THE INFORMATIONAL CONTENT OF EQUITY OFFERINGS WITH RIGHTS AND FIRM VALUE

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Abstract:

The aim of this study is to test whether the relation between the informational content of equity offering announcements and their impact on the firm value depends on the motive of the offering. The use of the proceeds allows differentiating the equity issues according to the theories that explain capital structure choices. From a sample of 172 equity offerings with rights conducted by French industrial firms between 1984 and 2000, we find that the negative stock price reaction to the announcement (-1.9 %) is restricted to a sample of 95 issuers using the proceeds to finance a specific investment project. The remaining 77 operations exhibit no abnormal announcement valuation effect. Their motive to raise equity is to improve the capital structure and it is not directly related to a change in the assets structure. Furthermore, the announcement valuation effect of issuers financing a new investment is explained by information asymmetry theories, while the stock market reaction to other offerings announcements is related to optimal capital structure theories. In terms of informational content, the characteristics released at the announcement (gross proceeds, insurance and existing blockholders' precommitment) represent the entire managers' private information that investors have not anticipated at the time of the issue.

Keywords: *Event Studies, Seasoned Equity Offering, Valuation Effect, Capital Structure, Information Asymmetry, Timing, Tradeoff Theory*

JEL Classifications: *G14, G32*

1. Introduction

Since Modigliani and Miller (1958) seminal work, the impact of capital structure on firm value has been explored extensively. From a theoretical standpoint, two streams of theories, not mutually exclusive, have emerged in order to explain the choice between debt and equity. These theories are based on the tradeoff between debt and equity and the asymmetry of information between managers and actual/potential shareholders. More recently, the timing of the external financing decision has been shown to matter both from the theoretical and the empirical standpoint.

Surprisingly, two recent polls show that CFO's opinion about capital structure choice is at odds with some theoretical results; see Graham and Harvey (2001) for US firms, and Bancel and Mittoo (2002) for European ones. Financial flexibility (keeping unemployed capacity in every financing source) is what CFOs care more about. The timing of the financing decisions helps minimize the cost of capital while distress costs, the monitoring role of debt and free cash flow disgorgement are not considered to be relevant determinants of their capital structure choice. Taxes are not of primary importance in determining capital structure in the US while the evidence is mixed in Europe. Apparently, theoretical models are missing an important part of the picture. Nevertheless, polls are opinions expressed by practitioners and thus, must be considered with caution.

A direct test of theoretical models is not straightforward as they rest mainly on latent explanatory variables. Empirical research first aimed at finding variables, which explain the debt to equity or the debt to total assets ratios. Indirectly, this strand of research

should help investors anticipate the probability to raise equity or debt. Unfortunately, this approach precludes from examining the impact of capital structure on firm value. Therefore, most of the effort has been devoted to estimate the valuation effect of marginal changes in the capital structure.

To summarize the empirical evidence, raising equity or convertibles has a negative effect on existing common stocks while the issuance of straight bonds is neutral. The magnitude of the loss is related to the type of funds raised (equity versus convertibles) and to the issuing process (public versus rights offering). In the US, it ranges from –1% for rights offerings down to –3% for public offerings, convertibles showing an intermediate effect; see Eckbo and Masulis (1995). However, when other countries are considered, the evidence is mixed. In Japan, the positive effect of equity offerings can be attributed to the underwriting process; see Cooney, Kato and Schallheim (2003). Equity offerings with rights (EOR), which are the classic method to raise equity in Europe, constitute an interesting case. Common stocks react positively to the announcement of EORs in Germany and Norway while the opposite is found in France, the Netherlands and the UK[1]. Surprisingly, the use of the proceeds, which can be the financing of new investment opportunities or the repayment of debt, is unrelated to the valuation effect in

[1] Gebhart, Heiden and Daske (2001) for Germany, Bohren, Eckbo and Michalsen (1997) for Norway find positive stock price reaction ranging from 0.6% up to 1.5% over the two-day period surrounding the announcement; De Jong and Veld (2001) for the Netherland, Gajewski and Ginglinger (2002) for France and Slovin et al. (2000) for the UK are evidence of a negative reaction (from -0.7% down to -2.9%). Note that Marsh (1982) finds a positive reaction (2.2%) during the seventies in the UK.

the US market; see Mauls and Kowari (1986), McKesson and Parch (1986) and Jung, Kim and Stools (1996)[2] and little is known from other markets.

According to Eckbo and Masulis (1992), the flotation method conveys information to the market; thus, managers are expected to choose the best method in order to maximize the price at which the new shares are sold. As the flotation method may interact nonlinearly with other variables, we examine the valuation effect of Eros on the French market for three reasons. First, Eros represents most of the offerings in Europe while this method is marginally used in the US. Second, as in other countries from Continental Europe, banks dominate the debt market. EORs are a unique device to circumvent the financial constraint[3] when internal funds are lacking, in particular for small firms. Thus, EORs are the most popular way to tap the financial market. Third, an issuing prospectus, approved by the French market authorities, must be published making the information available across firms more homogenous. In particular, it contains the motives of the offering and, for some firms, the intention of the existing blockholders to subscribe or not. The main advantage of this issuing process consists in making available a precise timing associated to the information flow.

Our results can be summarized as follows. As documented by previous research, the market reaction to EOR announcements is significantly negative (e.g. Gajewski and Ginglinger, 2002). More interestingly, we find the motive of the offering to be a major determinant of the market reaction. When analysed separately, offerings improving the

[2] Repaying short-term debt does not affect the value of common stock significantly. However, their sample is small (15 firms) and, as the authors mention "should be caution given the cell size".

[3] Over the last twenty years, 30 French firms had listed pure bonds, 100 firms had listed convertibles and 300 made an EOR.

capital structure show insignificant abnormal returns while those made to finance new investments show significant negative returns (-1.86% over the 3-day period beginning at the announcement). From a legal standpoint, SEOs require the authorisation of the Extraordinary Shareholder's Meeting making the announcement partially anticipated. Using public information available at the time of the issue, we show that firms raising capital in order to finance new projects are comparable in terms of growth opportunities, leverage and cash to firms who had the authorization but decided to bypass the equity offering. Firms raising capital to improve the capital structure have more debt, less cash and are less profitable. Based on these characteristics, investors are able to infer the probability of equity issuance. A regression in a model of selection shows that information asymmetries and, to a less extend, market timing are the main determinants of the market reaction for firms financing new investments. The same model applied to firms rebalancing their capital structure confirms that the market is neutral to EOR announcements. However, optimal capital structure theories are given evidence since firms in the "capital structure" sub-sample getting closer to their target ratio experience higher announcement returns than firms moving away from it.

The remainder of the paper is organized as follows. In section 2, we describe the issuing process of equity offerings with rights in France. We examine the predictions of theoretical models with regard to the motive of the offering in Section 3. The valuation effect is estimated in Section 4. Section 5 presents a predictive model of new stock issuance in order to determine to what extent the offering is anticipated. In Section 6, we explain the cross-sectional differences of the abnormal returns. In particular, we

examine the impact of the information released at the announcement. Section 7 concludes the paper outlining our main results.

2. Description of equity offerings with rights in France

From a legal standpoint, the Extraordinary Shareholders' Meeting is the competent organ to authorise a SEO[4] and to settle the maximum amount to be raised. The decision must be taken at the qualified majority of two-third. Three methods are available to raise cash from shareholders: rights offerings, public offerings and units (a bundle of common stocks and warrants). When the board of directors is given the authorisation, the EOR must be completed within a 5-year period (3-year period for both public offerings and units). EORs represent 73% of the 416 SEOs, which were made during the 1984-2000 period. By far, it is the most widely used method to issue equity. However, it has become less popular recently because the price of the offering must be fixed long time in advance (at least three weeks before the end of the placement period).

The Extraordinary Shareholders' Meeting can decide to waive the subscription rights and make a public offering. In order to protect existing shareholders, the price of the offering has to be set equal or higher to the average of the ten lowest prices over the twenty days preceding the announcement. Frequently, shareholders are given a non-tradable purchase priority. On average, the operation lasts ten days. Public offerings (11% of the SEOs) are often motivated by the desire to increase shareholder's basis, making the international placement quite frequent. Consistent with this hypothesis, Errunza and Miller (2003) find the market reaction to global equity offerings made by

foreign firms on the US market to be economically and statistically insignificant; see also Gajewski and Ginglinger (2002).

Both the right and the public offerings are very risky during high volatility and bear market periods, making almost impossible to raise capital. Recently, the issuance of units, which represent 16% of the SEOs, has become popular. This instrument allows the issuers to shorten dramatically the offering period. As Gajewski et al. (2003) put it: "…the units have a very specific function on the French market. Part of them help to circumvent the offer price regulation for public offerings."; see also Cholet and Ginglinger (2001).

Given the specificities of both public and unit offerings, we focus our attention on the classic rights offerings. Once the authorisation has been voted, the board of directors decides when and at what conditions the equity issue will take place. An issuing prospectus is elaborated and submitted to the "Commission des Opérations de Bourse" (COB). After the COB has given its approval (visa COB), an official announcement is made in the "Bulletin des Annonces Légales Officielles" (BALO[5]). The prospectus is publicly available from the issuer and the members of the underwriters' syndicate when the firm decides to insure the offering. Current shareholders are granted subscription rights on a pro-rata basis. The subscription period lasts a minimum of ten business days. This period can be shortened as soon as all the rights have been exercised or that the issue is fully subscribed. There is also another legal minimum period of seven days between the BALO date and the issue itself. Anecdotal evidence suggests that, except

[4] The French equity issuance process is regulated by the Code de Commerce, Livre II, Chapitre V, articles L225-127 to L225-149.

[5] The BALO is the weekly official journal of French legal announcements.

when explicitly stated, most of the existing shareholders (blockholders and outside shareholders) subscribe to the issue.

3. The motive of the offering and capital structure theories

The use of the proceeds is twofold. The cash can be used to finance new investment projects, or to restructure the capital structure, which covers a wide range of motives. Repaying debt, improving the capital structure, preserving a full financing capacity (i.e. flexibility) to seize every profitable investment opportunity in the future and increasing the cash are frequently mentioned. The predictions of capital structure theories are examined in this context.

3.1 Financing new projects under information asymmetries

3.1.1 The adverse selection cost of information asymmetries

Assume that a) the firm faces an investment project, which cash flows are uncertain, b) managers behave in the interest of existing shareholders and c) the investment has to be financed with equity. In this setting[6], Myers and Majluf (1984) show that managers decide to bypass positive investment projects whenever the incremental value obtained by existing shareholders is lower than the fraction of assets in place and financial slacks

[6] For Miller and Rock (1985), the asymmetry rests on the ability of the firm to sustain its investment policy with internal funds. Assuming unchanged (on average) investment decisions, they conclude that external financing decisions are bad news about the future profitability and that the stock prices react negatively and proportionnaly to the amount of capital raised. Empirically, this model has received little support; see Masulis and Korwar (1986).

going to new investors. Investors infer from the equity financing decision that stocks are overvalued, especially if other financing solutions are available. The amount of the proceeds increases with the degree of manager's private information resulting in a more negative valuation effect on stock prices (e.g. Krasker, 1986). However, the under-investment problem may be reversed when the information asymmetry is restricted to firm's investment opportunities and not about the actual value of the firm; see Narayanan (1988). A high expected value of investment projects relative to the value of the assets in place reduces the adverse selection costs so that some equity issues could have a positive valuation effect on stock prices; see Cooney and Kalay (1993). Finally, when the management commits to fully participate to the EOR, the market reaction should not be negative; see Constantinides and Grundy (1989) and Daniel and Titman (1995, p. 754). This leads to the first hypothesis.

Hypothesis 1: The market reacts more negatively when firms, subject to information asymmetries, have to finance new investments with EORs. The abnormal returns are negatively related to the size of the issue. No specific reaction is expected when existing blockholders announce their intention to fully participate or when firms rebalance their capital structure.

3.1.2 The timing of the offering

- Time-varying information asymmetry

Until now, the set of investment opportunities was assumed to be constant. Suppose high quality firms forego profitable investments if they have to finance them by issuing undervalued securities as in Myers and Majluf (1984). If they were able to postpone

these projects, they could avoid under-investment by timing their investment-financing decisions when adverse selection costs are lower. For high quality firms, Korajczyk, Lucas and McDonald (1992) assume that the benefit of postponing the issue to a low information asymmetry period is balanced against the risk of project evaporation. Adverse selection costs being small soon after information releases, managers are more likely to wait for these periods in order to announce equity issues. For lower quality firms, timing is not a concern. The risk of evaporation is greater and managers are more tempted to issue underpriced securities.

In fact, the empirical evidence confirms that equity offerings are clustered closely after significant information disclosure like dividend announcements or quarterly earnings releases. In addition, the market reaction is more severe for issues that occur outside these reduced information asymmetry periods; see Dierkens (1991) and Korajczyk, Lucas and McDonald (1991) for the US market. Hence, the second hypothesis states the following.

Hypothesis 2: The market reacts more negatively when firms subject to information asymmetries have to issue new equity.

- The business cycle

Within the Myers and Majluf framework, Berkovitch and Narayanan (1993) address the relation between external financing decisions and the business cycle. Global economic conditions have three direct implications on external financing decisions. First, the need for external financing is more important during expansion phases of the business cycle than during recessions. Second, if investment projects payoffs are assumed to be increasing with economic conditions, equity issuers face lower adverse

selection costs and lower agency costs of free cash flow during business cycle up turns. Consequently, more firms choose equity financing as they anticipate better announcement valuation effects. Third, total market capitalisation increases during economic expansion phases. This increase accelerates the issue-invest decisions and the number of external financing decisions is positively correlated with the growth rate in the economy.

Under similar assumptions, Choe, Masulis and Nanda (1993) show that equity issues should be more numerous than debt issues and that the stock price reaction to equity issue announcements should be less severe during economic expansion phases. A similar result holds when market uncertainty over the value of a firm's assets in place decreases. Choe et al. (1993) validate these findings empirically. Accordingly, our third hypothesis is as follows.

Hypothesis 3: The market reacts less negatively to EORs during economic expansion phases.

3.1.3 The certification role of the underwriter

To reduce information asymmetry costs and alleviate the under-investment problem, firms can search for external certification about their quality. This signalling device has a cost for existing shareholders but it still could be an efficient solution to maximise the value of their shares. Chemmanur and Fulghieri (1994) develop a model about certification involving managers, investment banks and investors. To undertake an investment project for which they have private information, managers rely on external financing – equity in this case. Investment banks are able to acquire a fraction of managers' private information. Investors have no access to private information before

buying the shares. Managers can issue the shares directly to investors or sell them to the investment bank at a given fee. The investment bank becomes the underwriter only if managers agree on their noisy evaluation of the investment project. Investors consider the underwriter's reputation as the signal of the firm quality. High reputation underwriters have more facility to sell new stocks than low reputation banks. On one hand, this gives them incentives to build a good reputation by spending money investigating managers' private information. On the other hand, they get more underwriting contracts if they accept to sell overvalued securities. In this case, investment banks generate short-term profit by sparing investigation costs but loose the long-term benefit of a good reputation. According to this game, investors trust more highly reputed underwriters. High quality firms searching for good certification will contact good reputation underwriters. The consequence is that information asymmetry costs are reduced when highly reputed investment banks underwrite equity issues. Information costs are then maximised for firms issuing equity directly to investors because only low quality firms have the incentive to do so. Because the reputation of investment banks is difficult to assess, in particular when a few large banks dominate the market of investment banking, we formulate the following hypothesis.

Hypothesis 4: The market reacts less negatively when EORs are underwritten.

3.1.4 The subscription precommitment[7]

As Eckbo and Masulis (1992) notice, the proportion of equity rights issue purchased by current shareholders, *k*, is the key variable which helps reduce information asymmetries between insiders and outsiders. Uninsured EORs (insured) exhibit a high

(low) value of *k* and low (higher) adverse selection; thus, the market reaction is close to zero (negative). However, *k* remains unknown except when a subscription precommitment is announced. This leads to the fifth hypothesis.

Hypothesis 5: The market reacts positively (negatively) when current blockholders announce their intention to increase (decrease) their holdings.

3.2 Repackaging the capital structure

When information asymmetries are strongly reduced or vanish completely, marginal financing decisions fit well in the tradeoff theory, which states that the benefits of debt financing are offset by the costs leading to an optimal capital structure. These models include the analysis of the corporate tax advantage of debt against bankruptcy costs, the agency costs of debt and equity and the product market competition. An equity issue that moves the debt ratio closer (away from) to the target ratio should have a positive (negative) impact on the firm value, *ceteris paribus*. The definition of the target ratio, which is not observable, complicates the problem. As discussed by Masulis (1983) and Smith (1986), the set of investment opportunities can change over time, making difficult to test capital structure theories around the announcements of marginal changes. Another related problem is that a marginal change, taken in isolation, does not account for other adjustments of the capital structure like new bank loans issuance, which are not observable in real time. Furthermore, the optimal allocation between debt and equity may not be a fixed ratio but a range within it marginal financing decisions do not imply a significant change in the firm value. Accordingly, our sixth hypothesis is as follows.

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[7] See Bigelli (1998) for a review of European subscription rights and Eckbo and Masulis (1992) for the US.

Hypothesis 6: The market reacts positively (negatively) when the EOR moves the debt ratio closer (away from) to the target ratio.

4. The Valuation Effect

4.1 Sample description

Between January 1984 and December 2000, French industrial firms[8] realised 368 rights offerings of common stocks. To be included in our sample, issuers must be present in the *AFFI* database for operations realised before July 1, 1991 and in *Datastream* for operations made from July 1, 1991 on, from which daily prices, dividends and market index values are collected. Each issuer must have data available at least from one year before the operation. Firms with more than 50 % of missing daily returns are excluded[9]. Information about the issue modalities and the use of the proceeds are taken from the issuing prospectus[10]. When these data are unavailable at the COB, the SBF and at the firm itself, the operation is eliminated. Balance sheet and profit and loss statements must be available for the last five fiscal years.

The sample includes 172 operations[11] with 77 for pure capital structure matters and 95 for financing a new investment project. The visa COB is retained as the first

[8] Firms classified as Financial firms (banks and insurance companies) are excluded.

[9] Daily returns are defined as missing when both the daily price variation, the volume of trades are nil and the index return is non zero.

[10] We thank Grégoire Henriotte at the COB and Marc Douëzi at the SBF for their help in collecting the issuing reports.

[11] Based on the classification of Worldscope one-digit SIC codes, no statistical significant difference in terms of industries is observed (*p*-value of 0.37) between the sample and the maket as a whole.

announcement that includes the complete modalities of the issue[12]. About 70 % of the issues are realised within the year following the authorisation to issue. Less than 15 % of the operations occur during the second year, the last 15 % are distributed among years 3 to 5. These proportions hold for the sub-samples. The average issuing discount of 21 % is consistent with the findings of Gajewski and Ginglinger (2002).

Insert Table 1

In Table 1, the difference between the characteristics of firms issuing capital for "Financing New Investment" or rebalancing their "Capital Structure" are presented. The former are bigger in terms of market capitalization. The latter appears to be more financially constrained. A closer examination of the debt-to-assets ratio, the profitability, the cash-to-assets ratio and the cash flow-to-assets ratio computed at the end of the pre-SEO fiscal year show that "Financing New Investment" issuers deliberately select equity financing although they are less levered, have more cash and higher cash flows than "Capital Structure" issuers. Thus, one could expect "Financing New Investment" issuers to be more exposed to adverse selection.

[12] The visa COB date and the BALO date. The visa COB date precedes the BALO date by at least one and up to nineteen days (median equals four days). Therefore, the COB date is preferred to the BALO as the first announcement date. Media may have published news about the operation but this kind of communications has two drawbacks. First, it is rarely complete. The exact proceeds, the issuing price, the modalities of the subscription rights are unknown. Second, the operation has not been approved by the COB, which means that every information is subject to modifications. Of course, these press releases help investors anticipate the event. However, the main informational content remains in the visa COB announcement.

4.2 Empirical Results

To account for missing data during the estimation period, we estimate the abnormal stock returns around the equity issue announcement with the method introduced by Heinkel and Kraus (1988). Abnormal returns are estimated from the post-announcement estimation period[13] because stock prices are known to experiment price runups before SEO announcements inducing a potential bias in the estimates. Daily returns are logarithmic returns computed with closing price adjusted for dividends and capital changes. The market-model type regression is the following:

$$R_{i,t} = \alpha_i + \beta_i R_{M,t} + \sum_{j=A_i-5}^{A_i+5} \eta_{i,j} d_{i,j,t} + \varepsilon_{i,t} \qquad (1)$$

where $R_{i,t}$ is the return of stock i on day t,

$R_{M,t}$ is the market returns (on the SBF 250 index) on day t,

A_i is the announcement day (visa COB date) for issuer i,

$d_{i,j,t}$ is a dummy variable equal to 1 when $j = t$ and 0 otherwise, $t \in \{6;255\}$

$\varepsilon_{i,t} \sim N(0, \sigma_i)$ is an error term.

Cumulative abnormal returns (*CAR*) are estimated with the following model :

$$R_{i,t} = \alpha_i + \beta_i R_{M,t} + CAR_i d_{i,nd,t} + \varepsilon_{i,t} \qquad (2)$$

where $d_{i,nd,t}$ is a dummy variable equal to $1/nd$ if t is included in the CAR horizon of nd days and 0 otherwise.

[13] Abnormal returns estimated from the pre-announcement period [-255;-6] are very similar. The results are available from the authors

Based on the standardised *t*-statistic of Boehmer et al. (1991), two hypotheses are tested:

$$\begin{cases} H1_0 : AR_t = 0 \quad vs. \; H1_A : AR_t \neq 0 \quad t \in [-5;5] \\ H2_0 : CAR_{nd} = 0 \; vs. \; H2_A : CAR_{nd} \neq 0 \end{cases}$$

where AR_t is the average abnormal return on day $t \in [-5;5]$,

CAR_{nd} is the average cumulative abnormal return over the horizon nd.

The generalized sign test gives similar results (not presented here) in term of significance. They are available upon request.

- Announcement abnormal returns

The stock price reaction is computed separately for the "Full sample" and for the "Capital Structure" and "Financing New Investment" sub-samples. Results are presented in Table 2 with their corresponding statistical tests.

Insert Table 2

Daily abnormal returns are not statistically significant before the announcement day, for any sample. Mean abnormal returns on day 0 and 2 are significantly negative[14] (at the 5% level) for the full sample, ranging from –0.33 % to –0.39 %.

When equity issues are split according to the use of the proceeds, the negative stock price reaction is restricted to the "Financing New Investment" sub-sample (with mean *AR* of -0.52 %, -0.68 % and –0.66 % on, respectively, days 0, 1 and 2). The announcement of a "Capital Structure" offering is neutral. After day 2, no abnormal returns are significantly different from zero for any samples.

[14] They are globally similar to the results of Gajewski and Ginglinger (2002, p. 306, Table VI).

The cumulative abnormal returns deserve two comments. First, the entire stock price reaction to the EOR announcement is reflected in the 3-day *CAR*, $CAR(0,2)$. The second comment addresses to the "use of the proceeds" argument that is given strong evidence. The 3-day mean *CAR* (-1.86%, significant at the 1% level) is restricted to the "Financing New Investment" sub-sample. Furthermore, the stock price reaction of these issuers is significantly worse at the 1% level (-1.79%) than that of "Capital Structure" issuers.

5. Predicting the use of the proceeds

Two problems plague standard event study methodologies. First, standard OLS estimators of the announcement valuation effect are inconsistent when managers voluntarily decide the event, as it is the case for SEO; see Eckbo, Maksimovic and Williams (1990). Rational managers initiate the SEO only when it provides some corporate or personal benefit. At the same time, rational investors are expected to use both the voluntary event announcement and managers' incentives to infer the net present value of private information.

Second, abnormal returns are related to the issuers' characteristics not only through the announcement but also through the investors' anticipation of the event. Indeed, investors use the firm characteristics to estimate the probability of occurrence, which introduces a selection bias.

5.1 Explaining the CARs: methodological issues

The limited dependent variable methodology allows deriving consistent estimators of the event valuation effect; see Acharya (1988, 1993), Eckbo et al. (1990), and

Prabhala (1997). The estimation is done with the two-stage procedure, first proposed by Heckman (1979)[15]. The first stage consists in estimating the probability to issue equity with a Probit regression. A "Non-Event" sample of firms that do not issue equity is required. In the second stage, the private information is calculated as a function of the probability to issue.

- The non-event sample

From the April's editions of the BALO between 1984 and 2000, a sample of 590 authorisations[16] to issue equity is collected. We consider firms that received the authorisation to issue but that do not realise the operation within the year after the Extraordinary Meeting as potential non-event firms[17]. For each issuer, firms that are in the no-issue period and that are in the same industry are considered as non-event firms. Data requirements for non-event firms are similar to those for issuers except for the issuing prospectus. Consequently, the final non-event sample (NE) includes 290 observations. The difference in medians between non-event and EOR sub-samples are presented in Table 3.

[15] For a short description of the methodology, see Appendix 1. Prabhala (1997) shows that the two-stage method has nice statistical properties in small samples, which is not the case for Maximum Likelihood and Non-Linear Least Squares.

[16] Authorisations are generally obtained at the Extraordinary Meeting immediately following the Annual Meeting (the same day) which takes place in April for firms disclosing their financial statements at the end of the calendar year.

[17] Multiple occurrences of a "Non-Event" firm during a specific year are excluded as well as firms issuing convertible bonds.

Insert Table 3

Consistent with the SEO literature, "Non-Event" firms are significantly larger than issuers. Other significant differences are due to the "Capital Structure", since "Non-Event" firms and "Financing New Investment" issuers share similar financial characteristics. However, "Financing New Investment" firms appear to be slightly more cash constrained (*p*-value 6.28%). These findings are consistent with the fact that "Financing New Investment" issuers have alternative financing solution to external equity and that "Capital Structure" issuers are more financially constrained (higher debt ratio), have low return on assets (ROA), less growth opportunities (*p*-value 5.60%) and low cash and cash-flow.

5.2 Description of the variables predicting the equity offering

- Information asymmetry

According to the Pecking Order Theory of Myers (1984), firms issue equity when they have exhausted other sources of funds (i.e. retained earnings and debt). Thus, we expect the probability to issue equity to be inversely related to the profitability (*ROA*). We retain the issuer's specific risk, *specific* , represented by the volatility of the market model residuals estimated over the pre-announcement period [-255;-6] as a proxy for information asymmetries; see Dierkens (1991). The greater the specific risk, the more negative should be investors' reaction to the SEO announcement. The issuer's stock price *runup* before the offering announcement is considered by the information asymmetry literature as a proxy for adverse selection costs; see Myers and Majluf (1984). Measured as the buy and hold return on the issuer's stock over the period

[-255;-6], this variable is expected to be positively related with the probability to issue equity.

- Timing

The stock market past performance, *Mrunup*, should be positively related to the probability to issue equity. A high market runup is interpreted as a good signal about the quality of growth opportunities. Conversely, the past market volatility *MVol* is a proxy for the market wide degree of information asymmetry and adverse selection. Equity issues are expected to be less frequent during periods of high volatility.

Insert Table 4

The credit spread, $\Delta credit$, and the term spread, $\Delta term$, as defined in Table 4 are indicators of current economic conditions. The wider the credit spread is, the greater is the chance to be in a downturn phase of the business cycle. Therefore, it is expected to be negatively related to the probability to issue equity. The term spread reflects the GDP growth rate and the price to raise equity is lower than debt in relative terms so that it should be negatively related to the probability to issue equity.

- Tradeoff

Deviation from a target debt ratio ($\Delta target$) controls for the tradeoff theories. The higher above target (defined as the industry median ratio) is the issuer's debt ratio, the better should be considered the SEO that drives the ratio closer to its target. Thus, $\Delta target$ is expected to be positively related to the probability to issue[18]. Agency costs are also considered as being part of the tradeoff between debt and equity. The free cash

flow (*FCF*) proxies the fraction of internal financing left in the managers' hand after all profitable investment opportunities have been undertaken. The greater is the free cash flow, the higher should be the agency costs and the lower the probability to issue.

- Other Control Variables

In addition, several variables often mentioned as a determinant of the capital structure in empirical research are considered; see Titman and Wessels (1988) and Fan et al. (2003) among others. Size and growth potential are commonly mentioned. The larger the firm, the lower should be the probability to issue. The *MB* ratio is an estimate of the issuer's growth potential, which lowers the impact of managers' moral hazard on the firm value. Hence, the *MB* ratio should be positively related to the probability to issue.

5.3 Probit analysis

Let y denote the net present value of announcing an equity issue. Managers realise the SEO only when the announcement NPV is non-negative (voluntary event). While investors cannot observe y, they know a set of public variables $\mathbf{X}$ that help them estimate y. Therefore, we construct the Probit model as follows:

$$\begin{aligned} I &= 1 \quad \text{if} \quad y = \boldsymbol{\gamma}'\mathbf{X} + \eta > 0 \\ I &= 0 \quad \text{if} \quad y = \boldsymbol{\gamma}'\mathbf{X} + \eta \le 0 \end{aligned} \tag{3}$$

where I is a dummy variable equal to 1 for equity issuers and 0 for non-event firms,

$\mathbf{X}$ is the vector of explanatory variables as defined previously,

$\eta \sim N\left(0, \sigma_\eta\right)$ is an error term.

[18] Graham and Harvey (2001) find that CFO set the target ratio in terms of book value (and not market value as in theoretical models of capital structure).

The γ coefficients and the probability to issue equity are estimated by maximum likelihood:

$$\hat{p}_j = \Phi\left(\frac{\hat{\boldsymbol{\gamma}}'\mathbf{X}_j}{\sigma_\eta}\right)$$

with Φ being the standard normal repartition function.

This model is estimated separately for "Capital Structure" and "Financing New Investment" (respectively CS and FNI hereafter) sub-samples because we expect these firms to behave differently. The results of the Probit regressions are presented in Table 5.

Insert Table 5

Model 1 shows that four explanatory variables are not significant on both sub-samples (i.e. FNI and CS). These variables are the market-to-book ratio (*MB*), the free-cash-flow ratio (*FCF*), the market runup (*Mrunup*) and the market volatility (*Mvol*). We drop these variables and reestimate the model (Model 2). The coefficients and their significance remain qualitatively similar. Interestingly, the significant variables in Model 2 seem to be sample dependent so that we test whether the coefficients of the Probit model over both samples are equal. The null hypothesis is: $H_0 : \boldsymbol{\gamma}_{FNI} = \boldsymbol{\gamma}_{CS}$ *vs* $\boldsymbol{\gamma}_{FNI} \neq \boldsymbol{\gamma}_{CS}$. For that purpose, we construct a Wald test:

$$W = \left(\boldsymbol{\gamma}_{FNI} - \boldsymbol{\gamma}_{CS}\right)' \left(\Omega_{FNI} + \Omega_{CS}\right)^{-1} \left(\boldsymbol{\gamma}_{FNI} - \boldsymbol{\gamma}_{CS}\right) \sim \chi_8^2$$

where $\boldsymbol{\gamma}_{FNI}$ ($\boldsymbol{\gamma}_{CS}$)is the vector of parameters for the FNI (CS) sample,

and Ω_{FNI} is the variance-covariance matrix of $\boldsymbol{\gamma}_{FNI}$.

The null is rejected at the 1% level ($W = 25.64$). In order to obtain reasonable estimates of the probability to issue equity, a third Probit model is estimated for each sample and with the significant variables only. These variables have the expected sign. Note that the pseudo R-square is higher (30% instead of 16%) for the constrained firms (CS sub-sample).

6. Cross-sectional analysis of the stock price reaction

6.1 Explaining the CARs

The following regression is estimated:

$$CAR(0,2)_i = \alpha + \mathbf{a'IA}_{\mathbf{i},t-1} + \mathbf{b'TG}_{\mathbf{i},t-1} + \mathbf{c'TO}_{\mathbf{i},t-1} + \mathbf{d'CV}_{\mathbf{i},t-1} + \delta\, private_i + \zeta_i \qquad (4)$$

$\mathbf{IA}_{\mathbf{i},t-1}$, $\mathbf{TG}_{\mathbf{i},t-1}$, $\mathbf{TO}_{\mathbf{i},t-1}$ and $\mathbf{CV}_{\mathbf{i},t-1}$ are vectors containing respectively information asymmetry, timing, tradeoff and control variables described in Table 4. Altogether, they form the information set available to the investors at time, *t*-1, before the offering announcement. As explained previously, $private_i$ is a variable summarizing the private information, which led managers to undertake the EOR. The results of the second-stage OLS regressions are presented in Table 6.

Insert Table 6

Model 1 rests on the information set available at *t*-1. It shows that "Financing New Investment" and "Capital Structure" sub-samples are sensitive to different variables. On one hand, consistent with hypotheses 2 and 3, information asymmetry and timing affect the stock price reaction to FNI offering announcements, the coefficients of *specific*,

runup, *Mrunup* and $\Delta credit$ being significant. On the other hand, the market-to-book ratio and the credit spread are the only significant variables that explain the *CAR*s of the CS sample. When *private* is introduced in the regression (Model 2), timing loses some of its influence in explaining the CARs. For both sub-samples, $\Delta credit$ becomes insignificant showing that taking into account investors' anticipation reduces the valuation effect imputable to present economic conditions. The CARs of FNI issuers are still explained by information asymmetry (*specific* remains significant at the 5% level and *runup* at the 1% level). Past market performance (*Mrunup*) keeps its explanatory power although that of timing decreases. The signs of these variables are consistent with predictions in Table 4. Most important is the significance of *private* with the expected negative sign. This finding exhibits that valuable private information is released at the announcement. Interestingly, the influence of *private* is restricted to FNI issuers, which are more exposed to information asymmetry. In Model 2, the stock price reaction of CS issuers is only explained by the *MB* ratio. Firms re-balancing their capital structure with the highest growth opportunities experience the best market reactions. In terms of regression explanatory power, the *adjusted* R^2 of the FNI sample equals 50 % while that of the CS sample is 10 %. The absence of significant stock price reaction to CS offering announcements is more likely to be due to a lack of impact of such operations on the firm value rather than a greater diversity in the individual abnormal returns. When the insignificant variables of Model 2 are eliminated (Model 3), the coefficients are stable as well as their significance.

6.2 The "private" variable and the information released at the announcement

The *private* variable can be interpreted as the announcement valuation effect of private information. However, the prospectus published at the announcement of the EOR contains relevant information in terms of valuation. Consistent with our hypothesis 1, the size of the issue is expected to be negatively related to the abnormal returns. This variable is measured as the Log of the gross proceeds, *LnGP*. The underwriting of the issue is expected to have a positive impact (hypothesis 4). We estimate this variable with a dummy *Ins*, which takes the value 1 when the issue is insured by a bank[19] and 0 otherwise. Three additional variables related to the hypothesis 5 capture the decision of existing blockholders to fully participate (the dummy *ParBH* is equal to 1 in this case and 0 otherwise), increase (the dummy *IncBH* is equal to 1 in this case and 0 otherwise) or decrease (the dummy *IncBH* is equal to 1 in this case and 0 otherwise) their participation[20]. Finally, the leverage effect deserves a special attention. Capital structure theories relate the market value of the firm to the leverage ratio (debt over equity in market value). As stated in hypothesis 6, when the firm deviates from (tends to) its optimal capital structure, the market should react negatively (positively). In order to test this hypothesis, we estimate the change in the leverage $\left(\Delta lev = \left|\left(D/S\right)_{after} - \left(D/S\right)_{before}\right|\right)$[21]. A dummy variable $\left(Dlev\right)$ captures the fact that the offering reduces $\left(Dlev = 1\right)$ the distance from the target ratio $\left(Dlev = 0 \text{ otherwise}\right)$.

[19] This insurance is voluntary (i.e. not to be confused with the legal warrant as defined by the French law).

[20] These variables are not redundant as no information is provided concerning the intention of existing shareholders in 20% of the issues.

[21] We take the absolute value in order to obtain relations easy to interpret.

Before returning to the announcement effect, the *private* variable is worth some comments. As noted in the Appendix 2, it is highly correlated (between 0.3 and 0.7 in absolute value) with other information asymmetry variables such as *specific*, *runup* and *lnGP*. This feature is especially valid for the "Financing New Investment" sample. In order to control for such effects, *private* is regressed on the total set of information released in the prospectus:

$$\begin{aligned} private_i = {} & \alpha_0 + \beta_1 specific_i + \beta_2 runup_i + \beta_3 lnGP_i + \beta_4 Ins_i + \beta_5 ParBH_i \\ & + \beta_5 ReBH_i + \beta_6 IncBH_i + \beta_7 \Delta lev_i + \beta_8 Dlev_i \times \Delta lev_i + \varepsilon_i \end{aligned} \quad (5)$$

The results of Regression (5) performed on both "Financing New Investment" and "Capital Structure" sub-samples are presented in Table 7. The *adjusted* R^2 of the FNI regression equals 0.71. The contribution of *lnGP* and *Ins* is highly significant as well as that of *runup*, other variables being insignificant at the 5% level. Overall, the explanatory power of the CS regression is lower. The contribution of *lnGP* and *Ins* (respectively *specific* and *runup*) is significant at the 1% (5%) level.

Insert Table 7

High correlations between *private* and other information asymmetry variables and the great explanatory power of information variables released at the offering announcement preclude using simultaneously *private* with other information asymmetry variables in a cross-sectional regression. These findings may show the limit of the two-stage conditional procedure but they bring new evidence about information asymmetry. A large fraction of the unanticipated private information is described by offering characteristics released at the announcement.

6.3 The contribution of the information contained in the prospectus

The following regression is estimated:

$$CAR(0,2)_i = \alpha + \mathbf{a'IA}_{\mathbf{i},t-1} + \mathbf{b'TG}_{\mathbf{i},t-1} + \mathbf{c'TO}_{\mathbf{i},t-1} + \mathbf{d'CV}_{\mathbf{i},t} + \mathbf{e'OC}_{\mathbf{i},t} + \zeta_i \qquad (6)$$

$\mathbf{IA}_{\mathbf{i},t-1}, \mathbf{TG}_{\mathbf{i},t-1}, \mathbf{TO}_{\mathbf{i},t-1}$ and $\mathbf{CV}_{\mathbf{i},t-1}$ are vectors containing, respectively information asymmetry, timing, tradeoff and other control variables. $\mathbf{OC}_{\mathbf{i},t}$ is the vector including the information variables released at the announcement.

Given the high number of explanatory variables, we restrict the analysis to the significant variables in regression (4). The results of regression (6) are summarized in Table 8.

Insert Table 8

The new variables introduced in regression (6) provide mixed results. On one hand, *lnGP* and *IncBH* are consistent with hypothesis 1. On the other hand, the negative coefficient of *Ins* outlines the importance of the underwriter's certification but this result is inconsistent with hypothesis 4. The insurance given by the bank to buy the shares that cannot be placed constitutes a bad signal for the market. Because this bad signal is restricted to FNI issuers, one could conclude that the information conveyed by the type of insurance concerns the investment/financing choice rather than a capital structure choice. Remember that the insurance given by a bank in *Ins* does not correspond to the legal insurance stipulated by the French law[22]. The role of the financial leverage is intriguing, as the FNI sub-sample does not react to a decrease of the

[22] If *Ins* is replaced by a dummy taking 1 when the offering is "legally" insured, the new variable is not significant.

leverage. This is due to the fact that capital structure changes are of smaller magnitude within this sub-sample. We found the relative size (SEO proceeds divided by the market value of equity) of FNI issuers to be significantly lower than that of CS issuers (-0.13; t-stat = -2.69); see Table 1. As hypothesis 6 suggests, when the capital structure gets closer to (moves away from) the target ratio, the market reacts positively (negatively), this is exactly what we find for the CS sub-sample. This result is quite strong and extremely interesting. It provides empirical evidence of the existence of an optimal capital structure. The value of the firm V as a function of the leverage (D/S) is almost flat around the target and steeper as soon as departing from it.

In order to control for a marginal effect of the unanticipated information, the residuals of equation (5) are added in the "Residual impact of private info model" (the last columns of Table 8). The new variable, $ResidPvt$, does not modify the explanatory power of the regressions or that of the variables. These findings lead to the conclusion that the entire valuation effect of the information unanticipated at time t-1 is contained in the offering characteristics released at the announcement.

6.4 Discussion

Two major findings are worth some further comments. First, the use of the offering proceeds is a crucial variable that differentiates two types of stock price reaction. When the motive of the offering is introduced in the set of explanatory variables, it only shows a limited impact on the valuation effect; see Gajewski and Ginglinger (2002) in France and Masulis and Korwar (1986), Mikkelson and Partch (1986) and Jung et al. (1996) in the US. By splitting the sample according to the use of the proceeds, we find that the negative stock price reaction is restricted to announcements of a "Financing New

Investment" offering. We also observe that the information asymmetry, the certification and the intention of blockholders to increase their holdings explain the valuation effect. These results are consistent with the theoretical models that relate investment opportunities to financing decisions. In the case of "Capital Structure" offerings, no abnormal reaction is observed. In exception of the market-to-book ratio and the capital structure variables, no explanatory variables remain significant all through the cross-sectional analysis.

The second comment deals with the informational content of the SEO announcement. The two-stage conditional methodology helps to understand and to take into account that the market could anticipate a fraction of the information leading to the EOR decision. Our contribution is to relate the unanticipated fraction of information to the characteristics of the offering. At the announcement, the size of the offering and the type of insurance play a significant role in explaining the valuation effect and the unanticipated valuation effect estimated by the Probit has no marginal effect once these characteristics are controlled for.

7. Conclusion

The decision to issue equity is voluntarily taken by managers, depending on their private information. However, investors are able to anticipate the EOR by computing the probability to issue based on a set of variables, which are common knowledge (public financial statements). This evidence tends to mitigate the market reaction at the announcement. To circumvent this methodological problem, we use a conditional event study methodology built on a regression in a selection model. This leads to two main

results. First, the announcement of "Financing New Investment" equity offerings conveys unanticipated information about the firm value or, more specifically, about the investment project net value. Private information cannot be entirely extracted from a set of pre-SEO public variables. Second, information released in the prospectus (i.e. the size of the offering, the change in the leverage, the underwriting of the issue in conjunction with the intention of existing blockholders to increase their holdings) increases the explanatory power of the valuation effect at the announcement.

More generally, the negative valuation effect comes from the "Financing New Investment" sub-sample. While hypotheses related to information asymmetries are not rejected, the timing of the issue and the tradeoff theory are given little support and subsume the proxy of the private information as defined in the conditional event study methodology. For the "Capital Structure" sub-sample, the market reaction is neutral. The hypotheses related to information asymmetry and timing are rejected. However, the change in capital structure explains abnormal returns. The insignificant market reaction comes from two opposite effects. Everything else equal, firms getting closer to the target leverage ratio react positively while those going away react negatively.

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Appendix 1: Truncated regression model adapted from Eckbo et al. (1990)

When the SEO is announced, investors infer that $\eta_i \geq -\boldsymbol{\gamma}'\mathbf{X_i}$. Then, the expected NPV of the announcement, conditional on managers' rationality is given by :

$$E\left(y_i \middle| \eta_i \geq -\boldsymbol{\gamma}'\mathbf{X_i}\right) = \boldsymbol{\gamma}'\mathbf{X_i} + E\left(\eta_i \middle| \eta_i \geq -\boldsymbol{\gamma}'\mathbf{X_i}\right) = \boldsymbol{\gamma}'\mathbf{X_i} + \sigma_\eta \frac{\phi(z_i)}{\Phi(z_i)} \qquad \text{(A.1)}$$

where

$z_i = \dfrac{\boldsymbol{\gamma}'\mathbf{X_i}}{\sigma_\eta}$ is the standardised value of public information,

$\phi(z_i) = \dfrac{1}{\sqrt{2\pi}} e^{-(1/2)(z_i)^2}$, the standard Normal density function of z_i,

$\Phi(z_i) = \int_{-\infty}^{z_i} \phi(z_i)\ dz_i$, the standard Normal cumulative function of z_i.

The announcement abnormal effect AE_i can be re-defined as :

$$AE_i = \boldsymbol{\alpha}'\mathbf{X_i} + q\sigma_\eta \frac{\phi(z_i)}{\Phi(z_i)} + \zeta_i \qquad \text{(A.2)}$$

where

$\boldsymbol{\alpha}'\mathbf{X_i}$ is the fraction of the announcement valuation effect imputable to the set of public information $\mathbf{X_i}$ [23], $\boldsymbol{\alpha}$ being a vector of coefficients,

$\sigma_\eta \dfrac{\phi(z_i)}{\Phi(z_i)}$ is the unanticipated stock price reaction imputable to managers' private information,

[23] The set of public information in Equation (2) is not constrained to be equivalent to the one in Equation (1), see Greene (1993, p. 708-713).

q is a coefficient measuring the sensitivity of the unanticipated stock return to private information.

$\zeta_i \sim N\left(0, \sigma_\zeta\right)$ is an error term.

Without losing generality, the volatility of private information can be set to 1 and thus, the estimated probability is given by $\hat{p}_j = \Phi\left(\hat{\boldsymbol{\gamma}}' \mathbf{X_j}\right)$. The truncation adjustment ratio is computed as follows :

$$private_i = \frac{\phi\left[\Phi^{-1}\left(\hat{p}^c_{j=i}\right)\right]}{\hat{p}^c_{j=i}} \tag{1}$$

where $\hat{p}^c_j = \dfrac{\hat{p}_j}{\hat{p}_j + c\left(1-\hat{p}_j\right)}$ is the probability extracted from the Probit model and corrected for the unequal sampling bias and c is a correction term; see Guo and Mech (2000).

Appendix 2: Correlations between variables

	CAR02	*ROA*	*specific*	*runup*	*Mrunup*	*MVol*	*Δcredit*	*Δterm*	*FCF*	*size*	*MB*	*private*	*LnGP*	*Ins*	*ParBH*	*RedBH*	*IncBH*	*Δlev*
Panel A : FNI sample																		
ROA	0.022																	
specific	-0.482	-0.082																
runup	-0.460	0.030	0.284															
Mrunup	0.262	0.066	0.021	-0.010														
MVol	-0.014	0.095	0.097	-0.128	-0.071													
Δcredit	-0.377	-0.085	0.189	0.162	-0.106	0.223												
Δterm	-0.270	-0.145	0.157	0.171	-0.424	-0.060	0.017											
FCF	0.290	0.190	-0.351	0.012	-0.067	-0.126	-0.150	-0.149										
size	0.046	-0.005	-0.355	-0.202	0.095	-0.031	-0.192	-0.113	0.077									
MB	-0.198	0.162	0.122	0.169	-0.041	0.295	0.195	0.227	-0.140	-0.001								
private	0.129	-0.109	-0.288	-0.718	-0.135	0.109	0.082	0.210	-0.069	0.636	0.023							
LnGP	-0.079	0.167	-0.227	-0.124	0.072	-0.006	-0.104	-0.080	0.113	0.743	-0.066	0.468						
Ins	-0.452	-0.197	0.124	0.286	0.001	0.051	0.335	0.186	-0.166	0.219	0.199	0.103	0.180					
ParBH	-0.151	-0.080	0.202	-0.035	-0.090	-0.119	0.099	0.087	-0.126	0.054	-0.127	0.123	0.063	0.164				
RedBH	-0.149	0.007	0.042	0.233	-0.021	0.082	0.060	0.169	0.105	-0.094	0.360	-0.142	-0.094	-0.011	-0.337			
IncBH	0.169	0.104	0.131	-0.035	0.040	0.180	-0.071	0.051	0.127	-0.131	0.086	-0.057	-0.057	-0.142	-0.178	-0.199		
Δlev	0.164	0.254	-0.163	-0.051	0.133	0.142	0.043	0.049	0.184	-0.138	0.182	-0.015	-0.199	-0.032	-0.012	0.216	-0.013	
*Dlevt*Δlev*	0.162	0.246	-0.186	-0.040	0.145	0.099	0.058	0.041	0.184	-0.104	0.157	0.000	-0.172	-0.048	-0.038	0.182	-0.036	0.938

Appendix 2: continue

	CAR02	*ROA*	*specific*	*runup*	*Mrunup*	*MVol*	*Δcredit*	*Δterm*	*FCF*	*size*	*MB*	*private*	*LnGP*	*Ins*	*ParBH*	*RedBH*	*IncBH*	*Δlev*
Panel B : CS sample																		
ROA	0.020																	
specific	0.094	-0.340																
runup	0.143	0.212	-0.073															
Mrunup	0.050	-0.021	-0.069	0.255														
MVol	0.169	-0.126	0.080	-0.163	-0.366													
Δcredit	-0.179	-0.051	0.120	-0.023	-0.008	0.085												
Δterm	-0.057	0.172	-0.573	0.050	0.073	0.124	-0.018											
FCF	-0.201	-0.001	-0.009	0.035	0.028	-0.154	0.064	0.053										
size	-0.057	0.172	-0.573	0.050	0.073	0.124	-0.018	0.024	-0.114									
MB	0.188	-0.008	-0.083	0.206	0.005	0.041	0.292	0.003	-0.221	0.028								
private	-0.144	0.523	-0.446	0.177	0.058	0.065	0.278	-0.016	-0.028	0.772	0.137							
LnGP	-0.022	0.037	-0.309	-0.092	-0.044	0.179	0.018	-0.147	-0.178	0.776	-0.088	0.541						
Ins	-0.030	0.057	-0.161	0.098	0.128	0.043	-0.094	0.074	-0.036	0.205	-0.007	0.114	0.097					
ParBH	0.050	-0.169	0.131	-0.123	-0.039	0.143	0.195	0.165	0.044	-0.009	-0.032	-0.054	0.068	0.106				
RedBH	-0.044	0.119	-0.052	0.097	0.022	-0.144	0.027	-0.023	-0.008	-0.120	0.137	-0.021	-0.165	-0.099	-0.350			
IncBH	-0.019	-0.200	0.169	-0.080	-0.071	0.132	-0.080	-0.096	0.220	-0.102	0.043	-0.148	-0.002	-0.114	-0.265	-0.153		
Δlev	-0.013	0.100	-0.204	0.336	-0.110	0.057	-0.024	0.345	0.110	0.082	0.140	0.176	-0.118	0.216	-0.080	0.062	-0.054	
*Dlevt*Δlev*	-0.019	0.077	-0.195	0.297	-0.119	0.060	-0.014	0.353	0.115	0.077	0.188	0.162	-0.127	0.206	-0.045	0.049	-0.063	0.982

For the definition of the varaibles see Table 4

Table 1: Characteristics of the sample of rights offerings

	FNI	**CS**	**Difference**
	95 obs.	**77 obs.**	
Issuer size (millions FRF)	820	308	**512**
			(2.34)
Issuing Discount	0.22	0.19	0.03
			(1.54)
MB ratio	1.90	1.45	0.45
			(1.29)
Relative SEO size	0.20	0.33	**-0.13**
			(-2.69)
Dilution	0.19	0.19	0.00
			(0.09)
Debt-to-Assets ratio	0.21	0.30	**-0.10**
			(-3.52)
Earnings-to-Assets ratio	0.04	0.01	**0.03**
			(4.21)
Cash-to-Assets ratio	0.06	0.03	**0.03**
			(2.70)
Cash-Flow-to-Assets ratio	0.09	0.05	**0.05**
			(4.02)

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level.
The issuer size is given by the market value of equity at the pre-SEO month taken from Datastream. The market-to-book (MB) ratio is computed as the last pre-SEO fiscal year book value of equity divided by the corresponding market value of equity. The book value of equity is taken from the "Dictionnaire Dafsa-Desfossés des Sociétés". The relative size of the offering is the raw SEO proceeds divided by the market value of equity at the pre-SEO month. The dilution is equal to the number of issued shares divided by the number of pre-existing shares. The raw proceeds is taken from the issuing prospectus. The issuing discount is equal to $1-\frac{issuing\ price}{last\ market\ price}$ and it is taken from the SBF report "L'Année Boursière". Earnings, Cash, Cash-flow and Assets values are the last pre-SEO fiscal year end values and they are taken from the "Dictionnaire Dafsa-Desfossés des Sociétés". Wilcoxon rank test statistics are given in parentheses below median differences in the last column.

Table 2 : Stock price reaction to SEO announcements depending on the use of the proceeds

	Full sample	**Capital Structure**	**Financing New Investment**
	172 obs.	**77 obs.**	**95 obs**.
AR(-3)	0.18	0.15	0.20
	(1.16)	(0.70)	(0.94)
AR(-2)	-0.20	-0.34	-0.08
	(-0.85)	(-0.58)	(-0.61)
AR(-1)	-0.13	-0.04	-0.19
	(-0.99)	(-0.51)	(-0.92)
AR(0)	*-0.33*	-0.09	*-0.52*
	(-2.25)	(-0.82)	(-2.32)
AR(1)	-0.33	0.09	*-0.68*
	(-1.63)	(0.05)	(-2.11)
AR(2)	*-0.39*	-0.06	*-0.66*
	(-2.02)	(-0.20)	(-2.51)
AR(3)	0.16	0.25	0.09
	(0.41)	(0.56)	(0.05)
CAR(0,2)	**-1.05**	-0.06	**-1.86**
	(-2.69)	(-0.01)	(-3.23)

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level. Abnormal returns (*AR*) and cumulative abnormal returns (*CAR*) around the SEO announcements are calculated with the following model : the parameters are estimated over a 250-day period after the announcement [+6;+255] with a WLS regression according to the Heinkel and Kraus (1988) methodology; *t*-stats (given in parentheses below means) are computed by normalizing abnormal returns by their standard deviations as in Boehmer et al. (1991).

Table 3: Median differences between EORs and non-event samples

	FNI - NonEvent	CS - NonEvent
Issuer size (millions FRF)	**-2589**	**-3101**
	(-7.15)	(-8.56)
MB ratio	-0.07	-0.52
	(-0.69)	(-1.93)
Debt-to-Assets ratio	-0.02	**0.08**
	(-0.42)	(4.17)
Earnings-to-Assets ratio	0.00	**-0.03**
	(-0.40)	(-4.95)
Cash-to-Assets ratio	-0.02	**-0.04**
	(-1.86)	(-4.87)
Cash Flow-to-Assets ratio	0.01	**-0.04**
	(0.77)	(-4.07)

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level.
Wilcoxon rank test statistics are given in parentheses. Variables are defined as in Table 1.

Table 4: Explanatory variables of the valuation effect

Theory	Variable	Expected sign	Definition
Panel A: Variables publicly known the month before the announcement date			
"Information Asymmetry"	ROA_i	-	Return on Assets (net income over assets in book value)
	$specific_i$	-	Issuer's specific risk estimated over the 250 trading days.
	$runup_i$	-	Issuer's stock price runup computed over the 250 trading days
"Timing"	$Mrunup_i$	+	Stock market runup computed over the 250 trading days prior
	$Mvol_i$	+	Market volatility compued over 75 trading days.
	$\Delta credit_i$	-	Credit spread (difference in yield between 10 year French corporate bonds and 10-year French government bonds)
	$\Delta term_i$	+	Term spread (difference in interest rate between 10-year French government bonds and 1-month Euro FRF rate)
"Tradeoff"	$\Delta target_i$	+	Deviation from the industry median leverage ratio (debt over assets in book values)
	FCF_i	-	Free cash flow (over assets in book value)
"Control variables"	$Size_i$	-	Log of the market capitalization
	MB_i	+	Market-to-book ratio
Panel B: variables released at the annoucement			
"Information Asymmetry"	$LnGP_i$	-	Log of the gross proceeds
	Ins_i	+	Dummy variable indicating whether the offering is insured by a bank
	$ParBH_i$	+	Dummy variable indicating that blockholders subscribe fully to the issue
	$RedBH_i$	-	Dummy variable indicating that blockholders reduce their holdings
	$IncBH_i$	+	Dummy variable indicating that blockholders increase their holdings
"Tradeoff"	*Dtarget*		Dummy variable indicating that the deviation from the median leverage ratio increases after the EOR
	Δlev	+ - if $Dtarget = 1$	Change in the leverage ratio (debt over stock in market value)

Table 5: Estimation of the probability to issue with a Probit model

	Model 1		**Model 2**		**Model 3**	
	FNI	**CS**	**FNI**	**CS**	**FNI**	**CS**
α_0	0.98	**2.12**	*1.13*	**2.45**	**1.51**	**2.39**
	(1.61)	(3.51)	(2.54)	(4.67)	(3.99)	(4.64)
ROA	0.37	*-6.61*	0.57	*-6.08*		*-5.93*
	(0.22)	(-2.61)	(0.34)	(-2.50)		(-2.48)
specific	137.25	**-170.03**	150.84	**-141.53**		**-138.52**
	(1.32)	(-3.37)	(1.45)	(-2.83)		(-2.86)
runup	**1.20**	-0.09	**1.17**	0.00	**1.12**	
	(3.96)	(-0.26)	(4.15)	(0.01)	(4.29)	
Mrunup	0.00	0.68				
	(0.01)	(0.86)				
MVol	18.50	46.41				
	(0.46)	(1.09)				
Δcredit	**-29.36**	**-38.62**	**-25.63**	**-28.62**	*-22.92*	**-27.94**
	(-2.97)	(-3.23)	(-2.72)	(-2.74)	(-2.39)	(-2.76)
Δterm	*-15.16*	-8.96	*-13.77*	-3.91	*-13.27*	
	(-2.63)	(-1.40)	(-2.55)	(-0.68)	(-2.52)	
Δtarget	0.73	*1.51*	0.76	*1.42*		*1.46*
	(1.35)	(2.52)	(1.44)	(2.40)		(2.45)
FCF	-0.49	-0.25				
	(-0.57)	(-0.26)				
Size	**-0.21**	**-0.40**	**-0.21**	**-0.36**	**-0.23**	**-0.35**
	(-3.76)	(-6.00)	(-3.78)	(-5.70)	(-4.63)	(-5.68)
MB	0.03	0.09				
	(0.70)	(1.85)				
pseudo R^2	0.18	0.32	0.16	0.30	0.16	0.30

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level
The dependent variable is the issue dummy, I_j, that takes the value 1 when the firm j belongs to the "Full sample" and 0 if it belongs to the "Non-Event" sample. The explanatory variables are defined in Table 4. *Z*-stat are given in parentheses. The $pseudo - R^2$ is the McFadden coefficient of determination.

Table 6: Private information effect on the stock price reaction

	Model 1		Model 2		Model 3	
	FNI	**CS**	**FNI**	**CS**	**FNI**	**CS**
α_0	-0.010	*-0.054*	*0.093*	-0.044	**0.111**	0.006
	(-0.45)	(*-2.62*)	(2.34)	(-1.60)	(3.65)	(0.50)
ROA	-0.056	0.021	-0.069	0.035		
	(-0.86)	(0.75)	(-1.12)	(0.99)		
specific	*-14.946*	5.978	*-18.929*	4.890	**-21.674**	
	(-2.12)	(1.45)	(-2.56)	(1.16)	(-3.17)	
runup	**-0.048**	0.009	**-0.097**	0.010	**-0.096**	
	(-3.08)	(0.74)	(-4.43)	(0.79)	(-4.81)	
Mrunup	**0.096**	0.035	**0.103**	0.037	*0.076*	
	(2.74)	(1.10)	(3.31)	(1.12)	(2.49)	
MVol	1.855	2.910	1.731	3.109		
	(0.84)	(1.37)	(0.91)	(1.46)		
Δcredit	*-1.637*	*-0.994*	-0.943	-0.856		
	(-2.36)	(-2.13)	(-1.29)	(-1.82)		
Δterm	-0.077	0.419	0.410	0.393		
	(-0.29)	(1.51)	(1.61)	(1.40)		
Δtarget	0.015	0.039	0.016	0.029		
	(0.50)	(1.48)	(0.51)	(0.96)		
FCF	*0.108*	-0.053	0.103	-0.054		
	(1.98)	(-0.98)	(1.68)	(-0.99)		
MB	-0.001	*0.004*	0.000	*0.004*		*0.003*
	(-0.29)	(2.39)	(-0.04)	(2.23)		(2.58)
private			**-0.057**	-0.006	**-0.057**	-0.011
			(-3.45)	(-0.68)	(-3.70)	(-1.44)
adj. R^2	0.45	0.11	0.50	0.10	0.48	0.04

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level
White heteroskedasticity-consistent standard errors
The dependent variable is the 3-day CAR. Static trade-off, information asymmetry, timing and other control variables are defined in Table 4. T-stat are given in parentheses.

Table 7: Private information and information released at the annoncement

	FNI	**CS**
α_0	**1.209**	*0.569*
	(11.57)	(2.09)
specific	-20.801	*-138.440*
	(-0.85)	(-2.23)
runup	**-0.851**	0.228
	(-12.09)	(1.51)
LnGP	**0.093**	**0.220**
	(5.09)	(5.01)
Ins	**0.254**	-0.030
	(4.30)	(-0.23)
ParBH	0.097	-0.083
	(1.39)	(-0.56)
RedBH	0.114	-0.022
	(1.69)	(-0.12)
IncBH	0.034	-0.236
	(0.36)	(-1.07)
Δlev	0.390	-0.042
	(1.22)	(-0.18)
$Dlev \times \Delta lev$	-0.395	-0.020
	(-1.23)	(-0.09)
adj. R^2	0.71	0.37

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level

The dependent variable is *private*, the information asymmetry valuation effect. It is computed as the truncation ratio (Heckman, 1979) : $private_i = \phi\left(\Phi^{-1}\left(\hat{p}_i^c\right)\right) \Big/ \hat{p}_i^c$ where ϕ is the normal density function, Φ is the normal cumulative function and $\hat{p}_i^c$ is the probability of issuance estimated from the Probit Model 3 in Table 5 and corrected for the unequal sampling bias. Explanatory variables are defined in Table 4, t-stat are given in parentheses.

Table 8: Stock price reaction and the information released at the annoucement

	Full information model		**Marginal private info model**	
	FNI	**CS**	**FNI**	**CS**
α_0	**0.049**	-0.004	**0.050**	-0.006
	(2.87)	(-0.22)	(2.79)	(-0.30)
specific	**-22.435**		**-22.284**	
	(-3.59)		(-3.52)	
runup	**-0.038**		**-0.038**	
	(-2.91)		(-2.83)	
Mrunup	**0.102**		**0.093**	
	(3.40)		(2.87)	
MB		*0.003*		**0.004**
		(2.24)		(3.15)
LnGP	*-0.007*	-0.001	*-0.007*	-0.001
	(-2.30)	(-0.20)	(-2.20)	(-0.19)
Ins	**-0.036**	-0.003	**-0.036**	-0.003
	(-3.63)	(-0.31)	(-3.61)	(-0.31)
ParBH	0.002	0.003	0.002	0.003
	(0.20)	(0.29)	(0.16)	(0.29)
RedBH	-0.007	-0.009	-0.008	-0.009
	(-0.64)	(-0.54)	(-0.68)	(-0.61)
IncBH	*0.030*	-0.006	*0.030*	-0.006
	(1.96)	(-0.40)	(1.96)	(-0.42)
Δlev	-0.023	-0.015	-0.024	*-0.016*
	(-0.60)	(-1.88)	(-0.58)	(-2.47)
$Dlev \times \Delta lev$	0.022	*0.016*	0.021	**0.018**
	(0.54)	(2.08)	(0.50)	(2.69)
ResidPvt			-0.019	-0.018
			(-0.93)	(-1.69)
adj. R^2	0.52	0.01	0.52	0.02

Figures in **bold** characters are significant at the 1 % level, *italics* significant at the 5 % level. White heteroskedasticity-consistent standard errors (in parentheses). The dependent variable is the 3-day CAR. Static trade-off, information asymmetry and timing variables are defined in Table 4. *ResidPvt* is the residuals of Regression (5)