BRAZILIAN INITIAL PUBLIC OFFERINGS, UNDERWRITERS, AND PREMIUM CORPORATE GOVERNANCE SEGMENTS LISTING

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Abstract

We examined 89 offers in the most recent Brazilian IPO wave between 2004 and 2007, all listed in premium segments of the exchange that demand better corporate governance practices. Two non-US underwriters dominated the market, often acting as co-leaders and rarely as second-tier underwriters. Twenty-eight percent of issuers received pre-IPO loans from underwriters, which may constitute a conflict of interest. Syndicate membership increased with offer size, suggesting that distribution risk was relevant. Underwriter compensation increased with offer size, but percentage fees suggested scale effects. There was no evidence in favor of the relevance of underwriter reputation, certification, and price discovery roles. The study brings a portrait of underwriter relationships in this unique period of the Brazilian capital market.

Keywords: Investment Banks, Syndicate, Initial Public Offering

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1 Introduction

Brazil is one of the largest economies in the world. The country averaged 3.8 percent in gross domestic product (GDP) growth per year between 2000 and 2008 (World Bank, 2015), a spur that unfortunately subsided recently. Concomitantly, there was wave of 89 initial public offerings (IPOs) of stock in its market between 2004 and 2007. The number of IPOs reached an all time peak in 2007. There were only 84 IPOs in the 25 years prior to 2004 and only three in the five years before that year. There were 35 IPOs in the five years following 2007 (BM&FBovespa, the Securities, Commodities, and Futures Exchange of Brazil, 2015). New regulation, the creation of premium listing segments wherein companies voluntarily commit to extra corporate governance and transparency requests, among other advances, and a favorable view of the Brazilian economy in the years preceding and during the IPO wave may have motivated investors to buy them (Leal, 2011). All IPOs between 2004 and 2007 listed in those new segments of the exchange. The international financial crisis of 2008 ended the IPO wave. Foreign investors acquired an average of 70 percent of the volume issued from 2004 through 2007. This declined to an average of 58 percent between 2008 and July 2015, and to 40 percent between 2012 and July 2015 (BM&FBovespa, 2015).

The uniqueness of this Brazilian IPO wave motivated the examining of the quantity of lead underwriters, their compensation and relationships in the syndicates. We relate them to IPO characteristics, such as initial market-adjusted returns, ex-ante uncertainty, and offer size. Sixty-eight percent of IPOs had more than one lead underwriter and there were co-managers in 70 percent of them. Two institutions, Credit Suisse (CS) and UBS-Pactual (UBS), the Brazilian operation of UBS at the time, dominated the market, often partnering as lead underwriters. UBS sold its Brazilian operation to a Brazilian banker in April of 2009 as a consequence of its large losses elsewhere. UBS resumed operations in Brazil in 2010 as a much smaller outfit. Thus, this period is unique because of its unprecedented IPO activity and the dominance of CS and UBS as underwriters.

We contribute to the literature by providing a description of this IPO wave in one of the largest world economies and by presenting peculiar underwriting arrangements and relationships employed at the time, which may have brought about

serious conflict of interest concerns. Benveniste and Spindt (1989) propose the information production hypothesis stating that lead underwriters acquire information from potential investors to set the offer price. Corwin and Schultz (2005) report that the adjustment between the mid point of the preliminary offer price range and the final offer price maintains a positive relationship with the number of lead underwriters in the syndicate. Hu and Ritter (2007) argue that syndicates are a mechanism to compensate underwriters for analyst coverage, which increases share liquidity and company awareness. Commercial banking services, especially lending, may compensate underwriters for analyst coverage as well, as suggested by Santos, Silveira, and Barros (2009) in Brazil. Leal (2004) did not find any relationship between underwriter reputation and the ex-ante uncertainty in a sample of Brazilian IPOs between 1979 and 1992.

Our results indicate that lead underwriter dollar fees were proportional to the offer size, as expected, while the percentage fees suggest scale effects. Offer size may influence the number of lead underwriters but the relationship with the number of second-tier underwriters is not clear. There is a positive relationship between first day market-adjusted returns, which may represent the ex-ante uncertainty, and the number of lead underwriters, consistently with Corwin and Schultz (2005) and Hu and Ritter (2007). CS and UBS seldom acted as second-tier underwriters and often appear as IPO co-leaders. The largest US investment banks were present but not very active in the Brazilian IPO market at the time. Perhaps CS and UBS obtained a superior local advantage in the integration of their international distribution ability and local wealth management and investment banking capabilities. The largest Brazilian financial institutions often acted as second-tier underwriters possibly because they did not have the same international distribution competence.

The next section presents a brief review of the related literature, followed by a discussion of the main results and conclusions.

2 Literature review

Benveniste and Spindt (1989) describe an information environment in which the activity of underwriters upon investors results in the revelation of private information about the actual company market value. Information is acquired and incorporated into the price formation process until underwriters establish an offer price. Chemmanur and Krishnan (2009) argue that the ability of coordinating banks to spread information about the issuer contributes to the discovery of the intrinsic value and, consequently, the offer price. Dong and Michel (2009) and Chemmanur and Krishnan (2009) state that greater investor heterogeneity stems from the ability of coordinating banks and contributes to better price discovery as well.

Financial intermediaries usually form syndicates to share structuring activities and to accomplish the selling effort in equity offerings. One or more financial institutions lead or coordinate the syndicate. Corwin and Schultz (2005) list information production, certification via reputation, analyst coverage, and market making as the functions of IPO coordinating institutions. The preparation of the issuer and market, when lead banks gather and disseminate information that may contribute to the intrinsic value discovery, and the selling and price stabilization efforts in the secondary market, are the two stages of the IPO process, according to Pichler and Wilhelm (2001).

Corwin and Schultz (2005) argue that the relationship between coordinating institutions is vital to the composition of syndicates. A set of contracts among banks and between banks and the issuer formalize IPO syndicates. It is common to have a main contract between the lead underwriter and the issuer, and additional contracts between the leader and other banks, delegating some of its tasks. The lead manager has discretion to choose the other syndicate members, but the issuer and its main shareholders may influence syndicate formation. Pichler and Wilhelm (2001) assert that the leader may try to maximize its compensation at the cost of reducing issuer returns. The issuer should try to link underwriter compensation and potential outcomes when contracting the leader.

Fernando, Gatchev, and Spindt (2005) highlight the mutual selection between banks and issuers. Issuers seek price certification, attractive share prices, and price stabilization. Banks pursue large and easier to place offers and issuers that are more likely to survive over time. The mutual selection may settle based on the value and price of services as well as on prior business relationships between the issuer and underwriters. Hu and Ritter (2007) conclude that initial returns result from a non-cooperative bargaining game between issuers and underwriters. Syndicates prevent that issuers become captive of the leading bank, while compensating banks for analyst coverage, which contributes to price discovery, and other financial services. Hu and Ritter (2007) describe an environment analogous to the Brazilian market because all IPOs between 2004 and 2007 employed book building and most displayed syndicates.

Pichler and Wilhelm (2001) argue that the selling efforts of underwriters build reputation and that their relationships are intangible assets, which are difficult to replicate in the short term, enable them to obtain quasi-rents. The stability of association structures between institutions sustains joint gains, even though banks compete fiercely for syndicate leadership. Yet, Leal (2004) did not find a relationship between underwriter reputation and ex-ante uncertainty proxies for Brazilian IPOs between 1979 and 1992.

The leader carries out most of the work, gets a larger proportion of the shares to allocate using its discretion and clients, and collects more for its

services. The leader has no interest to share its leadership because IPO coordination increases the likelihood to participate in follow-on offers. Krigman, Shaw, and Womack (2001) evince that only a few issuers switch coordinating banks in subsequent offers. Participating banks, accordingly, have no strong incentives to cooperate with the leader in the bid setting. Co-managers distribute smaller offer portions and their compensation may consist of fixed and variable portions, depending on the quantity of shares effectively placed. The variable compensation component under dispute among co-managers is called "jump ball". The inclusion of more coordinators also comes at a cost to issuers because it may increase absolute compensation (Corwin and Schultz, 2005; Pichler and Wilhelm, 2001).

Lead underwriters accept more syndicate members as offer volume increases. The bargaining model of Hu and Ritter (2007) predicts that the price range disclosed in the preliminary offering memorandum increases with the number of lead underwriters. This may result from competition among banks, but does not derive from the information production model. The Hu and Ritter (2007) model assumes that underwriters compete using analyst coverage, the preliminary price range, and offer price, rather than compensation.

There is evidence that a larger number of coordinating banks leads to better offer price discovery. Corwin and Schultz (2005) find a positive relationship between the number of banks in the underwriting syndicate and the adjustment between the midterm of the preliminary price range and the offering price. They obtained a similar result for the presence of more co-managers. Hu and Ritter (2007) showed that larger syndicates lead to higher offer prices because members tend to compete more during the road show. Dong and Michel (2009), however, did not observe lower initial returns in the presence of more coordinating banks. They conjecture that offer prices are only partially adjusted to compensate investors for information revelation. Interestingly, Dimovski and Brooks (2004) affirm that coordinating banks do not contribute to price discovery in Australian IPOs between 1994 and 1999. IPOs executed without financial intermediaries displayed lower first-day initial returns than those brought about by underwriters.

Schenone (2004) reports that initial returns are lower for IPOs led by banks that previously lent to issuers, possibly reflecting less information asymmetry. Santos *et al.* (2009) reveal that lead underwriters often lent to issuers prior to Brazilian IPOs between 2004 and 2007. The authors argue that issuers used these pre-IPO loans to prepare and be more attractive at issuance, fetching a higher price and, thus, yielding a larger compensation for underwriters. The IPO proceeds paid for the loans. Santos *et al*. (2009) claim that this practice results in a conflict of interest because borrowing issuers underperform in the long-term aftermarket relative to non-borrowers, even though their initial returns evidence is analogous to Schenone's (2004). Twenty-eight percent of issuers contracted pre-IPO loans with their underwriters, which averaged US$ 155 million or about 30 percent of IPO gross proceeds (Santos *et al.*, 2009).

This brief review of the literature suggests three conjectures for empirical verification: (1) the offering price and the mid point of the preliminary price range will be closer to the closing price on the first trading day in offerings with more than one coordinating bank (better price discovery); (2) there will be more coordinating banks in larger offers (distribution risk); and (3) it is more likely that riskier issuers have only one coordinating bank in their IPOs, but with greater reputation (ex-ante uncertainty).

3 Results

The sample consists of 89 IPOs that took place between 2004 and 2007. All Brazilian headquartered IPOs listed at the new premium corporate governance segments of BM&FBovespa, with 86 percent of them listing in the two most demanding segments. None listed in the traditional segment, used by all earlier IPOs (BM&FBovespa, 2015). Bloomberg® was the source of market price data. IPO filings with the Brazilian Securities Commission (CVM, *Comissão de Valores Mobiliários*) provided the hand-collected IPO data. We analyzed preliminary and final offering memoranda, market notifications, and mandatory public announcements. A list with IPO details is available upon request.

Table 1 presents descriptive statistics for the variables defined in its notes. The average and median first day market-adjusted returns (MAR) were 5.65 and 3.44 percent, respectively. Santos *et al.* (2009) and Pinheiro and Carvalho (2011) present similar figures for the same time period. Aggarwal *et al.* (1993), contrastingly, report a much higher average market-adjusted return of 78.5 percent for 62 IPOs that took place between 1980 and 1990. These earlier results come from a time that Brazil experienced very high inflation rates and economic volatility, under a different regulatory environment and closed financial market, when the special corporate governance listing segments did not exist. In most cases, the midrange price is equal to the offer price. In most cases, the midrange price is equal to the offer price.

The average IPO size was approximately US$ 360 million. This is greater than the sum of all 66 IPOs between 1979 and 1992 (Leal, 2004). The underwriting fee is about four percent, lower than the typical seven percent fee in the US (Chen and Ritter, 2000). Underwriter prestige measures may be difficult to compare with those in the US given the different IPO and underwriter market characteristics of the two countries. The prestige measures herein are also different from those used in Leal (2004). The typical

number of lead underwriters was two, with two co-managers.

Table 1. Descriptive statistics for selected variables for 89 Brazilian IPOs from 2004 to 2007

Variable	Mean	Median	Standard Deviation
Offer characteristics:			
SIZE (BRL million)	795.01	548.68	977.97
MAR (%)	5.65	3.44	9.76
MIDCHG (%)	-3.59	0.00	15.47
RANGESIZE (%)	27.28	27.78	9.17
COMP (BRL million)	29.71	22.52	27.56
FEE (%)	4.05	4.00	1.14
Underwriter prestige:			
CM	7.54	8.00	1.87
JM	2.56	3.00	0.69
MW (%)	25.67	28.96	15.20
No. of underwriters:			
LEAD	2.01	2.00	0.78
COMAN	2.18	2.00	1.19
SYND	4.19	4.00	1.40

Notes: SIZE is the volume offered in millions of Brazilian reais (BRL). MAR is the first day market adjusted return defined as $(P_c/P_o)/(I_c/I_o)$-1, where P_c, P_o, I_c, and I_o are, respectively, the closing and opening market prices and Ibovespa index levels on the first trading day. MIDCHG is the percentage change from the middle of the preliminary price range to the offer price, and proxies for price dispersion. RANGESIZE is the percentage increase from the lower to the upper value of the preliminary price range. COMP is the gross compensation paid to lead underwriters in BRL million. FEE is the percentage compensation paid to underwriters relative to the offer volume. CM, JM and MW are measures of reputation based on Carter and Manaster (1990), Johnson and Miller (1988), and Megginson and Weiss (1991), respectively. LEAD is the number of first-tier lead underwriters. COMAN is the number of second-tier co-manager underwriters. SYND is the number of first-tier and second-tier underwriters in the syndicate. The average USD value in the period was BRL 2.22. Source: Bloomberg® for market price data and the Brazilian Securities Commission (CVM) for hand collected IPO data.

We computed the Pearson correlation coefficients between the variables in Table 1. They are not reported in the article but are available upon request. As expected, the coefficients among the underwriter prestige measures were significant at the five percent level and all of them are greater than 0.7. The same is observed among the number of underwriters in the syndicate. Thus only one underwriter prestige measure and one underwriter count should be used simultaneously in any model. The natural logarithm of the offer size is negatively and significantly correlated with the percentage underwriter fee (-0.19), suggesting that there may be scale effects in the compensation of underwriters. The natural logarithm of the offer size is positively and marginally significantly correlated with the number of underwriters in the syndicate, indicating that multiple underwriters are more common in larger offers. The five IPOs with offer size greater than BRL 1.5 billion (about US$ 680 million) had three or four lead underwriters.

Table 2 shows that the most common number of lead underwriters and co-managers was four. The number of lead underwriters in the period ranged from one to four but the median was two. There were two lead underwriters in most IPOs. Table 3 presents average offer characteristics according to the number of lead and co-manager underwriters. The number of co-managers declined with the increase in lead underwriters. There are more lead underwriters as the offer size increases. Naturally, absolute underwriter compensation increases with offer size. However, the average underwriter percentage fee declines with the offer size, suggesting that there are scale effects once again. The number of co-managers does not unambiguously vary with the offer size and underwriter percentage fee, except for the largest offers. One may observe the same for the total number of lead and co-manager underwriters. Thus, the relationship between the number of first-tier underwriters, average offer size, and average underwriter percentage fees seems clear, but it does not transpire when second-tier underwriters are considered.

Table 2. Lead and co-manager underwriters in 89 Brazilian IPOs from 2004 to 2007 by year

		Lead and Co-Managers		Lead Underwriters		Co-Managers	
Year	# IPOs	Median	% > 1	Median	% > 1	Median	% > 1
2004	7	5	86%	2	57%	3	71%
2005	9	5	100%	2	89%	3	67%
2006	20	4	95%	2	80%	2	85%
2007	53	4	96%	2	74%	2	89%

Source: Bloomberg® for market price data and the Brazilian Securities Commission (CVM) for hand collected IPO data.

Table 3. Offer characteristics by the number of lead and co-manager underwriters of 89 Brazilian IPOs from 2004 to 2007

No. of underwriters	Frequency	Average number of lead underwriters	Average number of co-managers	Average offer size	Average fee	Average percentage fee
Lead underwriters:						
1	22	–	2.1	551.2	23.2	4.2%
2	48	–	2.2	590.7	24.3	4.1%
3	15	–	2.0	998.3	37.1	3.8%
4	4	–	1.5	3825.0	103.0	3.4%
Co-managers:						
0	14	2.2	–	727.6	30.7	4.4%
1	4	2.5	–	747.1	25.0	3.3%
2	33	1.9	–	638.7	25.9	4.1%
3	28	1.6	–	628.3	25.5	4.0%
4	10	1.8	–	1891.2	54.6	3.6%
Lead and co-manager underwriters:						
1	4	1.0	0.0	527.0	27.7	5.2%
2	4	2.0	0.0	382.1	14.6	3.8%
3	16	1.8	1.3	770.4	31.9	4.3%
4	30	1.9	2.1	573.7	21.7	3.9%
5	24	2.0	3.0	677.4	27.6	4.0%
6	6	2.7	3.3	939.0	38.9	4.1%
7	3	3.0	4.0	1027.8	40.1	4.0%
8	2	4.0	4.0	6304.6	148.6	2.4%

Notes: average offer size and fee in BRL millions; the average USD value in the period was BRL 2.22. Source: Bloomberg® for market price data and the Brazilian Securities Commission (CVM) for hand collected IPO data.

Table 4 details underwriter relationships. UBS and CS clearly dominated the market. There are no clear reasons for their prevalence, but a survey of business news suggests that it was due to their pioneering investment in the segment in the period preceding this IPO wave and the retention of organized sell-side analyst teams. Moreover, considering the appetite of foreign investors for Brazilian IPOs in those years, their international distribution capacity, aided by integration of their wealth management and investment banking businesses, granted them an edge over their competitors. They rarely accepted to be second-tier underwriters (co-managers) in the period. Conversely, financial institutions that were less often lead underwriters seemed more likely to join large syndicates. The main Brazilian financial institutions in the occasion, Bradesco, Itaú, and Unibanco, did not have the same international banking integration and capacity as CS and UBS. However, it is not clear why the US investment banks were not as active as CS and UBS. Possibly they did not build the same local capabilities as CS and UBS.

Empirical regression models had the first day market-adjusted return (MAR), the offer price percent change relative to preliminary offer price midrange, and the percentage underwriter fee as dependent variables. The explanatory variables consisted of the lead and co-manager underwriter counts, underwriter reputation measures, and offer size.

Table 4. Main lead underwriters and their invitations in Brazilian IPOs from 2004 to 2007

	UBS Pactual	Credit Suisse	Itaú	Merrill Lynch	Unibanco	JP Morgan	Morgan Stanley	Bradesco	Goldman Sachs
Invited to be lead underwriters:									
UBS Pactual	-	9	2	2	0	1	0	1	1
Credit Suisse	6	-	2	1	0	0	1	0	0
Itaú	9	5	-	1	1	0	0	1	0
Merrill Lynch	3	0	1	-	0	1	0	1	0
Unibanco	4	0	0	0	-	1	0	0	0
JP Morgan	0	2	0	0	0	-	1	0	0
Morgan Stanley	1	2	0	0	1	0	-	1	0
Bradesco	2	0	0	1	0	0	1	-	0
Goldman Sachs	0	1	0	0	0	0	0	0	-
Total leader invitations made (1)	25	19	5	5	2	3	3	4	1
Invited to be co-managers:									
UBS Pactual	-	0	0	0	0	0	1	0	0
Credit Suisse	3	-	0	0	0	0	0	0	0
Itau	2	2	-	0	1	0	0	0	0
Merrill Lynch	2	1	0	-	1	0	0	0	0
Unibanco	7	0	0	0	-	0	1	0	0
JP Morgan	0	1	0	0	0	-	1	1	0
Morgan Stanley	0	0	0	0	0	0	-	0	0
Bradesco	9	4	0	1	2	3	1	-	0
Goldman Sachs	0	0	0	0	0	0	0	0	-
Total co-manager invitations made (2)	23	8	0	1	4	3	4	1	0
Total invitations made (3) = (1) + (2)	48	27	5	6	6	6	7	5	1
Total leader appearances of underwriter (4)	36	24	6	5	4	4	3	2	1
(1)/(4)	0.69	0.79	0.83	1.00	0.50	0.75	1.00	2.00	1.00
(2)/(4)	0.64	0.33	0.00	0.20	1.00	0.75	1.33	0.50	0.00
(3)/(4)	1.33	1.13	0.83	1.20	1.50	1.50	2.33	2.50	1.00

Note. We considered 85 IPOs coordinated by the most active underwriters between 2004 and 2007. Source: Brazilian Securities Commission (CVM) for hand collected IPO data.

The regressions in Table 5 suggest a positive and statistically significant association between market-adjusted first day returns (MAR), the "money left on the table", and the number of lead underwriters, or the sum of lead underwriters and co-mangers. This contradicts the hypothesis that more underwriters could lead to better price discovery, but is consistent with the hypothesis that greater ex-ante uncertainty would be associated to larger syndicates. The number of first and second-tier underwriters lost statistical significance in regression 4 of Panel A in Table 5 in the presence of the natural logarithm of the offer size, but this regression is problematic because size is positively correlated with the number of lead and co-manager underwriters in the syndicate. It is also possible that larger offers are more difficult to distribute and consequently underwriters underprice them more and use larger syndicates to sell them. There is no significance for the percentage change between the middle of the preliminary price range and the offering price. This is not surprising because this variable is zero in most IPOs. Table 5 also shows that there is no relationship between the number of lead and co-manager underwriters and the percentage underwriter fee. The underwriter prestige measures displayed no significant correlation with the first day market-adjusted returns and the percentage change between the middle of the preliminary price range and the offering price. Therefore, we did not include these variables in the regressions in Table 5. Leal (2004) used very different proxies for underwriter prestige but did not find any significant relationship with initial IPO returns as well.

Table 6 depicts the relationships between the size of the preliminary price range, defined as the percentage increase from the lower to the upper value of the range, and the number of key underwriters, underwriter prestige, and offer size. There is no

significance for any of the coefficients in Table 6. Ex-ante uncertainty, represented by the relative size of the preliminary price range, is not related to the number of lead underwriters, underwriter prestige, or the offer size. Leal (2004) found that initial returns increased with ex-ante uncertainty proxies, such as the past profitability and debt levels of the issuing firm.

Table 5. Initial return, price adjustment, fees, and number of first and second tier underwriters

Regression	Intercept	No. of Lead Underwriters	No. of Co-Manager Underwriters	No. of Lead and Co-Manager Underwriters	Ln (Offer Size)	*F*	Adjusted R^2
Panel A. Dependent variable: first day market-adjusted return (MAR**)**							
1	0.0005	0.0278				4.48	0.04
	(0.02)	(2.12)*					
2	0.0291		0.0125			2.09	0.01
	(1.35)		(1.45)				
3	-0.0178			0.0177		5.99	0.05
	(-0.56)			(2.46)*			
4	-0.9399			0.0062	0.0480	8.31	0.14
	(-3.21)*			(0.79)	(3.16)*		
Panel B. Dependent variable: offer price percent change relative to preliminary offer price midrange (MIDCHG)							
5	-0.0431	0.0036				0.03	0.00
	(-0.94)	(0.17)					
6	-0.0830		0.0216			2.49	0.02
	(-2.44)*		(1.58)				
7	-0.1065			0.0169		2.07	0.01
	(-2.06)*			(1.44)			
8	-1.2019			0.0032	0.0571	3.64	0.06
	(-2.47)*			(0.24)	(2.26)*		
Panel C. Dependent variable: percentage underwriter fee (FEE)							
9	0.0453	-0.0024				2.30	0.01
	(13.52)*	(-1.52)					
10	0.0434		-0.0013			1.68	0.01
	(17.24)*		(-1.30)				
11	0.0476			-0.0017		3.88	0.03
	(12.60)*			(-1.97)			
12	0.1018				-0.0030	3.30	0.03
	(3.02)*				(-1.816)		

Note: Cross-section ordinary least squares regressions for 2004 to 2007 Brazilian IPOs. All variables defined in Table 1. Figures in parenthesis are t-statistics. * denotes significance at the five percent level.

Table 6. Ex-ante uncertainty, syndicate size, and underwriter reputation

Regression	Intercept	LEAD	COMAN	SYND	CM	JM	MW	LSIZE	*F*	Adj. R^2
1	0.2776	-0.0024							0.04	-0.01
	(10.17)*	(-0.19)								
2	0.2645		0.0038						0.22	-0.01
	(12.94)*		(0.46)							
3	0.2642			0.0021					0.09	-0.01
	(8.50)*			(0.29)						
4	0.2591			0.0020	0.0007				0.05	-0.02
	(5.24)*			(0.28)	(0.14)					
5	0.2089			0.0017		0.0221			1.27	0.01
	(4.45)*			(0.25)		(1.56)				
6	0.2596			0.0021			0.0174		0.08	-0.02
	(7.25)*			(0.30)			(0.27)			
7	-0.0461			-0.0018				0.0162	0.59	-0.01
	(-0.15)			(-0.23)				(1.04)		

Note: Cross-section ordinary least squares regressions for 2004 to 2007 Brazilian IPOs. The dependent variable is MIDCHG, the offer price percent change relative to preliminary offer price midrange. LSIZE is the natural logarithm of SIZE. All variables defined in Table 1. Figures in parenthesis are t-statistics. * denotes significance at the five percent level.

4 Concluding remarks

This study examined an unprecedented wave of 89 Brazilian IPOs marketed between 2004 and 2007. A favorable perception about the Brazilian economy, institutional and regulatory advances, and the introduction of new segments in the local exchange with more stringent corporate governance and

transparency requirements possibly enticed foreign and local investors to purchase these new shares. The wave ended with the international financial crisis.

Two financial institutions, Credit Suisse and UBS-Pactual, clearly dominated the market and frequently co-led many offers. They rarely acted as second-tier underwriters. Prominent local and US institutions did not achieve such prowess. It is possible that they did not have the same integration between their local investment bank and wealth management affairs with their international distribution capabilities. It is also likely that US institutions did not compete in equal terms because their home regulations prevent them to underwrite offers from companies with whom they have other business and financial interests, such as pre-IPO loans identified in 28 percent of the offers in this period (Santos *et al.*, 2009).

The results offered weak evidence that underwriters form larger syndicates when the ex-ante uncertainty, represented by the first day market-adjusted returns, is apparently greater. This is consistent with Dong and Michel (2009) and contradicts Hu and Ritter (2007) and Corwin and Schultz (2005), lending no support for the price discovery conjecture, even under an improved corporate governance practices environment. Yet, an alternate proxy for ex-ante uncertainty, the offer price percent change relative to preliminary offer price midrange, failed, probably because most of its values are null.

The most reliable conclusion of this article favors distribution risk, given the weakness of these results. Syndicates increase with offer size simply because they are more difficult to sell. Underwriter compensation increased with offer size, but percentage fees suggested scale effects. The evidence confirmed the lack of influence of underwriter reputation in previous Brazilian studies. It is quite possible that underwriting market concentration, with two dominant institutions, renders reputation issues less relevant. The most remarkable difference in relation to earlier IPOs is the much lower first day market-adjusted returns, possibly indicating significantly lower ex-ante uncertainty under a more favorable economic and corporate governance backdrop.

The results herein also point out to the need of in-depth case studies of the IPO underwriting arrangements in this period. It is important to shed more light about the competitive advantages of the two dominant institutions that enabled them to command such as large IPO market share. Another area for future qualitative investigation is if the pre-IPO loans were a factor in the underwriter market concentration. The concomitant use of pre-IPO loans, with their potential to give way to conflicts of interests, with listing in premium corporate governance segments of the exchange is ironical and deserves further investigation.

References

1. Aggarwal, R., Leal, R. and Hernández, L. (1993), "The aftermarket performance of initial public offerings in Latin America", Financial Management, Vol. 22, No. 1, pp. 42-53.
2. Benveniste, L. M. and Spindt, P. A. (1989), "How investment bankers determine the offer price and allocation of new issues", Journal of Financial Economics, Vol. 24, No. 2, pp. 343-361.
3. BM&FBovespa, *BMFBOVESPA-OfertaS-Publicas-e-IPOS.xlsx*. [Online] July 2015. Available from: http://www.bmfbovespa.com.br/pt-br/mercados/acoes/ofertas-publicas/ofertas-publicas.aspx?idioma=pt-br. [Accessed: 22nd August 2015]
4. Carter, R. B. and Manaster, S. (1990), "Initial public offerings and underwriter reputation", The Journal of Finance, Vol. 45, No. 4, pp. 1045-1067.
5. Chemmanur, T. J. and Krishnan, K. (2012), "Heterogeneous beliefs, short sale constraints, and the economic role of the underwriter in IPOs", Financial Management, Vol. 41, No. 4, pp. 769-811.
6. Chen, H. and Ritter, J. R. (2000), "The seven percent solution", The Journal of Finance, Vol. 55, No. 3, pp. 1105-1131.
7. Corwin, S. A. and Schultz, P. (2005), "The role of IPO underwriting syndicates: pricing, information production, and underwriter competition", The Journal of Finance, Vol. 60, No. 1, pp. 443-486.
8. Dimovski, W. and Brooks, R. (2004), "Do you really want to ask an underwriter how much money you should leave on the table?", Journal of International Financial Markets, Institutions & Money, Vol. 14, No. 3, pp. 267-280.
9. Dong, M. and Michel, J. (2009) *Does investor heterogeneity lead to IPO overvaluation?* [Online] March 2009 Working Paper. Available from: http://ssrn.com/abstract=1364059. [Accessed 23rd August 2015]
10. Fernando, C. S., Gatchev, V. A. and Spindt, P. A. (2005), "Wanna dance? How firms and underwriters choose each other", The Journal of Finance, Vol. 60, No. 5, pp. 2437-2469.
11. Hu, W. Y. and Ritter, J. R. (2007) *Multiple Bookrunners in IPOs*, University of Florida Working Paper. Available from: https://site.warrington.ufl.edu/ritter/files/2015/06/Bookrunners_1206_2007.pdf. [Accessed 23rd August 2015]
12. Johnson J. M. and Miller, R. E. (1988), "Investment banker prestige and the underpricing of initial public offerings", Financial Management, Vol. 17, No. 2, pp. 19-29.
13. Krigman, L., Shaw, W. H. and Womack, K. L. (2001), "Why do firms switch underwriters?", Journal of Financial Economics, Vol. 60, No. 2-3, pp. 245-284.
14. Leal, R. P. C. "Using accounting information in prospectuses to invest in Brazilian IPOs during high inflation years," Latin American Business Review, Vol. 5, No. 3, pp. 65-90. DOI: 10.1300/J140v05n03_04
15. Leal, R. P. C. (2011), "The Emergence of a Serious Contender: Corporate Governance in Brazil", in: Mallin, C. (Ed.), Handbook on International Corporate Governance - Country Analyses, second edition,

Edward Elgar Publishing, Cheltenham, UK, pp. 317-329.
16. Megginson, W. L. and Weiss, K. A. (1991), "Venture capitalist certification in initial public offerings", The Journal of Finance, Vol. 46, No. 3, pp. 879-903.
17. Pichler, P. and Wilhelm, W. (2001), "A theory of syndicate: form follows function", The Journal of Finance, Vol. 56, No. 6, pp. 2237-2264.
18. Pinheiro, D. B. and Carvalho, A. G. de (2011), "Efeitos da estabilização de preços sobre os retornos de curto prazo dos IPOs", Revista Brasileira de Finanças, Vol. 9, No. 4, pp. 489-520.
19. Santos, R. L., Silveira, A. di M. da and Barros, L. A. B. de C. (2009) *Underwriters Fuelling Going Public Companies? Evidence of Conflict of Interest in the Brazilian 2004-2007 IPO Wave*, University of São Paulo Working Paper.
20. Schenone, C. (2004), "The effect of banking relationships on the firm's IPO underpricing", The Journal of Finance, Vol. 59, No. 6, pp. 2903-2958.
21. World Bank (2015), *World Bank Data*. [Online] August 2015. Available from: http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG. [Accessed: 22nd August 2015]