national government and to support the depreciating peso. Baring did succeed to convince Morton and Murrieta in a rather minimal way, but in risk terms it remained alone. Figure 13 represents the terms of the contract comparing with the previous loans. Clearly, with a desperate macroeconomic situation and without competition, the terms of this contract considerably worsened. The strong conditionality imposed at this stage may have played a role in Argentina’s eventual decision to default.

Finally, looking beyond the period, the crisis marked a difficult period for both Argentina and Baring. On the one side, Baring needed a bailout orchestrated by the Bank of England,

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<sup>53</sup> Box Hc4 1.113 of the Baring Archives.

and was separated in two branches<sup>54</sup>. On the other side, Argentina needed two successive funding loans, and did not have access to the international capital markets during almost 10 years. In fact, the loans contracted between 1900 and 1913 were all negotiated and issued by Baring, simulating its quasi-monopolist situation of the pre-1880 period.

## CONCLUSIONS

We have presented a different story not taken into account by the traditional theories explaining the Baring crisis adding a new and decisive element. As suggested in this paper, financial intermediation and competition issues may have played a key role in pushing Argentina in the financial situation of 1890 by overborrowing at decreasing costs. The 1880s is precisely an interesting decade because monopoly in Argentina's debt issues was replaced by a competitive market structure. Although Baring was aware at any moment of the government's fiscal position, it had little or no incentive to properly monitor and releasing information to the market because, say, the bank risked its market position and preferred rather to follow the masses (nourishing the mania for Argentinean bonds). Although other information sources already raised suspicions about deteriorating financial situation in Argentina, the market was reassured by Baring's involvements in Argentina's bond issues, as claimed by Kindleberger. Matters became too evident between March and July of 1890, where partial default and political riots in Buenos Aires definitely made the market hostile to any new loans to Argentina, at the time were Baring planned new issues to ease the situation in that country. Neither the market was willing to channel new funds to the country, nor the short-term rent seeking banks. This paper thus supports the importance of financial long-term relationships.

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<sup>54</sup> However, the bank was soon on its own feet and reentered the business of foreign borrowing.

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## APPENDIX 1

Following the results from the theoretical model, it can be shown that:

$$f_{mon} \geq f_{comp} \quad (10)$$

Recall the second term of the right side of equation (9) (we will name it  $A$ ). If it is true that the fee under monopoly is higher than under competition, we would have that:

$$1 - A > \frac{1}{4}\varphi\alpha$$

reordering terms, this would result in:

$$A < \frac{1}{4}\varphi\alpha + 1$$

as  $A$  by definition is lower than 1, inequality (10) is true. Note also that, in a competitive market, the risk aversion of the agent (Government) does not matter (meter articulos). This is a result compatible with standard literature. On the other hand, the value of  $f$  in monopoly increases with risk aversion.

TABLES AND FIGURES

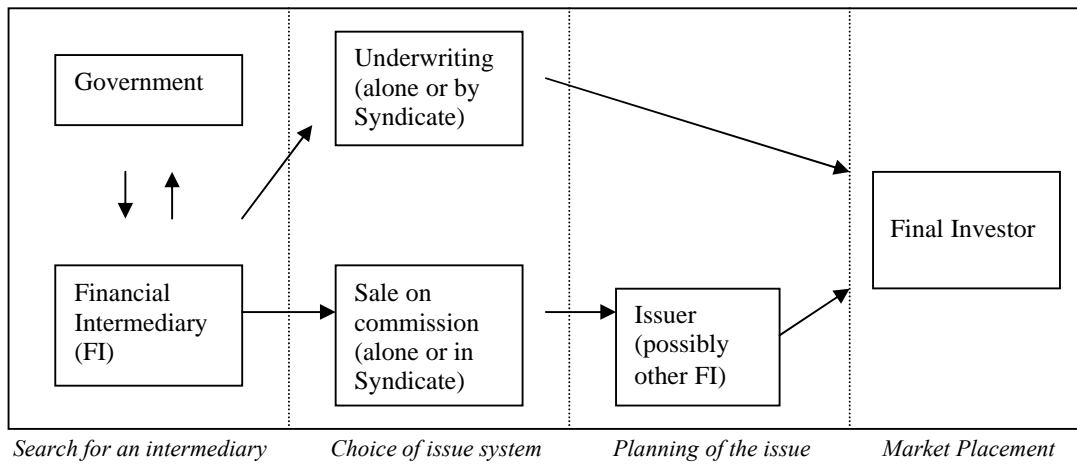


Figure 1: Debt issue mechanism

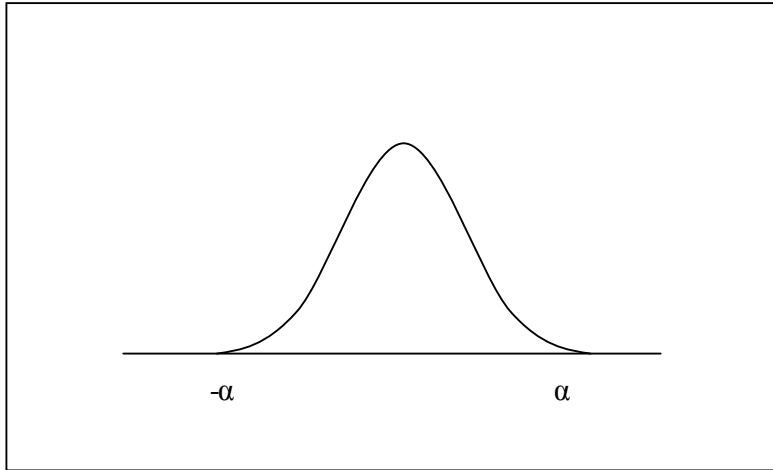


Figure 2: Normal distribution for  $\alpha$

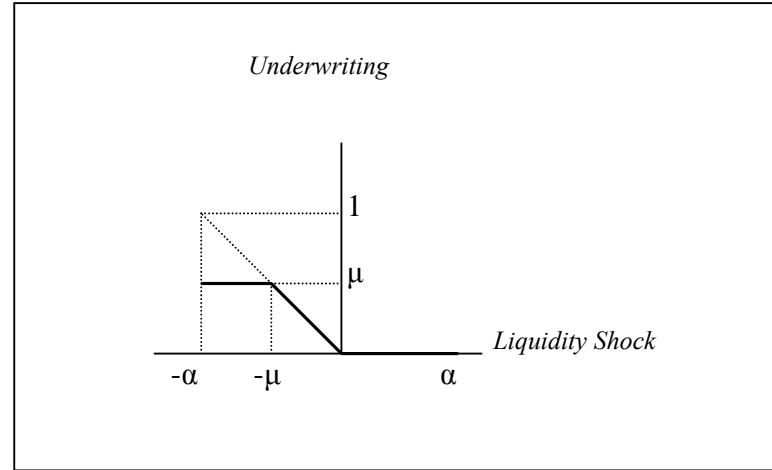


Figure 3: Underwriting proportions

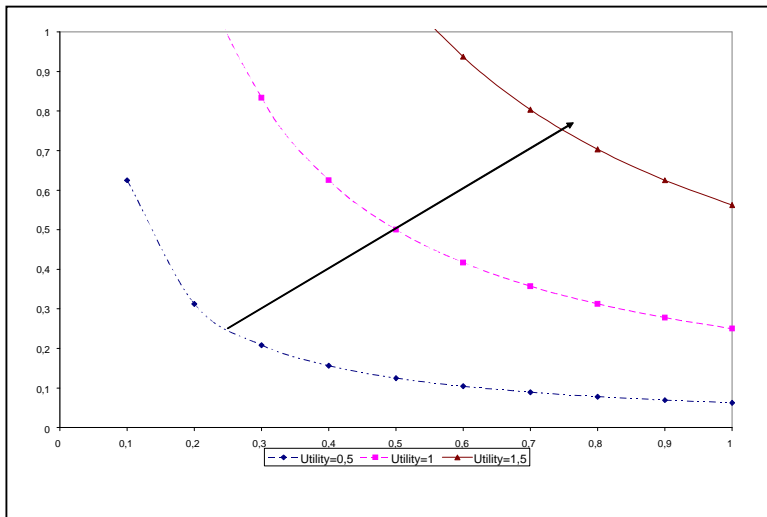


Figure 4: Government Iso-Utility curves

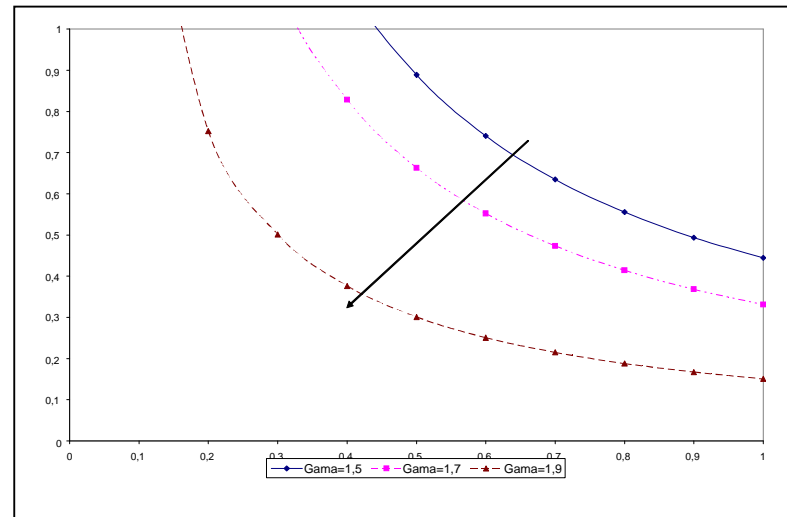


Figure 5: Monopoly's Underwriting fees

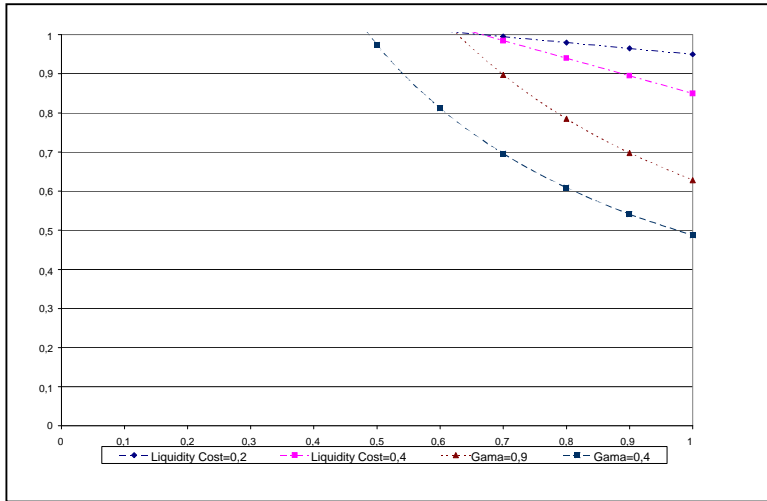


Figure 6: Competition vs Monopoly

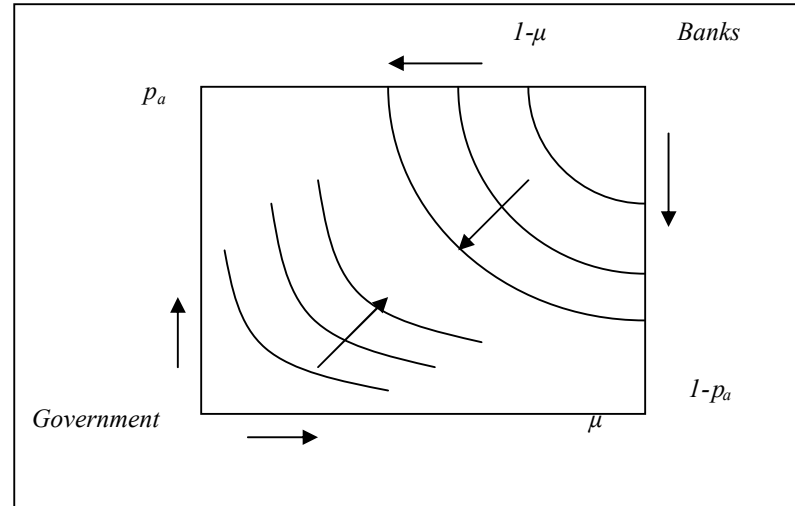


Figure 7: The theoretical Model

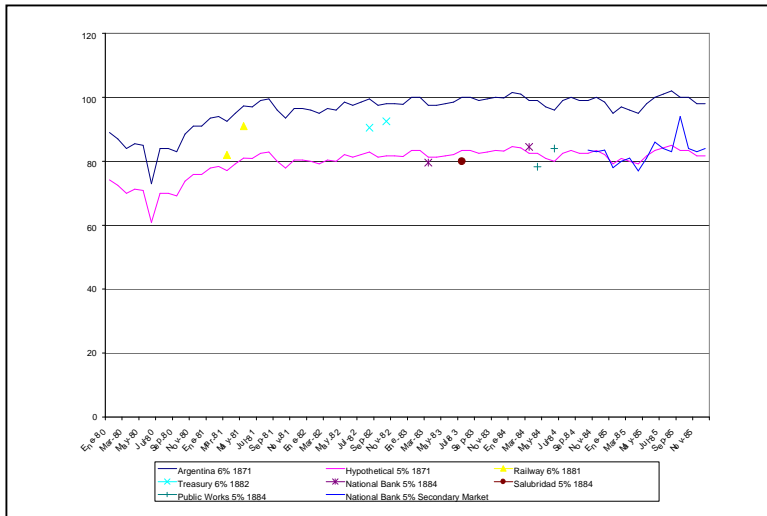


Figure 8: IPOs of Argentina's Sovereign issues

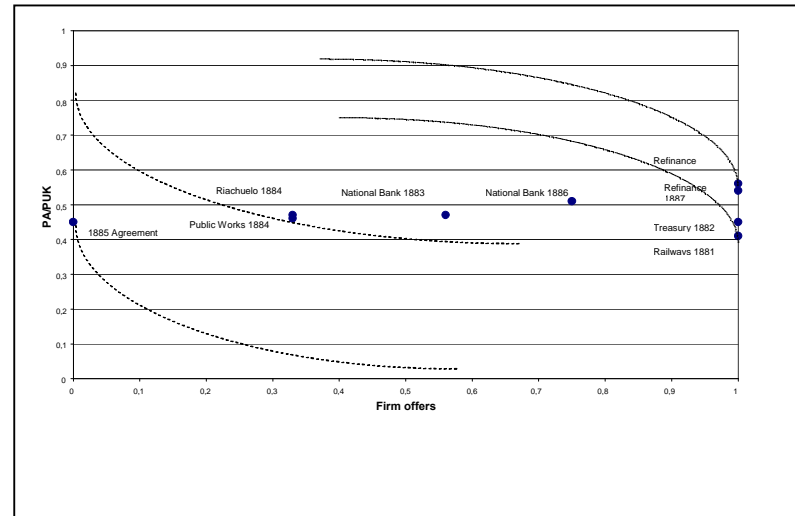


Figure 9: Argentina's sovereign loans

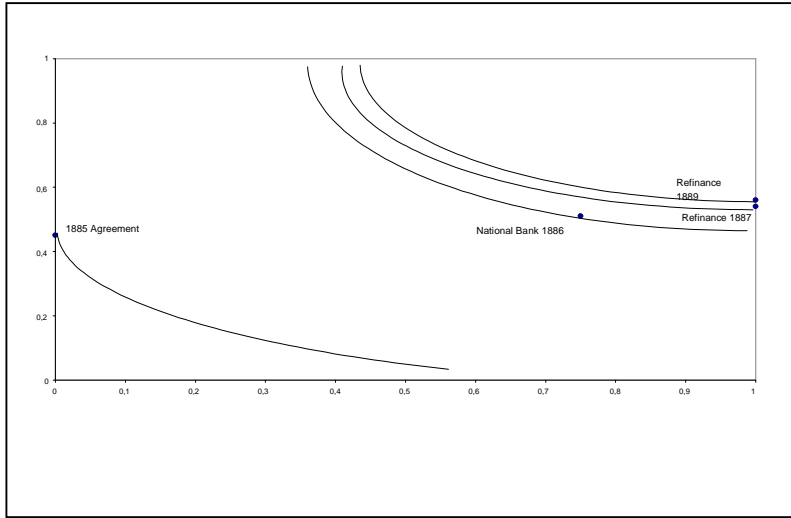


Figure 10: Argentina's 1885-1889 loans

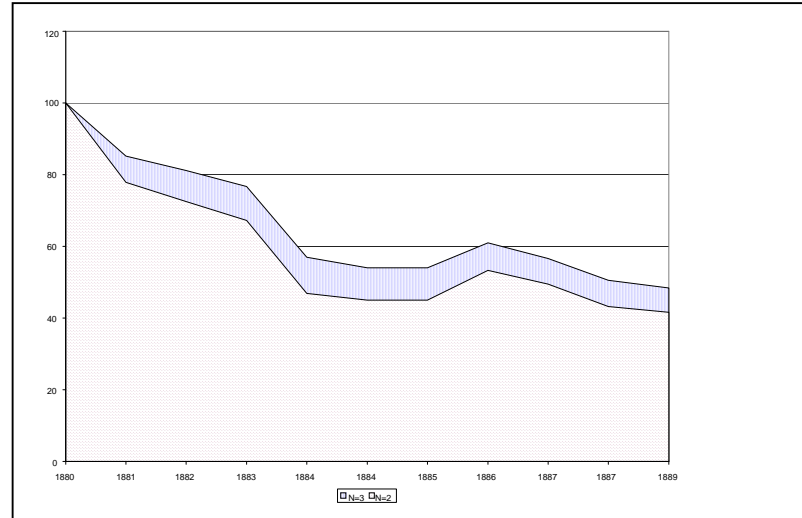


Figure 11: Competition Indexes for Argentina's bond issues

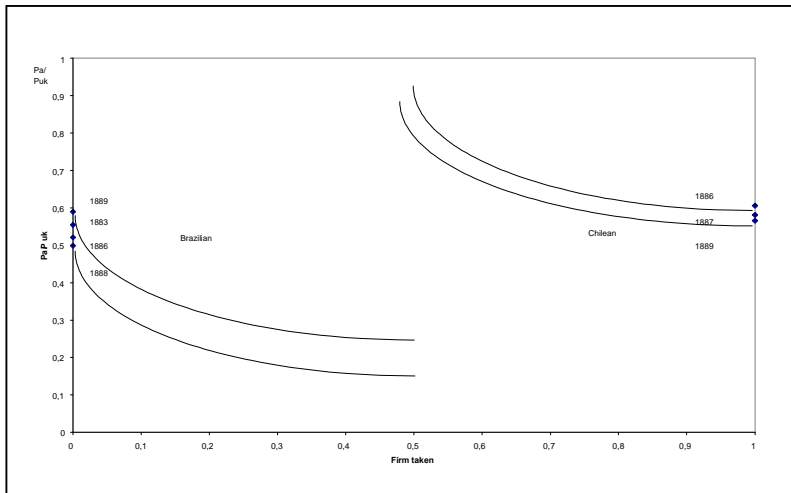


Figure 12: Brazil's and Chile's loans

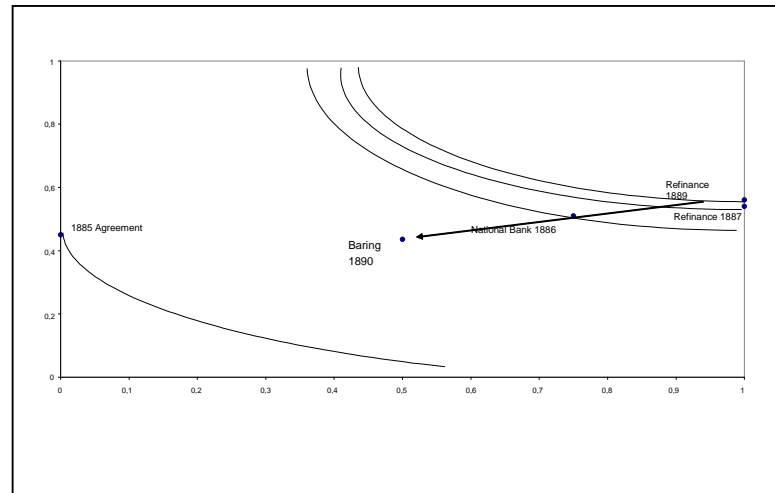


Figure 13: Baring's 1890 contract.

Loans	Nominal Amount (millions £)	Net purchase price	Normalized 3% Consols price at contract date	Pa/PUK	Proportion of the loan taken firm	Issue Price	Resulting fee	Short-term advance (d)	Advance's Commission and Interest rate	Commission on sold bonds	Redemption's commission	Minimum price	Coupon's payment commission	Expenses (%)
Railways 1881 6%	2,45	82	199,3	0,411	1	91	9	0	0	0	0,5	No	1	CB
Treasury 6%	0,81	90,5	199,3	0,454	1	92,5	2	0	0	0	0,5	No	1	CB
National Bank 1884 5%	1,7	79,35	170	0,466	0,56 (a)	84,5	5,1	0,56	0,25 (b), 6%	0	0,5	No	1	CG
Health and Riachuelo 5%	5,9	78,6	166,1	0,471	0,33	Not issued	NA	0	0	2,5	0,5	Yes	1	CG
Public Works 5% 1885	2,4	78,3	170,6	0,460	0,33	84	5,7	0	0	0	0,5	Yes	1	CG
Agreement 5%	8,4	0	166,6	0,450	0	NA	NA	0,48	0,5 (c), 6%	2,5	0,5	Yes, 75	1	0,75
National Bank 1886 5%	2	85	167,8	0,476	0,75 (a)	90	5	0,75	0,5 (b), 6%	0	0,5	No	0,5	5
Railways 1886 5%	3,9	80	167,8	0,506	0	84,5	4,5	0	0	2,5 *	0,5	No	0,5*	CG
Conversion Harddollars 3,5%	2,75	0		NA	0	NA	NA	0	0	1,25	0,5	No	0,5	0,5 + CG
Refinance 4,5% 1887	5,26	82,5	152,5	0,540	1	87	4,5	0	0	0	0,5	Yes, 85	0,5	2,5
Refinance 4,5% 1889	5,29	85,5	151,5	0,564	1	90	4,5	0	0	0	0,5	Yes, 88	0,5	2,5

**Table 1: Argentina's debt contracts.**

Sources : See Text. Notes : (a) : Firm part taken by the banks, or short-term advance ; (b) :each trimester ; (c) : each semester ; (d) : part fro. total amount ; CB : issue's expenses taken in charge by the banks. CG : issue's expenses taken in charge by the government, amount not specified in the contract.

Years	Real GDP Growth (%)	Depreciation of paper peso / British Pound (%)	Inflation	Deficit / Public revenue	Debt service / Public revenue	Percentage of debt service paid in Gold
1885	6.03	37	22.8	0.48	0.3	0.77
1886	-0.03	1.45	3.1	0.34	0.51	0.68
1887	11.9	-2.87	-4	0.18	0.43	0.6
1888	9.9	9.6	0	0.34	0.47	0.89
1889	17.2	21.62	19.8	0.34	0.62	0.93
1890	-4.3	43.33	40.9	0.25	1.07	NA

**Table 2: Argentina's Macroeconomic situation.**

*Sources: GDP growth, inflation: from Della Paolera (1988). Paper peso values from The Economist, monthly averages. Public finance variables from Memorias de Hacienda, 1885-1890.*

Date	Offer made by	Purchase price	Issue system	Observations
December 1880	Stern	75.5	Sale on commission	Successive offers came afterwards from other banks improving price terms
March 1881	Stern	78	Firm offer	Stern improved the offer some days later to 80,5 but retired thereafter.
March 1881	Baring	85	Firm offer	The offer was not finally made because it was not authorized in London.
March 1881	Paribas syndicate	82	Firm offer	The final contract was signed on the 24 <sup>th</sup> .

**Table 3. Successive offers for the "French Loan" of 1881.**

*Sources: See text.*

Loans	Nominal Amount (millions £)	Issue Price	Net Price	Normalized UK 3% Consols price at contract time	Pa/PUK	Banker's Commission and stamps	Brokerage commission	Number of installments for bond purchase	Time for bonds' payments (months)	Discount on anticipated bond payments	Commissions on interest payments	Commission for redemption by drawing/purchase in the market	Service /Revenue	Exchange rate depreciation
1883 4,5%	4,6	89	86,75	156,5	0,55	2	0,25	5	10	4,5	1	0,5 0,125	0,4	0,3
1886 5%	6,4	95	92,75	178	0,52	2	0,25	5	6	5	1	0,5 0,125	0,5	-10,7
1888 4,5%	6,3	97	95,25	171,8	0,49	1,5	0,25	6	6	4,5	1	0,5 0,125	0,3	-11,35
1889 4%	19,8	90	88,25	149,6	0,59	1,5	0,25	5	6	4,5	1	0,5 0,125	0,3	-7,2

**Table 4: Brazil's contract terms and macroeconomic situation**

*Sources: See text.*

Loans	Nominal Amount (millions £)	Issue Price	Net Price	Normalized UK 3% Consols price at contract time	Pa/PUK	Banker's Commission and stamps	Brokerage commission	Number of installments for bond purchase	Time for bonds' payments (months)	Discount on anticipated bond payments	Commissions on interest payments	Commission for redemption by drawing/purchase in the market	Service/Revenue	Exchange rate depreciation
1886 4,5%	6	98	96	158,4	0,61	G	0	6	9	4	0,5	0,5 0,125	0,2	6,25
1887 4,5%	1,2	97,1	96	165,1	0,58	G	0	6	9	4	0,5	0,5 0,125	0,2	-2,29
1889 4,5%	1,5	102	97	171,4	0,56	0,5	0	NC	NC	NC	0,5	0,5 0,125	0,2	-1,09

Table 5: Chile's contract terms and macroeconomic situation.

Sources: See text.