THE ECONOMICS AND IMPLICATIONS OF AN INTIAL PUBLIC OFFERING

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Abstract
This paper aims at providing insight into the mechanics of an initial public offering, for both companies prospecting the choice of financing themselves on the market as well as investors looking to build their portfolio. The study shows that for certain applications, getting finance through an IPO is a very compelling and flexible option for companies as well as provide valid opportunities for investors. For emerging market IPOs should be a tool for development aside from classic debt instruments, however potential investors need to be aware of risks and drawbacks associated with the decision to participate or underwrite in an IPO.

Key words: *IPO, order book, secondary stock market*

JEL Classification: *D47, D53*

I. INTRODUCTION

The capital market is one of the most important factors in the development of large economies in the world, it is a tool by which companies or local governments can access capital from investors. From this point of view is a method of financing a significant share in the most advanced countries and emerging economies and the occurrence was conducted in tandem with the emergence and growth of capital markets.

The initial public offering (IPO) is the process by which a private company owned joint issue shares for public trading. To this end the issuer use the services of a financial services provider, usually an investment bank specializing in underwriting securities for determining the type and price of the shares when the market opening and access of investors to buy securities. It is a moment in the life of a company of great importance impacting many aspects both of the company's operations and interaction with the market. Management is responsible for a much more dispersed shareholders and information with respect to the financial health of the company, which previously were kept secret become public.

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II. ESTABLISHING THE PRICE AND STABILIZING THE SECONDARY MARKET

The price of the share offer is determined together with the manager leading by three methods in common practice:

1. Book building process, in which establishes a spectrum of price and requesting an expression of interest to investors. In this situation, there is flexibility in terms of the number and price of shares until the last moment. The most used is the most international listings.
2. Fixed price: the number and price of the offer is fixed in an early stage of marketing. But the bank guarantees the sale of the unsold shares carry the risk.
3. Auction: investors are bidding for the number of shares they want at a price. The show is a clearing price at which all shares on offer must find a buyer.

The "book building" involves a period in which the investment bank designated as principal underwriter or "bookrunner" to generate and receive special subscription and outside the market, demand from investors for the issue. Those records, that records the demand price is confidential, and the situation in that run and transactions through this mechanism, the transfer is considered outside the market, not guaranteed by a clearing house of a stock exchange, the default risk is borne underwriter.

At the close of the "bookbuilding" period when the prospectus was approved, leading manager will set the price and number of shares in the offer, at which time the union underwrite the offer, guarantees the payment to the issuer. The period of exposure is relatively low (less than 24 hours) and covers the space between fixing the prices and bids confirmation by customers. Since the register does not close only when there is sufficient demand at bid price selected, the risk is limited, and at the same time banks are protected by a force majeure clause that allows them to cancel the transaction in certain circumstances.

The expression of interest from investors is manifested through a bid that is determining a number of shares, price per share. There are three main types of bid: limit order, specifying the maximum price the investor is willing to pay, order "strike" for a number of shares (or a fixed amount of money) without consideration of the issue price, or a bid in increments in which the investor's request follows a procurement function after an incremental, equivalent to a succession of levels in order to limit price increases. The stepped bid provides the most information for bookrunner but in practice is not the most common variant. Finally, the aggregate demand curve results in a demand which will be the decision of price. The final price will always be lower than the minimum required to cover the offer, to generate demand and liquidity once the action gets on the secondary market. Fix final price resulting from negotiations between the issuer and bookrunner takes place at a level very close to the weighted average of all limit bids and at the level of oversubscription also affects the price, but with lower intensity.

In the situation the offer is oversubscribed, there is in the prospect the overallotment option, or financial jargon "greenshoe". This gives subscribers the right to buy and sell from issuers offer a larger number of shares at the offer price - maximum 15% of the total issued. Float number will therefore be higher than the company needs. The popularity of this solution is because it is the only legal option whereby a subscriber can stabilize the price of new issues by fixing the price. "Reverse greenshoe" option is a PUT through which the subscriber may sell shares back to the issuer.

The stabilization process is running not only to facilitate an adjustment of the price in the first trading days and also for the effective distribution of shares after their allocation, for a period up to 30 days. The main goal is to reduce volatility in the situation in which the action is traded on the high liquidity, in the idea of avoiding a sudden and significant price declines. One member of the underwriting syndicate has the right to conduct this operation and is almost always bookrunner in the market which will introduce a union bid at the bid price. If the selling pressure is high enough to cancel the bid, then the bid can be introduced at lower prices or stabilization effort can be canceled completely. Overallotment option described above is an effective tool for stabilization in two distinct scenarios.

1. If the offer is oversubscribed, an underwriter may sell up to 115% of the shares representing the excess of 15% being a short position. If after listing the shares are traded below the offer price, then the position is covered and the action can support the purchase price without taking the risk of holding shares long. If instead the price increases after the first day of trading, then technically underwriter would be in loss on the short position if they would cover the buying market. Exercising the greenshoe option, buys shares from the issuer needs to offer price to close the remaining short position.
2. If the offer is oversubscribed and the action is traded under the offer of price the underwriter may exercise its option PUT reverse greenshoe which can buy from the secondary market to 15% of the shares to stabilize the price and then sell them back to the issuer at a price offer. If instead the price increases the underwriter does not exercise his reverse greenshoe option.

Legislation in respect of any stabilization require certain rules, including full transparency in listing the methods of stabilization, a maximum of 30 days and maintain a register of all transactions that will be audited. Also the initial bid stabilization cannot be higher than the offer price and the future bid may not exceed the level of the original, unless the trader independently sell or buy shares at a price between initially bid offer price, which becomes new stabilization limit. Another method for stabilization is blocking the implementation of agreements between insiders and IPO managers through prohibiting the sale of shares for a specified period of time without the manager agreement. Terms of such agreements are included in leaflets and aimed temporary constraint number of shares on sale, insurance against an exit too aggressive of private investors and signaling a credible signal that insiders do not try to get rid of negative imminent information. In the expiry commitment companies averaged a record of 40% increase in daily liquidity and a mean decrease of 1.5% in a period of 3 days. There are rare instances in which the decline is much more aggressive and statistically speaking, the largest decreases occurring when the company was financed by private equity (venture capital).

Investor’s strategy varies depending on the temperature and how the market will perform allocations. If demand is sufficient, bookrunner may decide to increase the number or price of shares on sale. In a market numb the strategy is opposite, investors are waiting until the last moment in the hope that the price range will be lowered to increase the yield potential.

The advantage of this system to collect investor’s opinion gives the advantage of being flexible to allow adjustments in price and quantity in light of market developments and investor interest. Registry will not close if the offer is not underwritten least 100%, but there is also the risk that the entire transaction to be withdrawn due to insufficient demand while guaranteeing a fixed price sale. The auction price adjustment in turn has the advantage not to limit investors only to customers bidding IPO managers and avoid allocation problems facing other methods of price fixing, and improves undercutting problem. A common feature of all variants of the auction is that the final price to be paid is the same for all investors who bid the difference is only in how allocations are running.

Allocation is the process that decides which of investors who tendered shares will receive and in what proportion to the amount tendered. In case of a fixed price operation is simplified because there is only one sale to those who are willing to pay a predetermined price. More special situations occur when the offer is oversubscribed, so the number of bidS exceeds supply, and when there are different quantities of the same tender participant depending on the price differences.

From the perspective of the issuer allocation process must achieve several objectives such as maximizing revenue and encouraging investors will become shareholders or investors long-term "core" and encourage secondary market. This incentive covers the minimum sales accounts "quality" with an upward price pressure generated by buying from accounts that have failed to obtain holdings and short-term investors reduced allocations.

In recent years the allocation has gained more attention because of the perception of injustice in how the shares are distributed, considering the relatively high undercutting or money "left on the table" in financial jargon. The discrimination had especially among individual investors in front of the institutional ones.

Some studies have identified a conflict of interest between underwriters and issuers. If you first have discretion in allocating the shares, it will not automatically be used in the best interest of the company. Subscribers can "leave money on the table" in deliberately and allocate these shares to preferred customers as evidence that investment banks provide lots undercut by executives from other companies in exchange for future business. This form of bribes, called "spinning" in financial jargon was a popular method of attracting new customers for investment banks began, but legal framework started to discourage such conflicts of interest (Surowiecki 2002). Although this practice has attracted the attention of regulators, real economic studies on the impact are limited. Literature reflects the fact that likelihood that a company could change its banker drops dramatically from 31% to 6% for companies who received allocations of this type by changing its partners at IPO at the first secondary offering. This observation leads to the conclusion that the practice is effective in protecting banks and promoting business future activities. Regarding the impact of its own proposals, conclusions lead to greater indifference managers who received allocations in attractive deals on its own evaluation of the offer, the phenomenon of undercutting is higher by 23%, given that all other parameters are unchanged. Although the practice has disappeared stock market in the United States, these observations are relevant to other markets which were not dealt with legislative steps and other instruments such as bonuses from the sales of structured products (Liu and Ritter 2010). The mystery is reflected in the decision of firms to accept this phenomenon, and why not select a different mechanism of IPO such as auction-based, according to statements in the assessment is more difficult. Theory prospectus Ritter and Loughran is used to argue a higher tolerance of entrepreneurs in light of an assessment on the secondary market which would increase their personal wealth, thus eroding of their bargaining power.

There is little academic investigation to examine what happens to the money left "on the table" by undercutting, especially during the Internet bubble in 2000 when the phenomenon had a larger effect, but targeting preference to investment institutions or allocations type "friends and family" took a larger share in the years preceding the peak in 2001, the phenomenon that has reduced the opportunity cost of undercutting for company managers. Also, another observation relates to adjusting to the pace unexplained slowly to the offer price in the conditions in which subscribers receive new hits as well as a misfit complete in conditions where models predict a complete adjustment to public information market up in effective time of listing.

Another problem that exists in economists' concerns relate to the differences between private investors and institutional clients, who feel better informed and most important holdings of the scale. Evidence shows that when using the bookbuilding process, institutions will always be favored in making allocations.

In terms of the number of shares allocated on demand subscriber perception can lead to an over-allocation of up to 15% through a short position. Subscribers must decide definitely whether open a short position preferably in the presence of greenshoe options whereas there are historical examples that naked short positions were closed with substantial costs in conditions where demand was strongly underestimated. A famous example is Goldman Sachs who has recorded losses of $ 30 million in its secondary offering when it underestimated demand and sold short without covering their actions with the aim of stabilizing buffer. From the $ 99.75 offering price quotation jumped in a month to $ 132 which resulted in the closure position with the loss. An important conclusion is that a component of support and stabilization activities on the secondary market consists of an ex-ante allocation strategies and not just selling decisions ex-post.

Regarding the decision making process of the bankers, usually allocations are scheduled after the concept of installments targeted to specific markets, local or foreign. The event demand during the bookrunning has a great impact in establishing the proportion of local vs. international offer to investors or institutional vs. individual. Often amending installments mechanism for individual investors. "Clawback", form a positive opinion on the success of the offering. Despite the perception that some investors are excluded from the most attractive transactions, statistical analyzes conducted by Hanley, Wilhelm on a number of international offers do not identify the evidence.

"Presidential list" is the name of those who receive preferential allocation in an IPO in which reservations are special friends and family members of its employees. Usually a small percentage is reserved before making the price and this makes the access to these targeted groups to be very attractive. Due to the sensitivity nature of the information from an IPO, these allocations are accompanied by rules of confidentiality, which is why they have been ambiguous about who can participate and how to use the information.

When offers are oversubscribed, allocations can be discretionary or non-discretionary issuer bankers and intermediaries having considerable power of decision in terms of end investors will receive shares. Non-discretionary method can have two main options: allocations on a pro rata basis or based on random draw, but the procedures and selection criteria differ from one business to another. This is the most common solution to offer fixed price and auction. For example Infineon's offer was oversubscribed 8 times and managers Goldman Sachs and Deutsche Bank have decided to allocate by lottery offering shares to an investor of six. In contrast, a pro rata allocation may operate by applying a percentage to all investors or work with allocation levels. In the first case, an offer of 1.5 million shares for which applications are received 6.7 million allocation percentage is 22.39%, so an investor receives 111 shares at a request for 500. In practice there are very strict pro rata allocations rare. Most often sets an algorithm depending on the bid size and sometimes may combine the two versions as such offer EFG Eurobank in Greece in 1999, 40 times oversubscribed.

III. THE PHENOMENON OF UNDERCUTTING

Undercutting phenomenon is an anomaly that has been the subject of many scientific research that occurs in most offers and that opinions diverge in terms of an explanation. Several mathematical models have tried to explain this difference between the offer price and issue price are traded on the secondary market in the first day and evolution of the phenomenon over time. The US market, for example recorded an average return of 24% on the first trading day in the period from 1993 to 2008, despite high competition among subscribers. It raises the question of how investment banks fail to be competitive in conditions that consistently undercut bids that erodes the potential for issuing capitalization companies.

Although there is no academic consensus in this regard, we list some of the reasons most often cited, and dive into some of the assumptions and economic impact is considerable evidence consistent.

- "Winner’s curse" A simple mathematical exercise explains the psychology behind a decision by the investor. If there are two offers, one undervalued by 20% and another overvalued by 20%, equal investments in both of the situations, does not result in a yield 0 of statistically because of the issue of allocations that reduce the chances of the investor to receive 100% of the bid in the offer undervalued. Thus, even for an offer valued correctly, the investor will record a negative return, which represents a significant barrier to entry.
- Issuers will "donate" some money to investors to leave a good impression in the idea that they will return with secondary offers for additional capital.
- Pre-sales process requires a level of undervaluation resulting from the bargaining power of investors who are required opinion.
- In the marketing process, the exit of an important a player can generate a chain reaction, which motivates companies to accept a lower price for insurance.
- A conflict between issuers and underwriters: a problem of agency in the idea that subscribers want to limit marketing costs and general effort to sell shares.
- The Issuer is concerned about the placement of shares, meaning the quality of investors than their price. Reducing the price, it will have more generous options in respect of allocations.

One of the most popular theories explaining the phenomenon is based on two concepts: adverse selection and disclosure of information as a utensil for its improvement. The analysis of the size of the companies registered cost to an offer expressed by the phenomenon of undervaluation shows that an increase in awareness during preparation is correlated with a decrease of undervaluation. (Schrand and Verrecchia 2005). This negative relationship is significant for communication information relating to operational, financial and investment and only after controlling the factors affecting uncertainty of supply ex-ante and alternative methods by which the company can demonstrate quality show. The relationship is no longer valid for ads for peak PR. Paradoxically, the results are the opposite for Internet companies, which demonstrates a positive association between information and understatement. This observation is in keeping with theories that deliberately underselling the shares of companies generates online to attract investors' attention. The stakes are generating positive externalities or product market coverage increased from specialists resulting in improving the perception of value. Also for Internet companies, not adverse selection is the determining factor in the emergence undervaluation observation proved and that the intensity and frequency of information process in the pre IPO affect positively immediate liquidity in the secondary market measured by market depth and the spread between bids and ask.

To reduce the effects of adverse selection as a form of asymmetry, information must have several attributes: Information to be relevant in highlighting value; to address to a group of investors who would be uninformed about the sources of value in its absence; some investors have information even in the absence of information.

One aspect that has attracted the attention of economists is the historical undervaluation and changes by observing low frequency movements not related to the general state of the market to be "cold" or "warm". In the 80's the average return of the first day of trading amounted somewhere to 7% and the percentage in the 90's doubled. During the 2000's IT bubble yields grew inexplicably to a level of 65%, which resulted in a change of opinion on fundamental phenomenon of the reasons, because previously developed models no longer worked. Only after 2001 was returned to a normalized level of 12% on average and for all these changes have examined three hypotheses: the assumption of risk modification composition, the assumption realigning incentives and the assumption tool change objectives issuer.

Hypothesis composition change risk starts on the assumption that all riskier offerings will be more understated than the less risky, where risk is defined as uncertainty about the correct evaluation or technological uncertainty. Observation comes from models where equilibrium condition requires a level of undervaluation to encourage investors to participate in the tender. Although there are differences in the characteristics of companies that are listed, they are not significant enough to explain the differences in undercutting over time in terms of a relationship between yield and risk stationary. Only some of the changes can be attributed to the composition of risk in companies that lists although during the 2000's experienced a higher proportion of younger companies while the average age has increased successively in the post period of 2001.

Reasons for undercutting varies in time depends on the context of the market. In the 80's, the best explanation is the asymmetry of information, purchase information and dynamics of the so-called curse of the winners. In transforming IT bubble period it was due to the growing importance of opinion analyst's allocation practices in all considered attractive ("Hot issues") and the behavior of investors in private equity exit strategy.

The company's relationship with banks has implications for a firm that goes through the initial public offering to the extent and when a bank borrow a company she get private information that cannot be disclosed to third parties in a reliably in all conditions, but this link affects how the company and the market are informed asymmetric in relation to its actual value (Schenone 2004). Relevance analysis of lending relationships is even greater as commercial banks after 2000 and began to underwrite IPO's. If the selection of banks in the period before the IPO is an endogenous process and the type of relationship refers to direct loans and underwriting of loans where no bank has a receivable effective, robust evidence exists to reduce significantly undercutting. If the subscription nature of the relationship is then leveraged the company's investments have already enabled contact that is familiar with key market indicators underlying the assessment. For these reasons, while debt underwriting generate information faster, loans have the effect of closer monitoring and more generous default information. In these circumstances, even bearing in mind the anomalies related IT bubble in 2000, averaging phenomenon experienced an improvement of 17%. An interesting entry is that in terms of underwriting banking relationships, there is a greater likelihood that relations be maintained and the share subscription than a loan maintaining relations with commercial banks.

A wave of theories that departs from traditional explanations that may arise from information asymmetry whose heart behavioral agents. Besides its hypothetical investor "irrational" pushing the quotations above the fundamental, some theorists (Welch, 1992) argues that it can form "cascade information" if investors make decisions in a sequential, further bids being conditioned on the success of earlier other investors.

One of the latest theories comes from drawing an analogy between a typical market product and market subscriptions, subscription-based service differentiation and localized competition (Xiaoding and Ritter 2011). Due to non-price dimensions of investment banking products industry in oligopolies formed local subscribers, and therefore a limited number of intermediaries accumulate market power on a specific industrial sector. From this perspective the evidence leans towards a phenomenon that began to manifest especially in the last years: IPO sites are undercut when covered by top analysts ("All-star analysts"), when the subscribers have more expertise in the industry and they have to face a more concentrated markets underwriting.

IV. CONCLUSIONS

IPOs provide interesting opportunities for all parties involved, companies, investment bankers and investors. The mechanics of executing an IPO and the decision to gather capital with this tool is a strategic decision for every company. Additionally, investors need to be informed of the potential to invest in such issues, especially regarding negative drawbacks such as the undercutting phenomenon. By having the right tools for analysis and correctly determining the market behavior on IPOs at a technical level, the mechanisms of financing can be perfected. With further research on how to increase efficiency in IPOs, the use of this on emerging markets can increase, reducing the monopoly of traditional debt instruments. Additionally, correct research by investors can lead to improved returns on their portfolio, as long as the allocation problem is taken into account.

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