Underwriters fueling going public companies? Evidence of Conflict of interest in the Brazilian 2004-2007 IPO Wave

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Abstract

This paper investigates a specific relationship between underwriters and IPO companies allowed by a loose regulatory environment: the pre-IPO capital boost with loans or equity capital in order to increase the prospects of a successful IPO. We do this by analyzing all 106 companies that went public in Brazil from 2004 to 2007. Whereas the lending practice introduces a clear conflict of interest for the underwriter, the practice of buying and holding stocks could act as an incentive mechanism for better ex-post returns. Our results strongly support the conflict of interest hypothesis on pre-IPO loans, by showing that this lending practice is negatively related to post-IPO long run performance. Specifically, we observe that firms that choose to go public borrowing money from their underwriters experience an additional negative stock return of about 36% one year after their IPO. On the other hand, we do not find support for the hypothesis of alignment of interests when underwriters act as relevant shareholders of IPO companies. The results have a direct policy implication for regulators, since they show how a loose regulation allowing conflict of interest for investment banks could harm both companies and their investors, undermining the long term credibility of capital markets.

Key-words: Initial Public Offerings (IPOs), Investment Banks, Underwriters, Conflict of interest, Loans, Post-IPO Performance.

JEL classification code: G24, G34.

1. Introduction

The Initial Public Offering (IPO, hereafter) timing and offer price of companies intending to go public can be affected by their ties with their underwriting banks. In particular, Pre-IPO loans by underwriters may create perverse incentives, prompting banks to bring to stock markets companies without the financial soundness and organizational maturity expected from a public company by investors. Besides, it may tempt banks to sell these companies at inflated prices, since the repayment of their lending is often associated with the success of the operation and the offering price of the stocks.

This potential conflict of interest, feasible in Brazil due to a loose regulation during the 2004-2007 IPO wave that took place in the country, has already called the attention of market practitioners and the specialized media. The edition of June, 20th, 2008 of The Wall Street Journal published a cover-page article about potential harmful effects due to conflict of interest emerging on the "frenzy wave" of Brazilian IPOs:

> *"Two-thirds of [Brazilian] IPOs are now trading below their offering prices. Some investors are blaming the banks that brought the deals to market, saying they cashed in on the frenzy for emerging markets by rushing to take unprepared companies public. Along the way, says investors, banks engaged in questionable practices, including lending some companies large sums before taking them public and collecting extra fees on opening day.*
> *The difficulties facing Brazil's IPO market show how a loose regulatory environment might have helped feed the frenzy. In 2007, about one in nine companies that went public in Brazil did so after receiving large loans from the underwriters that handled their IPOs. These loans were used to quickly prepare for an offering, in some cases by buying new assets. In exchange for lending money, underwriters collected extra fees after the IPO... "*
>
> The Wall Street Journal. June, 20th 2008. Page A1.

Our paper aims to evaluate the effect of underwriter banking relationships during the 2004-2007 IPO wave in Brazil, when 106 firms went public[1]. In particular, we assess the effect of pre-IPO financial leverage and underwriters' equity participation on post-IPO short and long term performance, measured by stock returns and market value indicators. We find that 28% of Brazilian IPO firms have received some sort of loan from their underwriters before the issuance, helping them to improve the probability of successfully going public. The mean value of those operations was about US$ 155 million or 30% of average gross proceedings raised by those IPOs. In addition, 16% of the IPO firms had their underwriter bank as a significant shareholder[2].

Employing various econometric procedures we find evidence that pre-IPO firm leveraging by investment banks negatively affects long run post-IPO performance. Specifically, companies that receive loans from their underwriters show a lower price-to-book ratio one year after the IPO, compared to those firms without pre-IPO leverage. Accordingly, total stock market-adjusted return one year after IPO was lower for firms with this type of lending contract[3]. Regarding the underwriter's equity participation in their IPO clients, we find only weak support for our hypothesis that a relevant shareholding of the underwriter is associated with better post-IPO performance.

We believe that the Brazilian IPO market in the period of our analysis offers a very interesting case study since there was no legal constraints at that time prohibiting banks to underwrite securities in firms where they had a significant equity or debt position[4.] In the United States, for instance, the National Association of Securities Dealers (NASD) rule 2720 restricts investment banks from underwriting securities from affiliated companies or any other firm in which they may have conflicting interests. In case of exceptions, the security issuance has to be approved by a qualified independent underwriter, which audits the operation[5]. Only in March 17th, 2009, did the Brazilian National Association of Investment Banks (ANBID) issue analogous (though less stringent) rules, calling for the participation of an additional (independent) underwriter if the original underwriter has 10% or more of the going public firm's shares or is expected to collect 20% or more of the IPO proceeds. This new ruling also imposes a lock-up period for part of the shares owned by the underwriter, i.e., the underwriter is not allowed sell 25% of its equity participation in the going public firm before 360 days after the registration of the IPO in CVM, the Brazilian Securities and Exchange Commission (ANBID, 2009).

IPOs constitute a wide research line in corporate finance. Relevant works on the field are described in surveys such as Ritter (1991), Pagano, Panetta and Zingales (1998), and Ritter and Welch (2002). In particular, the relationship between underwriters and firms are a subject of increasing attention from both academics and market practitioners. Examples of papers in this area can be found in Schenone (2004), Yasuda (2005), Xie (2007) and Kutsuna et al. (2007)[6]. Examples of papers about conflicts of interest are Mehran and Stulz (2007) and, more specifically about universal banking, Puri (1999). In Latin America, however, to our knowledge there are no previous studies about the relationships of investment banks with their IPO clients.

Our main hypothesis of potential conflicts of interest is supported by Xie (2007, p.179). The author argues that if banks are able to underwrite securities for their borrowing

firms, they may have incentives to hide or distort information about these firms' quality and risk. In this case, IPO proceeds can be used to repay the outstanding loans and the higher credit risk can be shifted to the uninformed public investors. This interest can harm investors and firms that are actually unprepared to go public, besides weakening bank monitoring, which is a critical matter in times of financial distress. In addition, it can lead investors to pay an unrealistic price for the offered shares.

Overall, our study brings three main contributions: 1) we investigate an unregulated banking practice that can lead to conflicts of interest harming both companies and investors in the long run; 2) we present a detailed panorama with hand-collected data about the recent IPO wave in Brazil and the firms involved, examining their corporate governance practices, ownership structure, and other corporate attributes; and, 3) we provide pioneering evidence on the effects of the relationship between investment banks and their client firms in a relevant economic environment[7] with scarce IPO regulation, differently from studies carried out in the U.S. and other developed economies, where some of the practices we document are usually forbidden.

The paper is structured as follow: Section 2 reviews some literature about the theme and develops our hypothesis. Section 3 describes the data, sample selection criteria and variables. Section 4 presents the results on the effect of banking relationships on ex-post IPO performance, and Section 5 concludes.

2. Conflict of interest, banking relationships and post-IPO performance

2.1. The decision to go public, underpricing, and post-IPO performance

According to Ritter and Welch (2002) and Kim and Weisbach (2005), going public may be useful in the lifecycle of a firm for many reasons, for instance: it allows the firm to raise capital for future projects or acquisitions; it permits the existing owners and founders to convert their stake into cash, thus giving liquidity to their wealth; and it can also attract attention and publicity to the firm, fostering more confidence from investors, customers, suppliers and creditors.

By going public the company stays under constant market's judgment and analysis. This monitoring aspect creates an incentive for the firm to adopt better corporate governance practices and mechanisms, differently from privately-held firms.

In Brazil, a survey conducted by a prominent capital markets magazine (Capital Aberto[8], 2008) has found that the main destinations of the 2004-2007 IPOs proceedings in

Brazil were, respectively, new investments, acquisitions of other companies and repayment of debt. In addition, as reported by Dick and Zingales (2003), Brazil can be considered an environment with relatively poor investor protection. The authors show that the control premium in Brazil was the highest among the 39 countries analyzed, suggesting higher private benefits of control and substantial outside investors' expropriation taking place.

In order to signal to investors the quality of listed companies, the Sao Paulo Stock Exchange (BM&FBOVESPA) created in 2000 three different listing segments for companies that commit themselves to stricter corporate governance practices than those required by law. The highest of these segments is called "New Market" (Novo Mercado), where companies must comply with rules regarding board composition, higher disclosure practices, and stock liquidity, besides respecting the one-share-one-vote rule. 73% of the companies in our sample decided to go public listing their shares in Novo Mercado. 12% other chose the Level 2 segment, which has the same rules of Novo Mercado but allows the issuance of share classes with different voting rights (common and preferred shares). These facts are evidence of a higher concern about better corporate governance practices among Brazilian companies.

Our paper focuses two moments in the life of a public company: 1) the IPO day, when we evaluate the short run stock performance or the degree of stock underpricing; and 2) one year after the IPO, when we assess the long run stock performance, i.e., cumulative stock returns and market ratios. Chemmanur (1993) argues that IPO's underpricing is one of the most studied subjects in financial economics. From 1980 to 2001 in the US market, Ritter and Welch (2002) report an average return of 22.6 percent for the first day of stock trading, that is, the difference between the stock offering price and its closing price.

Formal theories that try to explain this phenomenon can be divided in two categories: symmetric and asymmetric information theories. Theories based on asymmetric information say that underpricing might convey information to uniformed investors about the quality of the issuer. Ritter and Welch (2002) argue that higher quality issuers willingly sell their shares at a lower price to signal to the market they are worthy, through the subsequent stock price run up. Lower quality issuers cannot do this because they know their shares will not appreciate in the same way. Afterwards, good issuers believe they can recoup their sacrifice either by future issuance activity (new offers, with a higher price), favorable market responses to future announcements or greater analyst coverage. This signaling theory is supported by Habib and Ljungqvist (2001), who find, for a data set of IPOs from 1991 to 1995, that an extra dollar left on the table due to underpricing reduces marketing expenditures by a dollar.

Schenone (2004)'s findings about the effect of banking relationships on IPO's

underpricing are particularly related to our paper's core objective. The author tests whether banking relationships established before the firm's IPO ameliorate asymmetric information problems behind IPO underpricing. The results show that firms with a pre-IPO banking relationship with a prospective underwriter face about 17% lower underpricing than firms without such banking relationships. This result is consistent with the idea that previous banking relationships help to produce a better analysis of the firm, therefore reducing asymmetric information problems between the firm and its bank.

Just as underpricing, long-run post-IPO performance has been under constant attention by finance researchers. There is an empirical consensus that most IPOs underperform within one to three years after issuance. Ritter and Welch (2002), for instance, report a market-adjusted three year return of -23.4%, on average, for 1980-2001 U.S. IPOs. Using a style-adjusted methodology, which matches a similar company to the IPO firm in order to control for firm effects, the authors find a three year style-adjusted return of -5.1%. We are aware of this methodological issue and in our tests we control for firm-level characteristics as well as market index returns.

Some theories attribute IPO's long-run underperformance to irrational behavior. Miller (1977) states that investors have heterogeneous expectations about the firm and the most optimistic investors buy the IPO. As time passes, opinions converge to a lower mean valuation, as the variance of expectations reduces, producing then the underperforming return. Schultz (2003) uses the adverse selection effects to explain IPO long-run underperformance. As successful IPOs generate an incentive for more issuance activity, unprepared companies go public, lowering the quality of the sample. For this reason, high-volume periods carry more 'bad' companies than 'good' ones, which may lower IPOs' performance on average. Loughran and Ritter (2001) offer some evidence in favor of this argument. They find that the median age for firms going public has been remarkably stable at about 7 years since 1980. However, during the internet bubble years, the median age fell to 5 years – due to the inclusion of younger and riskier firms – and in 2001, after the bubble, the median age rose to 12 years, due to higher requirements from investors.

2.2. Conflict of interest

Mehran and Stulz (2007) define "conflict of interest" as 'a situation where a party to a transaction could potentially make a direct gain by taking actions that affect the other party adversely'. The main substrate for conflicts of interest is information asymmetries. Information plays a critical role in transactions involving financial institutions because these

institutions are often better informed than their customers or intermediaries. For this reason, conflicts tend to arise in environments with poor regulation because financial institutions are better off when conflicts exist than when they do not, since they can profit from operations that might be harmful to other parties.

This view is supported by Xie (2007), who examines 40 developing and developed countries, and finds that the overall effect of universal banking on firm growth is negative. The author suggests that the negative effect of conflicts of interest dominates the positive effect of economies of scale and scope in universal banking. However, in countries with stronger creditor protection and higher information efficiency, conflicts of interest are less likely and the negative relationship between universal banking and firm growth is significantly weaker, highlighting the relevance of an efficient institutional framework.

If regulation is poor, only market mechanisms can help control such conflicts and their impact. A financial institution's concern about its reputation, for instance, might lead it to tame conflicts of interest so that they have no material impact on its customers.

When commercial banks act as underwriters, two opposite effects may occur. On the one hand, firms' access to credit can be improved because economies of scope and scale in universal banking reduce costs of information production. Commercial banks can apply information gathered from commercial lending to underwriting businesses and then save costs. This would reduce credit spreads and promote firm growth if banks pass on to firms this cost reduction. On the other hand, combining commercial banking and security businesses may also introduce the possibility of conflicts of interest. If banks are able to underwrite securities for their borrowing firms, they may have incentives to help firms issue securities by hiding or distorting information when firm quality has deteriorated and credit risk has increased to their private knowledge. In this case, the security proceeds can be used to pay off the outstanding loans and the higher credit risk can be shifted to the uninformed public investors. This conflict of interest can significantly weaken bank monitoring since firms can expect to be bailed out instead of being liquidated by universal banks in times of financial distress. As bank monitoring plays a very important role in controlling moral hazard in debt contracts such as bank loans, the weakening of bank monitoring in universal banking will lead to higher incentives for firm managers to engage in activities which bring private benefits to themselves but hurt firm prospects (e.g., Kanatas and Qi, 1998; Xie, 2005).

In order to avoid this type of conflict, United States regulators published the Glass-Steagall Act of 1933, which prohibits commercial banks to act as underwriters. The Gramm-Leach-Bliley Act of 1999 essentially repealed the Glass-Steagall Act of 1933, so that

commercial banks can again compete fully with investment banks for underwriting mandates and again face underwriting conflicts of interest. However, the National Association of Securities Dealers (NASD) rule 2720 still restricts investment banks from underwriting securities from affiliated companies or any other firm in which they may have conflicts of interest. In case of exceptions, the security issuance has to be approved by a qualified independent underwriter, which audits the operation[9].

In Brazil, in the period of our research investment banks could have commercial operations with their clients, as well as underwrite their securities. There was no specific regulation separating securities' underwriting operations from other financial services, such as lending, leasing, swapping, cash management, etc. As a consequence, underwriters were allowed to have other links with companies, such as ownership participation or lending operations. Underwriting banks did not even had to disclose these commercial operations in much detail until 2008, when the National Association of Investment Banks (ANBID, an association composed of all main investment banks operating in Brazil) released a new self-regulation code requiring their affiliates to disclose in a specific section of the prospectus other relationships between companies and their underwriters[10].

Financial institutions may profit from activities that create conflicts of interest if they can efficiently re-use information obtained in one activity in another. Underwriting due diligence, for instance, might be cheaper for a bank that has an intimate knowledge of the issuer because of a previous lending relationship. Puri (1999) develops a model where banks and investment banks underwrite securities. In that model, banks face a conflict of interest when they underwrite a security issue by a firm to which they have lent money since they will gain from a successful security issue either by having the loans repaid or by having the loans become more secure. In her model, however, reputation concerns mitigate this conflict of interest: A bank would make a short-run profit by underwriting a bad firm, but that behavior would be costly in the long run. This might be a fragile incentive, though, because executive remuneration is highly attached to short-run goals and in some cases there is little concern about long-term bank reputation.

By studying the relationship between regulatory restrictions on banking activities and firm growth, Xie (2007) finds that conflicts of interest are not much of a problem in countries with high institutional development and strong protection of investors' interests. However, if these conditions are not satisfied, lower firm growth may result from allowing commercial banks to engage in security businesses. In the United Kingdom, for instance, Hebb and Fraser (2003) report that after 1986 commercial banks can engage in investment banking activities,

such as securities underwriting. The authors fail, however, to find any evidence of conflict of interest using data on U.K. bond issues.

The arguments discussed above lead us to formulate the following hypothesis:

H_1: ***Lending operations from the underwriter*** *to IPO firms lead to a conflict of interest that can speed up the timing of the IPO and inflate the prospects of the company to outside investors, thus leading to a higher offer price. As a consequence, those borrowing firms will* ***underperform*** *both in the short (with a lower underpricing) and in the long run, comparatively with other going public companies. Therefore, we expect a* ***negative*** *influence of loans on all post-IPO performance variables.*

Additionally, we investigate the influence of the participation of the underwriter as a relevant shareholder of the going public firm on its post-IPO stock performance. If the investment horizon of the underwriter is long, i.e., he plans to hold the stocks for at least one year after the IPO, we would expect a ***positive association*** between the level of the underwriter's shareholdings and long-run stock performance, since the underwriter is better informed about the potential of his client firms and would probably become a shareholder of those firms with the highest growth prospects. On the other hand, if the underwriter plans to sell his shares not long after the IPO, he would have an incentive to artificially boost short run prices, leading to a ***negative association*** between the level of the underwriter's shareholdings and long-run stock performance. Unfortunately, our data does not allow us to observe the investment horizon of the underwriter as a shareholder[11]. Therefore, we are unable to predict unambiguously the direction of the association between the underwriter's shareholdings and post-IPO stock performance.

3. Sample selection and data description

Our sample initially comprises all 106 IPOs that took place in the Sao Paulo Stock Exchange (BM&FBOVESPA) from January 2004 through December 2007. We only excluded companies that merged with other firms or were acquired when we did not have enough information to run our regressions. We also eliminate foreign companies that do not operate in Brazil, such as "Banco da Patagonia", an Argentinean bank whose shares are traded in BM&FBOVESPA. However, we do not exclude BDRs, Brazilian Depositary Receipts, which consist of firms registered in other countries but with operations and management

teams in Brazil.

After exclusions, we remain with 100 observations to compute descriptive statistics, 92 of them with complete data for long-run performance tests. All information regarding these IPOs was hand-collected from the following sources: IPO prospectuses, Economatica® database, and firms' quarterly financial statements available at the websites of CVM (Brazilian Securities and Exchange Commission) and the BM&FBOVESPA website.

For each IPO observation, we compute the following variables, described in Table 1.

[Please insert Table 1 here]

The main dependent variables are divided into two groups: 1) short-run performance, measured by the first-day stock return (or "underpricing") and 2) long-run performance, measured by the price-to-book ratio (PBV) computed one year after the IPO and total stock return (TSR), defined as the return in the first year of trading after the IPO (including capital gains and dividends in this period).

The key explanatory variables are related to the underwriter's identity, lending operations and its equity participation in the firm. Since, as shown in Table 3 below, Credit Suisse has reaped 31% of the Brazilian IPO market from 2004 to 2007, UBS has reaped 36%, all Brazilian investment banks together have reaped 18%, and other foreign banks have reaped the remaining 15%, we construct four dummies for underwriting banks. These dummies are constructed by identifying which underwriter is the leader bookrunner. Only one leader underwriter has been attributed to an IPO firm. In case of more than a single leader bookrunner, we choose the underwriter with its logo mark positioned at left-hand side of the first-page of the prospectus, which is usually attributed to the most relevant bookrunner.

In order to assess lending operations to IPO firms, we construct a dummy called "LOANS", for companies who have received pre-IPO loans higher than the US$ 150,000 threshold from their underwriters[12]. These loans are usually described in a prospectus section called "Relationship between the company, its shareholders and underwriters", from which we collect the lending data[13]. Besides, we also analyze the section "Risk factors about this issuance", which adverts investors about possible conflicts of interest between the company and its underwriters, for instance due to any lending contract that can influence the firm's stock price[14]. Additionally, in a complementary search, we analyze the "Related-party transactions" section, which also may contain information about relationships between the company and its creditors.

Regarding the underwriters' equity participation, our dummy "SHAREHOLD" is set to 1 for firms whose underwriter (or its bank group) owns more than 5% of total equity in the IPO date[15]. This information can be found in a prospectus section called "Major and selling shareholders", which identifies the major owners of the company and those who are selling shares. It also describes the percentages of their ownership before and immediately after the IPO. Additionally we also analyze the section "Relationship between the company, its shareholders and underwriters", which may disclose information about the underwriter's equity participation in the IPO firm.

Other explanatory variables related to corporate governance characteristics and corporate attributes used as controls are described in detail in Table 1.

4. Results

4.1. Descriptive statistics

Table 2 shows descriptive statistics of the IPO wave in Brazil from 2004 to 2007.

[Please insert Table 2 here]

According to Table 2, IPOs in the Brazilian market raised more than R$ 78 billion[16] (about US$ 43.3 billion) of gross proceeds from 2004 to 2007, with an average of R$ 781 million (US$ 433.3 million) per deal. The mean first-day return, or underpricing, was about +5.4%. In the long run, the average return for buy-and-hold IPO investors was -4.2% in the first year, with a market index (Ibovespa) return of +18.4% in the same period. This result is in line with the international evidence about IPO long-run underperformance (e.g. Ritter and Welch, 2002). IPO companies most frequently came from the manufacturing (21%), real estate (20%), and financial services (14%) industries. Regarding the relationships between underwriters and IPO firms, 28% of all IPOs were carried out by companies receiving a significant ex-ante loan by their underwriter. We also observe that 16% of the IPO companies had investment banks simultaneously acting as underwriters and relevant shareholders (holding more than 5% of all outstanding shares). Besides, 47% of the companies chose underwriters that provided other bank services before their IPOs. Overall, we note that 3/4 of all IPOs took place with underwriters with previous commercial or financial ties with going public companies.

About 33% of the IPOs were solely primary offerings, 10% were exclusively

secondary offerings, i.e., already existing stocks sold by former owners or founders. The remaining 57% were mixed offerings, involving new and old stocks. Finally, regarding the allocation of the IPO proceeds, about 70% of IPO shares were bought by foreign investors, 24% by Brazilian institutional investors, and only 8% by small private investors.

After this panorama of the Brazilian IPO wave, Table 3 details the market share of the IPO market in Brazil in that period.

[Please insert Table 3 here]

As noted in the previous section, the IPO market in Brazil has been divided into four majors banks/groups of banks as leading underwriters: Credit Suisse (31%), UBS (36%), Brazilian banks (18%), and other foreign banks (15%). We can also observe from Table 3 that the practice of pre-IPO lending has been used roughly in the same proportion by all underwriting groups, ranging from 25% for UBS to 33% for Brazilian Banks. We also observe in column three that the mean value of pre-IPO lending operations is significant, ranging from an average of R$ 56 MM (US$ 31 MM) for UBS to R$ 148 MM (US$ 82 MM) for other foreign banks. Overall, all underwriters lent about R$ 3 billion (US$ 1.67 billion) to the 29 companies that have used pre-IPO loans, around 10% of all money raised in the IPOs.

Regarding the equity relationship between underwriters and IPO firms, we observe on column 5 in Table 3 that this practice was much more frequent among other foreign banks and Credit Suisse, with 27% and 19% of their IPOs displaying this feature. On the other hand, only 6% of IPOs led by Brazilian banks involved companies where they had a relevant stockholding. In fact, this percentage refers to a single company, Redecard, a Brazilian credit card manager[17]. Other corporate attributes are similar within the four groups of underwriters, except the IPO proceedings – significantly higher for the other foreign banks.

4.2. Underwriters, capital relationship, and post-IPO performance

In order to investigate if firms with different banking relationships have statistically different post-IPO performance, we show a set of difference of means tests in Table 4.

[Please insert Table 4 here]

According to Table 4, we observe different long term performance indicators when we

separate companies based on pre-IPO loans. Whereas the group without loans displays a price-to-book-value (PBV) of 1.53 one year after its IPO, the group receiving significant loans from their underwriters has a PBV of 0.86. Accordingly, while the group without loans achieves a total stock return (TSR) of +8.4% one year after its IPO, the group of borrowing companies achieves a TSR of -36.5% in the same period. Both results were statistically significant at the 1% level. Besides, they are consistent with our hypothesis that pre-IPO lending by underwriters is associated with relevant conflicts of interest that harm both companies and investors. We also examine different post-IPO performance indicators when we separate companies based on relevant stockholding by their underwriting banks. In the short term, there is a higher underpricing for the group of companies with underwriters as relevant shareholders (11.6% against 4.4% of companies without underwriters as shareholders, statistically significant at the 1% level).

Table 4 also shows that the group of companies with Brazilian banks as leading underwriters had a lower TSR one year after the IPO, when compared with the group of companies with foreign investment banks as underwriters (-25.8% against +1.6%). Finally, we split the IPO firms in two groups, based on the presence of pre-IPO banking services provided by the underwriting bank (except loans or other forms of capital allocation). In this case, the group of companies with previous commercial ties with their underwriters has a higher underpricing (7.3% against 3.8%) and higher one year TSR (11.7% against -18.3%) than the group with no previous ties with underwriting banks. This result reinforces the idea that the loaning relationship is the specific commercial tie associated with worse ex-post IPO performance.

In addition to Table 4, we present a series of charts aiming to provide a qualitative understanding of the different post-IPO performance indicators when we separate companies based on the type of relationship they have with their underwriters.

[Please insert Chart 1 here]

[Please insert Chart 2 here]

[Please insert Chart 3 here]

[Please insert Chart 4 here]

[Please insert Chart 5 here]

In spite of the significant post-IPO performance difference between groups of companies, this initial inspection does not allow any causal inference. For this purpose, we

employ a set of OLS multiple regressions, starting with Table 5. In those regressions, we control for a set of corporate characteristics that may plausibly influence both stock performance and the decision of the underwriter to invest in the firm as a creditor or as a shareholder. They include corporate governance features, such as board structure (proxied by by our BESTBOARD variable) and the affiliation of the firm to Bovespa's New Market (Novo Mercado); the age of the firm; its profitability (or operational performance, proxied by our Return on Assets indicator); and the firm's overall degree of financial leverage. We also include as controls three industry dummies. However, two additional controls are particularly important for our regression analysis, as discussed below.

The first is a specific proxy for the degree of riskiness of the firm. Arguably, underwriting banks could be more inclined to lend money to less risky firms and, because equilibrium expected returns are lower for them, that could explain the negative correlation we observe between long-run stock returns and our LOANS variable. Therefore, leaving firm riskiness as an omitted variable in our regressions could severely bias our inferences. We alternately use two proxies for risk: average stock beta (trying to capture systematic risk), and average stock volatility (presumably, our industry dummies also help to capture the riskiness of the firms).

An analogous point, although less clear, could be made regarding the amount of investment opportunities available to the firm. It has been argued that firms with better investment opportunities should be less leveraged, preserving the necessary flexibility to seize the opportunities as they arise (Stulz, 1990). If those firms' stocks also perform better in the long-run, we would observe a negative correlation between leverage (and, thus, possibly our dummy LOANS) and long-run stock returns. On the other hand, it is also plausible that firms with better opportunities need to invest more and may have to borrow from the investment bank, becoming more leveraged in the short term. That, in turn, would induce a positive correlation between LOANS and long-run stock returns, contrary to what we observe. In any case, following much of the extant corporate finance literature, we use our Price to Book Value (PBV) indicator as a proxy for the level of investment opportunities available to the firm when using one year post-IPO stock returns as the dependent variable.

[Please insert Table 5 here]

In Table 5, we examine the impact of two relevant banking relationships on short and long term post-IPO performance: the presence of significant lending operations from

underwriters to IPO firms, and the presence of underwriters with relevant equity participation in IPO firms. Both were measured by dummy variables taking the value of one for IPO companies where either form of capital allocation took place. In addition, we estimate the potential influence of the identity of the underwriters per se, splitting them into four dummy variables.

Two results stand out from Table 5: i) the practice of underwriters fuelling going public companies by lending them money before the IPO (LOANS variable) is negatively related to long term performance of IPO companies, measured both by PBV and by total stock returns (TSR); ii) the presence of an underwriter as a relevant stockholder of the IPO firm (SHAREHOLD variable) does not seem to positively influence the underpricing or long run performance. Also, no underwriter (or group of underwriters) per se is clearly associated with better or worse post-IPO performance. In fact, the estimated coefficients show that, on average, the long-run stock performance of the IPO firms in our sample was significantly negative, regardless of who was the leading underwriter. We note that the estimated model predicts that companies that go public using loans from underwriters would experience an additional negative stock return of about 36% one year after their IPO.

Besides the main results, other explanatory variables have significant coefficients: iv) firms following the recommendations of the Brazilian code of best practices of corporate governance regarding the structure of their board of directors (BESTBOARD variable) have a higher short term return, maybe signaling a better reception by investors; v) firms from Novo Mercado (the premium corporate governance listing segment of BMF&BOVESPA) have higher underpricing and higher PBV in the long run; vi) firms with higher return on assets (ROA) present better post-IPO results in terms of PBV; vii) firms with higher stock beta (our main proxy for risk) display both higher PBV and TSR; vii) firms with higher PBV tend to have higher TSR.

After analyzing the influence of the two relevant banking relationships on post-IPO performance, Table 6 focuses on the effect of pre-IPO loans, the most controversial relationship between underwriters and IPO companies. We do this by constructing interaction terms between the identity of the investment banks and the dummy for lending operations.

[Please insert Table 6 here]

The results in Table 6 corroborate our main research hypothesis, by showing that the practice of borrowing money from underwriters before the IPO is negatively related with ex-

post IPO performance, especially long term performance. We find significantly negative coefficients for at least one underwriter (or group of underwriters) in all regressions. Curiously, in some regressions only loans made by UBS or the group of Brazilian investment banks appear to be associated with lower post-IPO performance, whereas in other specifications the same inference applies only to loans made by Credit Suisse or the group of remaining foreign investment banks.

In the last table we examine more closely the effect of the underwriters' equity participation on post-IPO performance. We do this by interacting the identity of the investment bank with the dummy for relevant equity positions in IPO firms.

[Please insert Table 7 here]

The results in Table 7 do not support the hypothesis that a significant shareholding by the underwriter is associated with higher underpricing and better long-term share performance. Only the dummy that captures this practice by Brazilian banks is positive and significant when the dependent variable is our measure of short-run performance. However, the estimated coefficient for this same dummy becomes negative when the dependent variable is our one year measure of stock return. Such inconclusive results are consistent with the argument (discussed in section 2.2. above) that the predicted association between significant shareholdings by the underwriter and post-IPO stock performance depends crucially on the investment horizon of the underwriter. Unfortunately, we do not have enough information to compute proxies for that variable. Besides, we do not know when underwriters have bought their equity stakes of the going public companies. For instance, the banks could have helped capitalize the firm since its inception or they may have bought their equity stakes just before the IPO. This timing issue could also lead to different incentives and results.

Several other estimations were carried out as robustness checks. In particular, we re-estimated our regressions excluding possible outliers, such as Agrenco Ltd., whose market value fell by some 98% one year after its IPO. Agrenco had borrowed significantly from its leading underwriter, but its extremely bad performance was certainly much affected by a high profile tax fraud scandal allegedly perpetrated by the firm's senior managers (the Agrenco case, nevertheless, is illustrative of the relationship between underwriters and IPO firms that we investigate and, for that reason, we describe it in more detail in the Appendix). We also replaced VOLAT (stock volatility) for BETA as a proxy for risk in some regressions. Results were not materially changed in any of those variations, which are available from the authors.

5. Concluding remarks

Other relationships between a bank acting as underwriter and a company willing to go public may affect both the timing and the offer price of an initial public offering, as well as the subsequent performance of the traded stocks. We investigate this possibility by analyzing pre-IPO capital injections by underwriting banks, in the form or loans or equity capital. This was possible due to a loose regulation in Brazil during the IPO wave from 2004 to 2007, when 106 firms went public. This practice was quite frequent: 28% of all going public companies received significant loans from their underwriters, whereas 16% of them had their underwriters simultaneously acting as a relevant shareholder.

The type of capital injection may provide different incentives for underwriters. On the one hand, the practice of lending money before IPOs put the underwriter in a position of conflict of interest, since the bank usually receives a large amount of the IPO proceeds in order to repay its previous loan. This could lead them to bring unprepared firms to the stock markets, and at unrealistically high stock prices. On the other hand, the practice of becoming a significant stockholder before the IPO may generate an incentive for higher short and long term returns, but that depends crucially on the investment horizon of the underwriter. Our results strongly support our first hypothesis that the practice of underwriters fuelling going public companies by lending money to them before the IPO is negatively related to both short and long run performance of IPO companies. Thus, we find evidence that pre-IPO loans induce underwriters to take companies to the stock market at higher prices (with lower underpricing), and that these companies are probably on average less prepared than other IPO companies, leading them to lower valuations and stock returns one year after the event. We also find that such practice harms post-IPO performance regardless of the identity of the investment bank involved in the operation. Finally, we predict that companies going public by using loans from underwriters would experience an additional negative cumulative stock return of about 36% one year after their IPO.

On the other hand, our results regarding the association between relevant shareholdings by underwriters and post-IPO stock performance are inconclusive, which may be explained by the (uncontrolled for) heterogeneity in the investment horizons of the different underwriters.

Besides our two main results, we also test whether other corporate governance characteristics predict better post-IPO performance. For these explanatory variables, we find five main results: i) firms with a board of directors structured according to the main recommendations of the Brazilian code of best practices of corporate governance have higher

short term return, but lower market-adjusted long term return; ii) firms from the Novo Mercado premium listing segment have higher underpricing and higher PBV in the long run; iii) firms with higher return on assets (ROA) have higher PBV one year after the IPO; iv) riskier firms have higher PBV one year after the IPO and also (in some specifications) higher one year post-IPO returns; and v) firms with better investment opportunities (as proxied by PBV) have higher post-IPO long term stock returns.

Our results have implications for both investors and regulators. For investors, both institutional and private, they reinforce the need to question underwriters about their potential conflicts of interest during the IPO process (involving roadshows, bookbuilding and the preparation of the prospectus), which could lead them to bring to the market unprepared companies at excessively high stock prices. For regulators, they suggest the need for stricter rules on the relationship between underwriters and going public companies showing how a loose regulation allowing the emergence of conflicts of interest for investment banks could harm both companies and their investors, undermining the long term credibility of capital markets.

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Table 1 – Summary of research variables and definitions

#	Category	Code	Name of Variable	Operational definition
1	Short-run performance	UNDERPRICING	First-day IPO return (or Underpricing)	First-day stock return: closing stock price minus offer price, divided by offer price.
2	Long-run performance	PBV	Price-to-book value	Market value of shares divided by the company's book value.
3		TSR	Total Shareholder Return	Buy-and-hold one year stock return (from the firm's IPO day to one year after that). It includes capital gains and dividends.
4	Underwriters' Relationship (Key explanatory variables)	LOANS	Loans by underwriters to IPO firm	Dummy variable for companies that received any kind of loans by their underwriters with value higher than US$ 150,000.
5		SHAREHOLD	Investment bank as shareholder	Dummy variable for companies where their underwriter bank (or group) was one of the company's relevant shareholders before and at least one day after the IPO. As a threshold, relevant shareholder means any underwriter holding more than 5% of the company's total shares.
6		CS	Credit Suisse as underwriter	Dummy variable for companies with Credit Suisse bank as the main underwriter.
7		UBS	UBS as underwriter	Dummy variable for companies with UBS bank as the main underwriter.
8		BRAZIB	Any Brazilian bank as underwriter	Dummy variable for companies with a Brazilian bank as the main underwriter.
9		FOREIGN	Foreign investment bank as underwriter	Any foreign investment bank as the main underwriter except Credit Suisse or UBS.
10		LOANSBYCS	Loans by Credit Suisse to firm	Dummy variable for companies who received significant loans from Credit Suisse.
11		LOANSBYUBS	Loans by UBS to firm	Dummy variable for companies who received significant loans from UBS.
12		LOANSBYBRAZ	Loans by Brazilian bank to firm	Dummy variable for companies who received significant loans from a Brazilian bank.
13		LOANSBYFOREIGN	Loans by foreign bank to firm	Dummy variable for companies who received significant loans from a foreign bank (except Credit Suisse and UBS).
14		CSSHARE	Credit Suisse as a significant shareholder	Dummy for Credit Suisse as shareholder with more than 5% of the company's shares.
15		UBSSHARE	UBS as a significant shareholder	Dummy for UBS as shareholder with more than 5% of the company's shares.
16		BRAZSHARE	Any Brazilian underwriter as a significant shareholder	Dummy for any Brazilian underwriter as shareholder with more than 5% of the company's shares.
17		FOREIGNSHARE	Any foreign underwriter as a significant shareholder	Dummy for foreign underwriter (except Credit Suisse and UBS) as shareholder with more than 5% of the company's shares.
18		PEVC	Private Equity or Venture	Dummy variable for companies with a venture capital of private equity group as a relevant

#	Category	Code	Name of Variable	Operational definition
			Capital backed firm	shareholder (more than 5% of total shares).
19	Other control and explanatory variables	BETA	Stock beta (systematic risk measure)	Average annual stock beta, computed by Economatica® from March 2005 through September 2008.
20		VOLAT	Stock volatility	Average annual stock volatility (standard deviation of returns) computed by Economatica® from January 2005 through January 2009.
21		BESTBOARD	Compliance with "best board" practices	Dummy variable for companies that fit best corporate governance practices regarding board composition. BESTBOARD = 1 if board size is between 5 and 9, CEO and Chairman are different persons and the ratio of outside directors to total directors is higher than 80%.
22		AGE	Age of the firm	Number of years since the foundation of the firm.
23		NM	"Novo Mercado" dummy	Dummy variable for companies listed in the top segment of the Sao Paulo Stock Exchange (BOVESPA's Novo Mercado).
24		ROA	Return on Assets	Operational income divided by total assets one year after the IPO.
25		ROE	Return on Equity	Net income divided by the book value of equity one year after the IPO.
26		MKTRETURN	BOVESPA's index return	Return of the Sao Paulo Stock Exchange index (Ibovespa) from the date of the IPO to one year after that.
27		LEVERAGE	Financial leverage ratio	Ratio of total (non-equity) liabilities to total assets one year after the IPO (e.g., if the firm A had its IPO on march 2006, we use the financial statements of march 2007).
28		REALSTATE	Real Estate company dummy	Dummy variable for companies from the construction and real estate industries.
29		MANUFACT	Manufacturing company dummy	Dummy variable for companies from the manufacturing industry.
30		FINANCE	Financial services company dummy	Dummy variable for companies from the financial services industry.

Table 2 – Descriptive statistics of the IPO wave in Brazil from 2004 to 2007

This table presents figures related to firm-level IPO characteristics for the sample period. The bottom line aggregates the values for the whole sample, comprised of 100 IPOs. In column four, we consider the US$ 150,000 threshold to take lending practices into account as a relevant loan by underwriters. In column nine, the underwriter is considered to be one of the firm's significant shareholders if its ownership stake is higher than 5% of total equity.

1	2	3	4	5	6	7	8	9	10
IPO Year	**Number of IPOs**	**Total gross proceeds (R$ millions)**	**Underwriter loan value (R$ millions)**	**Firm assets value (R$ billions)**	**Private Equity backed firms**	**Firms with loans by underwriters**	**Firms with bank services except loans**	**Firms with underwriters as significant shareholders**	**First-day mean return (underpricing)**
2004	7	4,486	15	33.9	71%	14%	71%	0%	9%
2005	7	4,427	63.8	57.3	29%	29%	57%	14%	9%
2006	24	14,562	477	29.2	42%	13%	50%	13%	6%
2007	62	54,674	7,746	186.9	21%	35%	42%	19%	4%
2004-2007	100	78,149	8,302	307.4	30%	28%	47%	16%	5%

The official Brazilian Central Bank exchange rate in December 31st, 2007 was R$ 1.77/US$.

Table 3 - Characteristics of IPO market in Brazil by Underwriting Bank

This table presents the market share of the IPO market in Brazil from 2004 to 2007 by underwriting banks (Credit Suisse, UBS, Brazilian underwriters and foreign underwriters excluding UBS and Credit Suisse). We also present mean values for each banking relationship with the IPO firms as well as other company's characteristics. In column three, we consider the US$ 150,000 threshold to take the lending into account as a relevant loan from the underwriter. In column five, the underwriter is considered to be a relevant shareholder of going public companies if its ownership stake is higher than 5% of total equity. In the last two columns, price-to-book value (PBV) and Total Shareholder Return (TSRETURN) are long-term variables, calculated one year after the IPO. The bottom line aggregates the whole sample.

1	2	3	4	5	6	7	8	9	10	11	12
Underwriter	**Under-written firms**	**Percentage of firms with loans**	**Average Loans Value (R$ MM)**	**Companies with equity participation**	**Private Equity backed firms**	**Firms with previous financial services**	**Mean firm age**	**Mean value of IPO proceedings**	**Mean under-pricing value**	**Average firm PBV**	**Mean one year stock return (TSR)**
Credit Suisse	31	29%	69.45	19%	26%	39%	26	642.5	5.0%	2.42	1.9%
UBS	36	25%	56.54	8%	33%	47%	28	667.0	4.5%	2.74	-1.1%
Brazilian banks	18	33%	105.49	6%	28%	56%	25	736.9	4.5%	2.96	-24.5%
Foreign banks*	15	27%	147.65	27%	33%	53%	28	1397.1	9.9%	3.01	0.3%
Overall mean	100	28%	83.02	14%	30%	47%	27	781.5	5.5%	2.72	-4.2%

* Except Credit Suisse and UBS.

Table 4 – Underwriters and post-IPO performance

This table shows tests of difference of means for each sort of underwriter banking relationship. We test the correlation between underwriter relationship and firm's market value using three different measures: 1) the first-day stock price return or IPO underpricing, 2) (PBV) price-to-book value one year after the IPO, and 3) buy-and-hold cumulative stock return adjusted for dividends until one year after the IPO (TSR). ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. Total number of observations (n) for each banking relationship is represented below the column title.

	Banking relationship							
Firm performance	**Underwriter is shareholder** n=16	**Underwriter is not shareholder** n=84	**Firm has loans from underwriter** n=28	**Firm has no loans from underwriter** n=72	**Brazilian underwriter** n=18	**Foreing underwriter** n=82	**Bank services** n=47	**No Bank services** n=53
UNDERPRICING	**11.60%**	**4.40%**	4.00%	6.00%	3.60%	6.00%	**7.30%**	**3.80%**
t-statistic	**-2.64*** **		0.95		1.29		**-1.77***	
PBV	**1.81**	**1.26**	**0.86**	**1.53**	1.06	1.41	1.46	1.23
t-statistic	**-1.72***		**2.80*** **		1.29		-1.01	
TSR	-8.00%	-3.50%	**-36.50%**	**8.40%**	**-25.80%**	**1.60%**	**11.70%**	**-18.30%**
t-statistic	0.25		**3.22*** **		**1.72***		**-2.34** **	

Table 5 – Effect of banking relationships and identity of underwriters on short-run and long-run performance

This table shows the results of OLS regressions estimating the effects on post-IPO performance of 1) significant lending operations to IPO firms (LOANS dummy), underwriter's relevant equity participation in firms (SHAREHOLD), and identity of the underwriters dummies – Credit Suisse, UBS, any Brazilian investment banks (BRAZIB), and any foreign investment banks except CS and UBS (FOREIGN). Definitions of all explanatory variables are presented in detail in Table 1. The dependent variables are separated into short-term performance, measured by the first-day return (UNDERPRICING) and long-term performance, measured by the price-to-book value (PBV) and the total shareholder return, or TSR, both computed one year after the IPO date. TSR market-adjusted is reported in a separate column due to the inclusion of Bovespa's market index (IBOVESPA) as a proxy for market performance. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All models were estimated with heteroscedasticity-robust standard errors.

	Short-run performance		**Long-run performance**					
	UNDERPRICING		**PBV**		**TSR**		**TSR Market-adjusted**	
Explanatory Variables	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**	**Coefficient**	**t-statistic**
LOANS	-0.02	-1.01	**-1.00****	**-2.41**	**-0.36*****	**-3.06**	-0.07	-0.67
SHAREHOLD	0.06	1.47	0.35	0.50	-0.18	-0.80	0.03	0.16
CS	-0.06	-1.29	0.70	0.89	**-0.66*****	**-2.79**	**-0.70*****	**-3.58**
UBS	-0.06	-1.25	0.46	0.56	**-0.62****	**-2.24**	**-0.63*****	**-2.66**
FOREIGN	-0.02	-0.52	1.28	1.18	**-0.70****	**-2.11**	**-0.65****	**-2.34**
BRAZIB	-0.06	-1.37	0.49	0.56	**-0.86*****	**-3.05**	**-0.83*****	**-3.43**
PEVC	0.02	0.86	0.20	0.33	0.01	0.08	-0.05	-0.38
BETA	0.07	1.23	**2.89****	**2.33**	**0.51****	**2.01**	**0.42***	**1.71**
PBV	-	-	-	-	**0.11****	**1.96**	**0.10****	**2.24**
BESTBOARD	**0.04****	**1.97**	0.27	0.50	0.02	0.16	**-0.23***	**-1.69**
NM	**0.06****	**2.35**	**0.90***	**1.66**	-0.01	-0.08	-0.03	-0.19
AGE	0.00	1.04	-0.01	-1.14	0.00	0.87	**0.001***	**1.68**
ROA	-	-	**0.06*****	**3.00**	-0.00	-0.92	-0.00	-1.37
LEVERAGE	-	-	0.01	0.31	**0.01*****	**2.92**	0.01	1.50
MKTRETURN	-	-	-	-	-	-	**1.11*****	**5.08**
REALSTATE	-0.04	-1.33	**-1.99*****	**-2.96**	-0.10	-0.52	-0.16	-0.91
MANUF	**-0.06****	**-2.41**	-0.69	-1.19	**-0.34***	**-1.83**	**-0.32****	**-2.19**
FINANC	0.05	1.52	-0.79	-1.10	-0.16	-0.87	**-0.26***	**-1.81**
R^2	0.44		0.79		0.43		0.60	
No. Observations	100		92		92		92	

Table 6 - Effect of underwriter loans on short-run (underpricing) and long-run (PBV and TSR) performance.

This table shows the results of OLS regressions estimating the effects on post-IPO performance of underwriter banking loans to IPO firms. The dependent variables are separated into short-term performance, measured by the first-day return (UNDERPRICING) and long-term performance, measured by the price-to-book value (PBV) and the total shareholder return (TSR), both of them computed one year after the IPO date. TSR market-adjusted is reported in a separate column due to the inclusion of Bovespa's market index (IBOVESPA) as a proxy for market performance. The key explanatory variables are interactions between the identity of underwriters – Credit Suisse, UBS, any Brazilian investment banks (BRAZIB), and any foreign investment banks except CS and UBS (FOREIGN) – and the dummy for lending operations. For instance, LOANSBYCS represents IPOs where the companies received significant loans from Credit Suisse. Definitions of all explanatory variables are presented in detail in Table 1. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All models were estimated with heteroscedasticity-robust standard errors.

	Short-run performance		**Long-run performance**					
	UNDERPRICING		**PBV**		**TSR**		**TSR Market Adjusted**	
Explanatory Variables	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
LOANSBYCS	0.00	0.08	-0.45	-0.67	**-0.74*** **	**-3.92**	**-0.45*** **	**-2.96**
LOANSBYUBS	**-0.05** **	**-2.01**	**-1.28** **	**-2.04**	-0.28	-1.56	-0.02	-0.15
LOANSBYBRAZIB	**-0.07*** **	**-3.63**	**-2.02*** **	**-3.51**	-0.26	-1.17	0.10	0.71
LOANSBYFOREIGN	0.04	1.43	0.35	0.67	**-0.44*** **	**-2.79**	-0.09	-0.78
PEVC	0.03	1.20	0.32	0.60	-0.05	-0.31	-0.08	-0.62
BETA	0.03	0.65	**3.40*** **	**3.36**	0.02	0.07	-0.09	-0.39
PBV	-	-	-	-	**0.11** **	**1.88**	**0.11** **	**2.26**
BESTBOARD	**0.03** *	**1.83**	0.46	1.10	-0.19	-1.58	**-0.42*** **	**-3.20**
AGE	0.00	0.55	-0.01	-0.86	0.00	0.31	0.00	0.74
NM	**0.05** **	**2.22**	**1.17** **	**2.46**	-0.20	-1.30	-0.19	-1.63
ROA	-	-	**0.06*** **	**2.97**	0.00	-1.06	-0.00	-1.48
LEVERAGE	-	-	0.01	0.61	**0.01** **	**2.06**	0.00	0.48
MKTRETURN	-	-	-	-	-	-	**1.10*** **	**5.89**
REALSTATE	-0.04	-1.47	**-2.08*** **	**-2.86**	-0.05	-0.22	-0.12	-0.59
MANUF	**-0.06*** **	**-2.90**	**-0.94** *	**-1.69**	-0.30	-1.47	-0.25	-1.51
FINANC	0.05	1.26	-0.41	-0.60	**-0.47*** **	**-2.70**	**-0.52*** **	**-4.33**
R^2	0.40		0.79		0.39		0.56	
No. Observations	100		92		92		92	

Table 7 - Effect of underwriters' equity participation on post-IPO performance

This table shows the results of OLS regressions estimating the effect of underwriters as significant shareholders of IPO firms on post-IPO performance. The dependent variables are separated into short-term performance, measured by the first-day return (UNDERPRICING) and long-term performance, measured by the price-to-book value (PBV) and the total shareholder return (TSR), both of them computed one year after the IPO date. TSR market-adjusted is reported in a separate column due to the inclusion of Bovespa's market index (IBOVESPA) as a proxy for market performance. The key explanatory variables are interactions between the identity of underwriters – Credit Suisse, UBS, any Brazilian investment banks (BRAZIB), and any foreign investment banks except CS and UBS (FOREIGN) – and the dummy for relevant underwriter's equity positions on IPO firms. For instance, CSSHARE represents IPOs where Credit Suisse had a relevant stockholding position (%5 or more of total shares outstanding) of the going public company. Definitions of all explanatory variables are presented in detail in Table 1. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively. All models were estimated with heteroskedasticity-robust standard errors.

	Short-run performance		**Long-run performance**					
	Underpricing		**PBV**		**TSR**		**TSR Market Adjusted**	
Explanatory Variables	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
CS SHARE	0.11	1.44	0.13	0.16	-0.07	-0.15	0.13	0.34
UBS SHARE	-0.03	-1.26	-0.96	-1.40	0.08	0.31	0.17	0.81
BRAZIL SHARE	**0.14*** **	**4.44**	**6.50*** **	**3.01**	**-2.04** **	**-2.48**	-1.02	-1.50
FOREIGN SHARE	-0.01	-0.23	-0.49	-0.69	0.14	0.65	0.14	1.36
PEVC	0.03	1.43	0.39	0.77	0.03	0.19	-0.06	-0.42
BETA	-0.02	-0.47	**2.90*** **	**3.58**	-0.35	-1.22	-0.27	-1.18
PBV	-	-	-	-	**0.18*** **	**3.47**	**0.14*** **	**2.93**
BESTBOARD	**0.04** **	**1.94**	0.48	1.21	-0.16	-1.42	**-0.37*** **	**-2.97**
AGE	0.00	1.00	-0.00	-0.27	0.00	-0.73	0.00	0.27
NM	**0.04* **	**1.80**	0.66	1.41	-0.16	-1.03	-0.17	-1.28
ROA	-	-	**0.04*** **	**3.75**	0.00	-0.99	0.00	-1.33
LEVERAGE	-	-	0.01	0.66	0.01	1.36	0.00	0.00
MKTRETURN	-	-	-	-			**1.04*** **	**4.89**
REALSTATE	-0.01	-0.26	**-1.45** **	**-2.40**	-0.02	-0.10	-0.10	-0.58
MANUF	-0.03	-1.30	-0.29	-0.43	-0.22	-1.33	-0.23*	-1.89
FINANC	0.04	1.05	**-1.12* **	**-1.92**	-0.30	-1.54	-0.43***	-2.75
R^2	0.44		0.81		0.40		0.56	
No. Observations	100		92		92		92	

Chart 1: Total shareholder returns (TSR) as a function of the magnitude of underwriters' loans.

The chart below provides a qualitative view of the relation between the volume of loans (in R$ MM) by underwriters for their going public companies and the one year post-IPO total stock returns (TSR). We only include the 28 companies that have received loans for their IPOs.

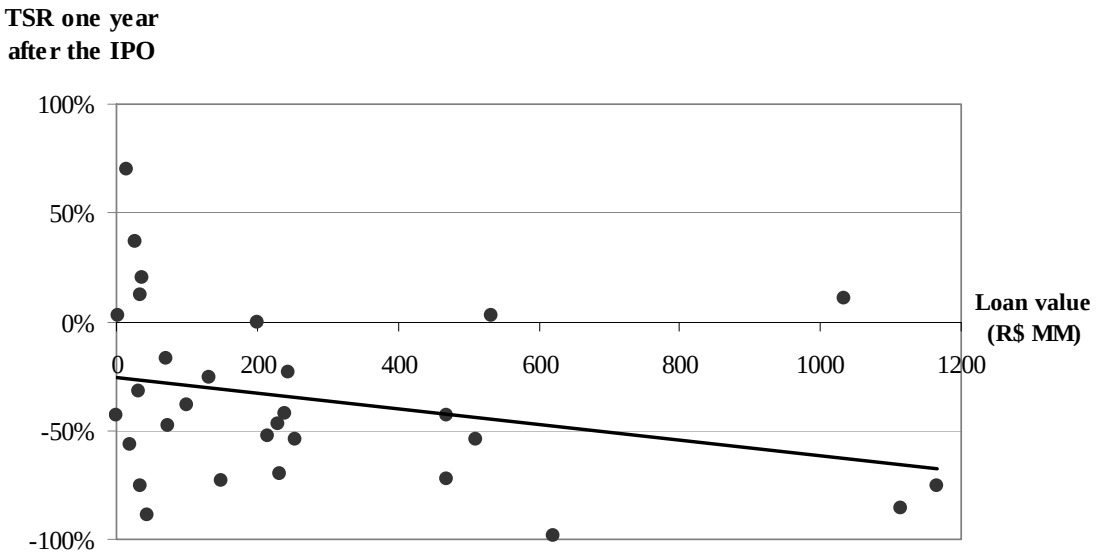


Chart 2: Financial ratios for companies with and without loans from their underwriters

The chart below shows the return on assets (ROA) and return on equity (ROE) one year after the IPO by splitting the sample in two groups: companies that received loans from their underwriters before their IPOs vs. companies without such operation. ***, **, and * denote statistical significance of the mean comparison test at the 1%, 5%, and 10% levels, respectively. Total number of observations (n) for each banking relationship is also shown.

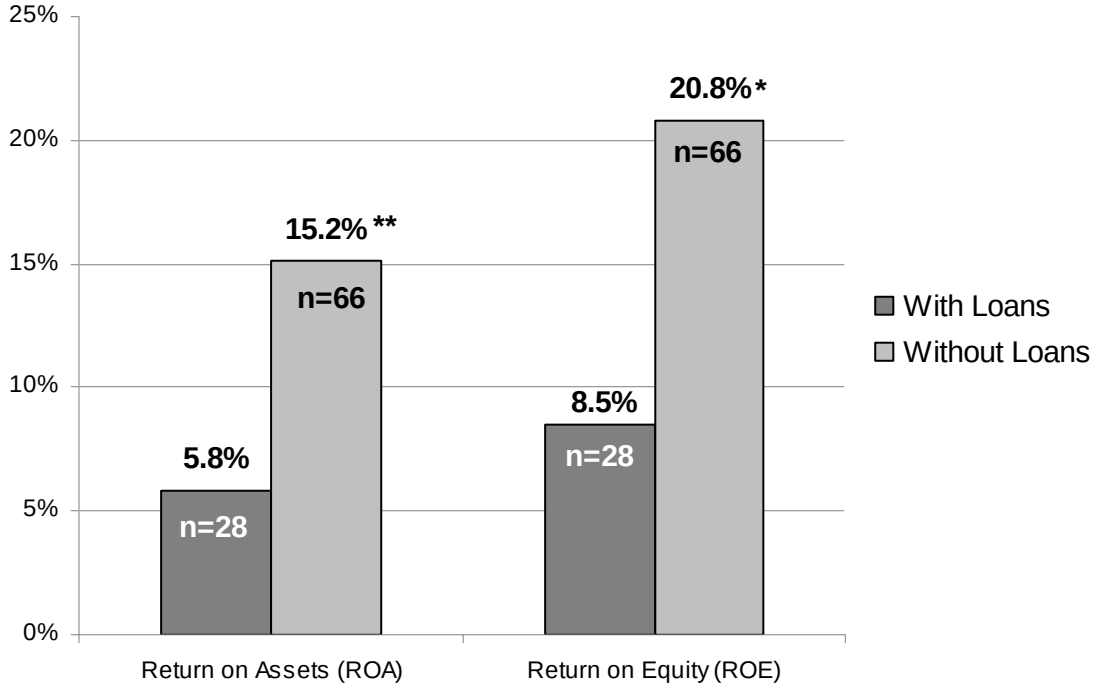


Chart 3: Short and long term stock return for companies with and without loans from their underwriters

The chart below shows the first day stock returns (UNDERPRICING) and one year post-IPO total stock returns (TSR) by splitting the sample in two groups: companies that received loans from their underwriters before their IPOs vs. companies without such operation. ***, **, and * denote statistical significance of the mean comparison test at the 1%, 5%, and 10% levels, respectively. Total number of observations (n) for each banking relationship is also shown.

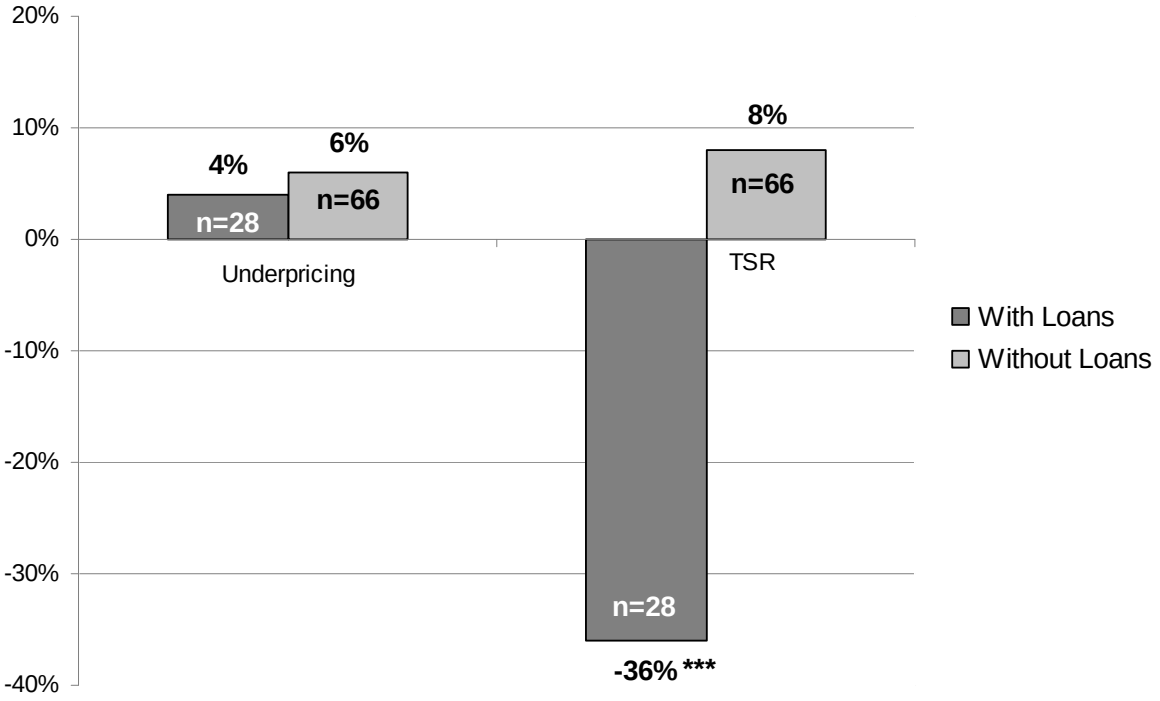


Chart 4: Financial ratios for companies with and without their underwriters as relevant shareholders

The chart below shows the return on assets (ROA) and return on equity (ROE) one year after the IPO by splitting the sample in two groups: companies with their underwriters as relevant shareholders vs. companies without relevant stockholding by their underwriters. ***, **, and * denote statistical significance of the mean comparison test at the 1%, 5%, and 10% levels, respectively. Total number of observations (n) for each banking relationship is also shown.

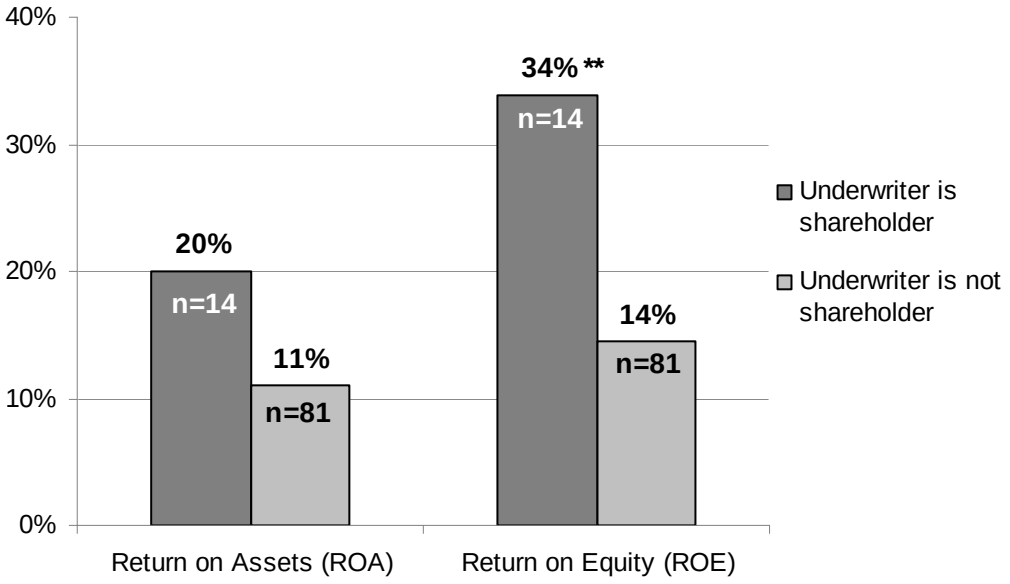
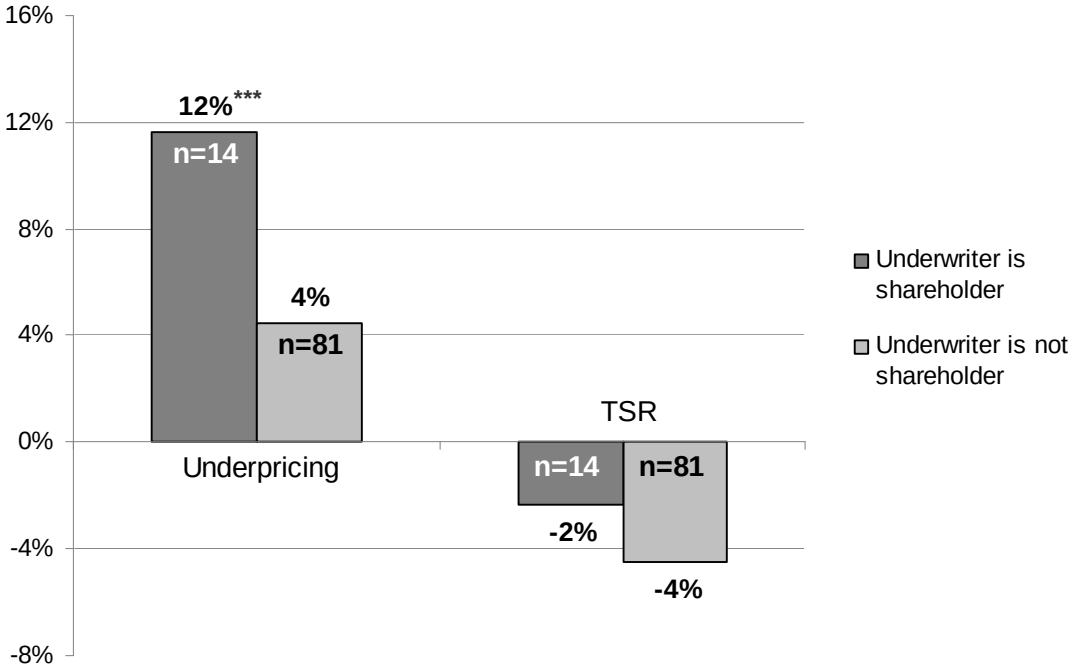


Chart 5: Short and long term stock return for companies with and without their underwriters as relevant shareholders

The chart below shows the first day stock returns (UNDERPRICING) and one year post-IPO total stock returns (TSR) by splitting the sample in two groups: companies with their underwriters as relevant shareholders vs. companies without relevant stockholding by their underwriters. ***, **, and * denote statistical significance of the mean comparison test at the 1%, 5%, and 10% levels, respectively. Total number of observations (n) for each banking relationship is also shown.



Appendix – One Illustrative Case

This appendix describes one illustrative case selected from our IPO sample.

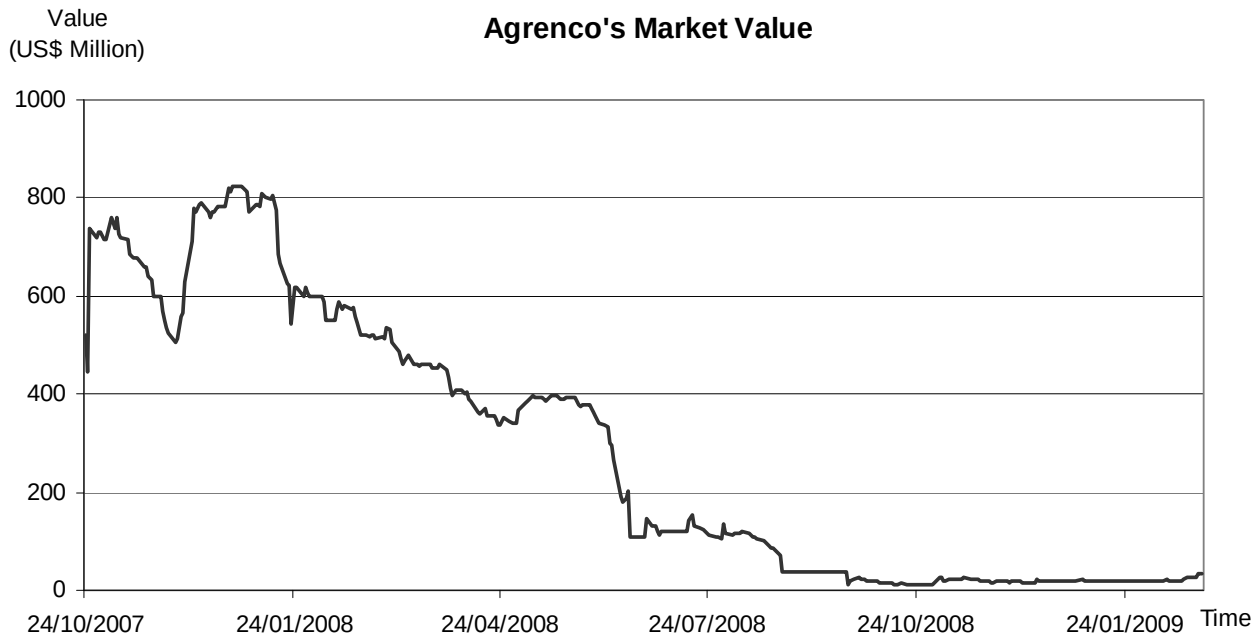
Firm: Agrenco Ltd.
Type of conflict: Firm pre-IPO leverage.
Industry: Agribusiness.
IPO date: October 24th, 2007.
IPO proceeds: R$ 666 million (US$ 370 million).
Underwriter: Credit Suisse (leading underwriter and sole bookrunner).

Agrenco operates in several agricultural processes, such as origination, tracing, storage, logistics, port operations, charter freight, export and distribution. Though its operational activity is mainly located in Brazil, the firm is headquartered in Bermudas, due to fiscal benefits. Agrenco went public in 2007, issuing BDRs (Brazilian Depositary Receipts), fifteen years after its inception. It raised about US$370 million.

At the IPO day, Agrenco BDRs closed at a 15% lower price, in a rare case of overpricing in our sample. One year after going public, Agrenco lost 98% of its market value (from R$900 million to less than R$ 60 million).

Although different problems emerged during the firm's life-time, including the imprisonment of its CEO and Chairman of the Board due to tax evasion less than a year after the IPO, possible conflicts of interest between Agrenco and its investment/coordinating bank may have contributed to worsen the firm's performance. Agrenco received approximately US$ 210 million as syndicated loans from its underwriter and other banks. As disclosed by the offering prospectus, part of the IPO proceeds would be used to repay this lending. Additionally, Credit Suisse was also a significant shareholder of the firm, owning 6.9% of total shares.

Either as creditor or equity investor, Credit Suisse's interests might have been linked to the short term share prices, which is actually recognized by the company as a risk factor in its prospectus.



[1] In comparison to this period, for the five years before, from 1999 to 2003, the Brazilian market had seen only 12 IPOs. Just two of them attracted more than US$150 MM in proceedings.
[2] We consider "significant shareholder" those banks who owned more than 5% of company's equity at the IPO date.
[3] A complementary result indicates that firms who went public lead by foreign underwriter banks achieved a better performance compared to firms that went public with national underwriters, except in cases where underwriters made loan contracts with the firm – in those cases, national or foreign underwriters seem to be harmful to stock performance, indistinctly.
[4] In December 2008, the Brazilian Securities and Exchange Commission (CVM) has put in discussion the implementation of stronger demands and new regulations about information disclosure on underwriters' previous relationships with their clients.
[5] For a worldwide country-level analysis about institutional development, banking regulation and firm growth, see Xie (2007).
[6] Schenone (2004) surveys the economics of conflicts of interest; Yasuda (2005) focuses on the effect of banking relationships on underwriter choice in the U.S. corporate-bond underwriting; Xie (2007) analyses the relationship between universal banking and firm performance in 40 countries; and Kutsuna et al. (2007) study the role of banking relationships in IPO underwriting in Japan.
[7] According to data from the World Federation of Exchanges (WFE), the Brazilian sotckmarket (BM&FBOVESPA) was ranked 8th place worldwide in 2008 in terms of IPOs volume proceedings. Besides, it represented 86% of all capital raised by stocks issuance in Latin America in 2008.
[8] http://www.capitalaberto.com.br/english/
[9] According to NASD rule 2720, c*onflict of interest* is presumed to exist when a company and/or its associated persons, parent or affiliates own 10% or more of the outstanding subordinated debt of a company, or own 10% or more of the firm's equity or 10% or more of the distributable profits or losses of a company. When NASD opened a precedent to Goldman Sachs underwrite its own IPO in 1999, the operation needed the approval of four qualified independent underwriters, among them banks such as Merrill Lynch e Morgan Stanley, some of Goldman Sachs top competitors. (Capital Aberto Magazine, 2008).
[10] Specifically, this section must explicit the existence of any underwriter's loans to firms, shareholders and subsidiaries. It also must disclose the destinations of these lending resources and clarify if there is any sort of conflict of interest associated with this operation.
[11] In fact, we are only able to check if the underwriter sold his shares in the first day of trading after the IPO. As all of the underwriters in our sample remained with their shares after this period, we cannot use such information as a proxy for their investment horizon.
[12] We set the value 1 to this dummy if any of the firm's underwriters made loans contracts with the firm, even if it is not the leader underwriter that did so, but any of the joint bookrunners.
[13] If there is no lending contract between the company and its underwriters, this section is not eliminated from the document, but it presents a statement confirming the inexistence of loans. This fact reassures us about the construction of our dummy.
[14] An example can be found in the prospectus of Agrenco Ltd., an agribusiness company: *"The interests of the lead underwriter may be excessively linked to the stock price once the Credit Suisse Brazil (Bahamas) Limited, a total subsidiary from the lead underwriter, is one of the firm's creditors and part of the proceedings of this IPO will be used to repay the lending made by Credit Suisse Brazil (Bahamas) Limited to Inlogs, our company's subsidiary.*" From: Agrenco Ltd. Prospectus, p 82. Issued on October, 23rd 2007. Available at http://www.agrencogroup.com/ir/
[15] We note that all underwriting banks classified in this dummy remain relevant shareholders immediately after the IPO, i.e., they do not sell their stocks in the first day of trading.
[16] The official Central Bank PTAX exchange rate at the end of the IPO wave (December 31st, 2007) was R$1.77/US dollar. For simplicity, we convert all amounts in R$ to US$ using an exchange rate of R$ 1.8/US$.
[17] This sole observation is responsible for the strong statistical significance of the "BRAZIL SHARE" variable in Table 7, when we analyse the effect of underwriters' ownership on PBV.