

Rights issue enforcement

Abstract

In this paper we investigate the use of rights issues in presence of a conflict of interest between controlling shareholders and minorities arising from the existence of private benefits of control. We hypothesize that shareholders may be forced to subscribe seasoned equity issues anyway, either directly or indirectly by selling their rights at a price lower than the theoretical value. We define this process as "rights issues enforcement". In support of the theoretical framework, using a sample of Italian rights issues between 1996 and 2008, we show how negative abnormal returns are significant for rights issues carried out under risk of enforcement, and how the conditions of enforcement are correlated to the determination of these returns.

JEL Classification: G32, G34.

Key words: Equity Issues, Rights Issues, Private Benefits, Minority Shareholders.

1 Introduction

While US equity issues are mainly arranged through public offers, in most European and Asian countries new shares are placed by means of rights issues. Rights offering is a floatation method that allows current shareholders to purchase shares pro rata, i.e. proportional to their existing ownership position, at a specified issuing price and until a designate expiration date. In Europe, the existence of the preemptive right is regulated by the Directive 77/91/EEC of the 13 December 1976, known as the EU Second Council Directive on Company Law. Alternative issuing methods are the public offers, i.e. offers to the public without pro rata offer to existing stockholders, and the private placement or placing, i.e. the shares are not offered to all investors, but to selected new investors. Rights issues are the norm in most European and Asian equity markets. Nowadays, the vast majority of rights issues are underwritten (Armitage, 2000), i.e. the firm making the rights offer hires an underwriter to "stand-by" and guarantee to take up whatever portion of the rights offer the shareholders leave unsubscribed (stand-by rights offer).

Conflicts of interest between existing and new shareholders in seasoned equity offerings (SEO) play an important role in the choice of the flotation methods. A key question is to analyse whether the potential conflicts are large enough to affect wealth for the shareholders participating in the issuing process. In their seminal contribution, Myers and Majluf (1984) provide an analytical framework to the equity issue decision under asymmetric information, in that the management knows more about the firm's value than potential investors. In Myers and Majluf framework, managers maximize the existing shareholders' wealth, thus an equity issue through a rights offer would not rise any conflicts of interest because no new shareholders are involved. Eckbo and Masulis (1992) generalize the Myers-Majluf framework by allowing current shareholders to participation in the issuing via a rights offer. This method allows to overcome the information asymmetry problem because the subscription of new shares by the insiders (managers and controlling shareholders) is a quality certification of an issue. Thus, the rights issues may be considered as neutral to minorities, if not an instrument of protection to minorities. Wu and Wang (2005, 2007) suggest that even

if insiders (managers and controlling shareholders) commit to subscribe to their entitled rights, there might still be conflicts of interest between controlling shareholders and minorities, due to existence of private benefits of control (amount of private earnings/economic gains that controlling shareholders extract from a company they run). As a consequence, a rights issue can still convey a negative signal to minorities.

Our paper reinforces the conclusion that rights issues can be detrimental for minorities when private benefits are involved. We focus on a specific (mis)use of rights issues that may expose minorities to a loss. We show how minority shareholders are forced to participate, either directly (subscribing) or indirectly (selling their rights at a price lower than the theoretical value). We define this process as "rights issues enforcement". To validate empirically our framework, we develop two testable hypotheses. First, we assume that when the conditions for a "rights issues enforcement" hold, the market reacts negatively to the announcement. Second, we assume that the market acknowledges the "rights issues enforcement" during the period when rights are traded, when a negative reaction is expected. We test these hypotheses on a sample of Italian rights issues between 1996 and 2008. We use as proxy for the presence of "risk of enforcement" a measure of the financial distress of the company. We test both for the significance of abnormal returns and for the correlation between the returns and the conditions for the rights issue enforcement. The empirical results show that there is weak evidence on how these conditions have a significant effect at the time of the announcement, while there is a stronger evidence about the effect during the rights market activity.

The outline of the rest of the paper is as follows. In Section 2, we briefly review and link the existent literature to our proposed model framework. In Section 3, we present the theoretical framework, spelling out necessary and sufficient conditions for "rights issues enforcement", explaining why minorities always subscribe their shares when this condition holds, and provide hypotheses development. In Section 4 we report an empirical application using a sample of Italian rights issues between 1996 and 2008. Section 5 concludes.

2 Relevant literature

Our theoretical framework and empirical exercises specifically draw on the research streams related to the role of private benefits of control, rights offer discount and issues by firms in financial distress.

In the corporate finance literature, private benefits of control are responsible for insiders' expropriation from outside investors and are the source of the conflicts between large (*controlling*) shareholders and dispersed investors (*minorities shareholders*). This type of agency problem is pronounced in concentrated ownership structures (Shleifer and Vishny, 1997; La Porta et al., 1999). While private benefits of control vary across countries, private benefits across firms also vary considerably in view of heterogeneity in firms' contracting conditions and differences in individual corporate governance quality (Dyck and Zingales, 2004). Empirically, private benefits of control are intrinsically difficult to measure because their true value is largely inside information and also, by definition, hardly provable in court (Zingales, 1994). As far as SEOs are concerned, the existence of private benefits of control is likely to discredit rights offers as an instrument of investor protection. In particular, Wu and Wang (2007) describe how private benefits produce a separating equilibrium, where issuers with large private benefits of control choose rights offers and those with small private benefits prefer issues to the public. In our paper, private benefits affect controlling shareholders decision at the time of a rights issue, and play a role in the necessary condition for the rights issue enforcement.

The instrument employed to enforce minorities to subscribe the shares is a sufficiently high level of discount. The relevance of the discount in equity offerings has been studied in conventional rights issues. Several studies on rights issues in several countries test the assumption that the discount acts as a signal about the quality of the issuer. Marsh (1979), Loderer and Zimmerman (1988), Tsangarakis (1996), Bøhren et al. (1997), and Bigelli (1998) find little or no relationship between the discount and the market reaction to the issue on announcement, and conclude that the discount is not a signal. Singh (1997) reports that the discount is related to the (nonsystematic) risk of the issuer's shares, as expected if its purpose is to reduce the risk of offer failure. A discount may

reflect limited market liquidity. Holthausen et al (1987) find that large blocks of existing shares are sold at a discount. Another possibility is that discounts repay costs of investing in the issuer. Herzel and Smith (1993) argue that discounts compensate for costs of investigating the issuer. In our paper, a sufficient level of discount, with respect to the market price, at the time of a rights issue constitutes the sufficient condition for the rights issue enforcement to take place.

The financial distress of a company can be an incentive to "enforce" a rights issue, because a controlling shareholder aims to protect the existing private benefits. In a survey paper on seasoned equity offerings, Heron and Lie (2004) report that US rights offerings "rebounded in the 1990s" following a period of very modest use and they do note that rights are used by firms in "tight" financial situations. Ursel (2006) explains the revival of rights offerings as a means of equity financing by firms in poor financial condition, in a framework where value-maximizing managers of distressed firms are willing to accept the costs of adverse selection and proceed with non-underwritten rights issues when existing shareholders have little value to lose, even though investment banks show little interest in underwriting the offering. In our paper, we look at the financial distress of a company in order to find out rights issues that are likely to be enforced.

3 Theoretical framework and hypothesis setting

In this paper, we propose the concept of "rights issues enforcement". A rights issue is defined as "enforced" when minorities subscribe their pro rata shares whatever are the issuing conditions. We show that under information asymmetry between controlling and minority shareholders, controlling shareholders may use rights issues to enforce minorities to subscribe their shares. In Section 3.1, we introduce a framework to analyse rights issues, and describe the conditions leading to an enforcement, as described in section 3.2. Three testable hypotheses will be derived.

3.1 Conditions for the rights issue enforcement

In order to understand the decision rules for the controlling shareholder and the existing minorities at the time of issue, let us define their wealth functions as follows.

Consider a firm with an investment opportunity that needs equity financing. The opportunity requires an initial investment Δk with an expected return r_{inv} . At the same point in time, the best alternative investment at the same level of risk is featured by an expected return r_{alt} . There are two classes of shareholders: the controlling shareholder, who holds a α share of the capital, corresponding to the necessary votes to take the decision whether to issue new equity or not; the minorities, holding a $(1 - \alpha)$ share of the capital, that are simply allowed either to accept or reject the proposal. We suppose that both controlling shareholder and minorities are not cash constrained, and they take decisions according to their NPV with an unlimited time horizon, being the only source of asymmetry the existence of a source of private benefits at the advantage of the controlling shareholder, that (s)he earns as an annuity at the rate r_{pb} on the whole value of the company¹. Minorities consider all their earning discounting the effect of private benefits. Thus, market value is the correct value of the firm for both class of shareholders, but we consider a further source of earnings for the controlling shareholder. There are no taxes, transaction costs or other capital market imperfections. We model a time framework where $t = 0$ refers to the time when the controlling shareholder needs to decide whether to carry out the issue, while minorities simply decide whether to take part or not in the issue. In $t = 1$ effects take place, while the issuing time is just an instant between the two stages (we are not therefore considering technical implications for prices during the issuing period or information releases).

In order to understand the decision rules for the controlling shareholder, we define a wealth

¹This assumption is similar to that of seminal contributions in this literature such as Grossman and Hart (1980) and Shleifer and Vishny (1986). We are here referring to a broad definition of private benefits, that quantifies all effects of control that are not strictly observable.

The theoretical literature (Dyck and Zingales, 2004) often identifies private benefits of control as the "psychic" value some shareholders attribute simply to being in control (e.g., Harris and Raviv, 1988, and Aghion and Bolton, 1992). Another traditional source of private benefits of control is the perquisites enjoyed by top executives (Jensen and Meckling, 1976). In our model we intend a broad definition of benefits, referring both to psychic and monetary advantages of control.

functions, at the time $t = 0$, as follows:

$$W_0^{CS} = V_0^{CS} + \Delta k^{CS} + \frac{r_{pb}V_0}{r_{alt}} \quad (1)$$

where $V_0^{CS} = \alpha V_0$ is the market value of the company owned by the controlling shareholder, $\Delta k^{CS} = \alpha \Delta k$ is an amount of cash equal to the equity-issue fraction preemptively offered to the controlling shareholder, r_{pb} is a further rate of return that the controlling shareholder can extract from the value of the company V_0 , r_{alt} is the alternative rate at which all cash flows are discounted. Therefore, this function evaluates the wealth owned by a controlling shareholder as the sum of: a) the ownership share in the company, evaluated as a fraction of the market value; b) an amount of money, owned as cash, available to undertake her/his part of equity issue, in case the equity issue is performed; c) private benefits (s)he can enjoy on the whole value of the firm, as a discounted annuity.

Next we consider minorities as a singles subject, whose wealth function at $t = 0$ equals:

$$W_0^{MS} = V_0^{MS} + \Delta k^{MS} \quad (2)$$

where $V_0^{MS} = (1 - \alpha)V_0$ is the market value of the company owned by the minorities, $\Delta k^{MS} = (1 - \alpha)\Delta k$ is the cash necessary to undertake the part of the equity issue pre-emptively offered to the minorities.

In an NPV framework, the controlling shareholder adopts the following condition rule:

$$NPV_{CS} > 0 \quad (3)$$

$$\frac{\Delta k^{CS} r_{inv}}{r_{alt}} + \frac{r_{pb} \Delta k}{r_{alt}} - \Delta k^{CS} > 0 \quad (4)$$

where $\frac{\Delta k^{CS} r_{inv}}{r_{alt}}$ is a perpetuity of cash flows originated by the new investment and earned by

the controlling shareholder; $\frac{r_{pb}\Delta k}{r_{alt}}$ is a perpetuity of private benefit earnings obtained on the whole amount of capital raised, and Δk^{CS} is the controlling shareholder's contribution to the equity issue.

As far as the NPV is positive, the decision to carry out this operation is not under discussion, but obtaining the participation of minorities may not be so straightforward. In fact, minorities consider a different decision rule, similar to the one above, but not containing any private-benefit earning:

$$NPV_{MS} > 0 \quad (5)$$

$$\frac{\Delta k^{MS} r_{inv}}{r_{alt}} - \Delta k^{MS} > 0 \quad (6)$$

where $\frac{\Delta k^{MS} r_{inv}}{r_{alt}}$ is a perpetuity of cash flows originated by the new investment and earned by minorities, and Δk^{MS} is the minorities' contribution to the equity issue.

It is therefore clear that the existence of the private-benefit earnings can make an operation desirable for a controlling shareholder also when it is not appealing for minorities. This condition is formalised in the following proposition:

Proposition 1: The necessary condition for a "rights issues enforcement" to take place is given by:

$$NPV_{MS} < 0 \quad \text{and} \quad NPV_{CS} > 0 \quad (7)$$

$$[r_{inv} < r_{alt}] \quad \text{and} \quad [r_{pb} > \alpha(r_{alt} - r_{inv})] \quad (8)$$

where $r_{inv} < r_{alt}$ set the new investment to be always detrimental for existing minorities' wealth, and $r_{pb} > \alpha(r_{alt} - r_{inv})$ makes the operation attractive for the controlling shareholder².

²Note that: 1) when $r_{inv} \geq r_{alt}$, we do not define a condition for abuse: new investments are so appealing that even if private benefits are extracted, minorities appreciate their earning; 2) if r_{inv} is smaller than r_{alt} , a controlling shareholder may still be attracted by the investment if it is possible to extract a compensating flow of private benefits.

The condition $r_{inv} < r_{alt}$ implies that the new investment is always detrimental for existing minorities' wealth; the condition $r_{pb} > \alpha(r_{alt} - r_{inv})$ makes the new investment attractive for the controlling shareholder³. As a whole, the necessary condition for "rights issues enforcement" determines the conflict of interest and explains why, because of the existence of private benefits, a controlling shareholder may invest in a negative-NPV project⁴.

According to the efficient market hypothesis (Fama, 1970), market prices reflect all the information made available to market participants at any given time. Private benefits are not observable, but the announcement of a rights issue signaling the necessary condition for enforcement could generate a negative market reaction. This is why we set the following first hypothesis:

Hypothesis 1 (*Risk of enforcement*). The announcement of a rights issue signaling a "risk of enforcement" determines, ceteris paribus, a negative market reaction (drop in stock price).

The condition for a "rights issue enforcement" explains why controlling shareholders may invest in a negative-NPV project because of the existence of private benefits. In the following paragraph, we explain why minorities cannot react to the controller decision, and lead the issue to a failure.

3.2 Why is it an enforcement?

In this section we show why rights issues force minorities to participate in the investment project against their interest, when the condition for abuse holds. We do this by considering all options available to minorities, and comparing them with an optimal solution that an efficient market is supposed to guarantee. We now consider all options available to minorities, and we show how the subscription is, in all cases, the value-maximizing solution. First, we consider the case in which all rights are exercised (Case A), either because minorities subscribe the issue (Case A1) or because

³Note that $r_{inv} \geq r_{alt}$ is not a condition for "rights issues enforcement": new investments are so appealing that even if private benefits are extracted, minorities appreciate their earning. α describes the uncertainty about controlling shareholders' willingness to subscribe their entitled rights (see Hansen and Pinkerton, 1982).

⁴Almeida and Wolfenzon (2005) discuss how a controlling shareholder might dispose of all retained earnings, without any possibility for the minorities to intervene. The rights issue enforcement extends the power of a controlling shareholder, because it ensures the subscription of new shares, i.e. the disposal of new capital. We thank a discussant of the paper for raising this point.

minorities sell rights on the market (Case A2). Second, we extend our analysis to the more general case that only a fraction γ of rights is used (Case B).

Consider the two alternative outcomes of Case A.

Case A1: All new shares are subscribed

If the "necessary condition for enforcement" holds, minorities' optimal choice consists in investing in the best alternative project, instead of accepting the rights issue. By contrast, subscribing the new shares, minorities accept to lose a part of their wealth because of the negative-NPV of the new project. Intuitively, this loss equals the individual payment of the new shares, invested at a return rate given by the difference between the investment rate and the best alternative rate available, on an infinite horizon. Indeed, this loss is experienced also by majority shareholders, but in their case it is more than compensated by the private benefits extracted on the whole value of the company.

Case A2: All rights are sold

Let us now consider an alternative decision available to minorities, consisting in selling preemptive rights on the rights market. If new potential investors are aware of the negative-NPV operation, new shareholders will be willing to buy preemptive rights only at a lower price, incorporating the expected loss due to the negative-NPV investment. Of course, full information available to existing and new minorities is a very strong assumption. Nevertheless, it seems to be much less restrictive to suppose, at least, that new minorities are as informed as existing minorities, and still they are not available to buy rights at their theoretical price, when the "necessary condition for enforcement" holds. As a consequence, selling rights is not a solution for existing minorities, because the price would incorporate the information on the negative-NPV investment.

Case B: A fraction γ of rights is exercised

When the rights issue is insured, even if the subscription is not complete, the underwriter commits to purchase the remaining shares at issue price, without the need to pay for any preemptive

right⁵. Therefore, in the case of insured rights issue, the results in Case A hold even if minorities do not want to exercise or sell their preemptive rights.

Let us now consider the special case of uninsured issues⁶. As existing minorities experience the same loss both when either they exercise their rights or sell them, they might simply decide not to cooperate in the rights market. In this case, we relax the assumption that all minorities take the same decision, and let $0 < \gamma < 1$, as the percentage of shareholders undertaking the issue (both directly or buying rights on the market)⁷.

Under this new conditions, individual choices become now more complex. As in former case, shareholders are affected by the negative-NPV return. Further, minorities non exercising their rights, suffer also the dilution effect, usually compensated by the rights value. The key question is whether the loss of non-exercising shareholder is greater than those who exercise/sell the rights. While a formal solution can be derived⁸, we propose here an intuitive argument. While the negative-NPV loss is given, the dilution effect can be discretionally increased, as long as law requirement are satisfied⁹. Therefore, unlike in the case of full subscription, when only a fraction γ of rights is exercised, the controller of the company needs to apply a certain level of discount to enforce the issue to minorities. Formally, we can define the following:

Proposition 2: The sufficient condition for a rights issue enforcement to take place depends is that the level of discount is high enough to make the subscription convenient to minority shareholders.

The enforcement is due to the fact that minorities not exercising their rights suffer from all

⁵Underwriters take advantage of renounced rights, and one could argue that they receive an extra-fee in these cases.

⁶In what follows, we assume that if a shareholder renounces her/his rights, (s)he does not receive any compensation. The treatment of renounced rights is not homogeneous across Europe. Actually, the London Stock Exchange (1997, Section 4.17(c)) reports that shareholders pre-renouncing their rights receive 50% of the difference between the theoretical price and the offer price. This provision actually reduces the loss of non subscribing minorities, and is therefore an effective mechanism to mitigate the effects of the enforcement mechanism presented in this paper.

⁷As long as the controlling shareholder has an interest in subscribing her/his part of the issue, $\gamma > 0$ and $\gamma \geq \alpha$, with α the ownership share.

⁸A formal derivation of this result is available on request.

⁹With no exception in Europe, the law requirement is that the issuing price should not be lower than the par value.

dilution. Because of the rights, minorities minimize their loss either by buying the new shares or by selling the rights on the market at a lower price. Further, though they may experience a loss in value, if the sufficient condition holds, the loss is smaller than the full dilution¹⁰. In our model, when both conditions hold, the controlling shareholder may set the discount at a sufficiently high level (sufficient condition), in order to enforce minorities to take part in a negative-NPV project (necessary condition) and be able to extract private benefits. Finally, it is worth noticing that each rights issue decreases the market price, and therefore reduces the possibility to enforce further issues. In particular, this is true when the sufficient condition is no longer satisfied, and thus enforcement cannot take place

In terms of empirical evidence, the use of a high level of discount can therefore add up to other signals of "risk of enforcement". This lead us to develop a second testable hypothesis:

Hypothesis 2 (*Sufficient condition for enforcement*). The implementation of a large dilution effect, when the holds, might imply that minorities are enforced to subscribe, and therefore generates a negative market reaction on announcement.

If the theoretical discussion above presented works, selling shares is not an escape solution for minorities. Until the beginning of trading on the market for rights, they can actually sell their shares at the whole price (*cum-rights price*). Of course, as assumed above, either the buyer needs a discount to enter the operation, or the buyer finds himself in the same conditions of the seller, not compromising the consequences of the operation.

The only exception is the special case of uninsured issue. As mentioned above, in this case the fraction of exercised rights becomes evident only during the rights market activity, that completes the information on the rights enforcement. This lead us to the development of a third hypothesis:

Hypothesis 3 (*Market for rights*). In the case of uninsured issues, the rights issue enforcement generates a negative market reaction during the rights market activity.

¹⁰Note that a high level of discount does not necessarily imply enforcement. For instance, high level of discount raises in presence of high hystorical volatility either of the individual assets or of the market as a whole

4 Empirical analysis

In this section we test the three hypotheses presented above both via an event study, with the purpose of estimating the market reactions around the announcement date and during the rights market activity, and a cross-sectional regression analysis of cumulative abnormal returns (CAR) to identify the determinants of the market reactions. Then, in section 4.3 we report some anecdotal evidence of rights issue enforcement.

We need to address the following issue first. The necessary condition for "enforcement" in (??) show that the existence of private benefits is the main cause of conflicts of interest between controlling shareholders and minorities. However, private benefits are not directly measurable, and thus we need to identify appropriate proxy variables. To this purpose, in this paper we explore that private benefits are likely to be quite relevant in presence of financial distress. A controlling shareholder may be pushed to enforce a rights issue when the company is in a state of financial distress such that the very existence of private benefits is at risk (Dyck and Zingales, 2004). In this case, we expect rights issues carried out by companies with a very high level of debt, and low cash flow available, are more likely to be subject to "rights issues enforcement"¹¹. In this paper, we employ the following three variables to measure financial distress: *DISTR*, a measure of leverage, *INTCOV*, a measure of a firm capability to repay its debt, and *HI_RISK*, a dummy variable set to 1 when the company has simultaneously a level of *DISTR* that is higher than the third quartile and an interest cover that is lower than the first quartile.

¹¹There are at least two other alternative ways to measure private benefits. First, Zingales (1994, 1995) argues that pyramidal structure allow a controlling shareholder to extract private benefits more easily. That is why the use of pyramidal groups to rights issue may also be linked to a higher probability of rights issue enforcement when private benefits are at risk. Second, private benefits may be more important in all rights issues aimed to enlarge the size of the company (i.e. by means of mergers and acquisitions), because they are likely to be a function of the company size (see, for instance, Grossman and Hart, 1986 and 1988). In our case, there was no empirical evidence of the impact of the pyramidal structure and M&A activity of issuing companies to rights issues enforcement. Results are not reported but available on request.

4.1 Event analysis

The empirical analysis is carried out using a sample of Italian rights issues observed over the period 1996-2008. The Italian institutional framework is particularly suitable for the empirical analysis given that the vast majority of equity issues is carried out through rights issues. Equity issues in Italy are regulated through the civil code, art. 2438 c.c. and following. The cases when rights issues can be excluded are listed in art. 2441. In particular, rights can be excluded for equity issues smaller than 10% of pre-issue market value.

4.1.1 Sample selection and descriptive statistics

The data relative to the characteristics of the offers were obtained from Borsa Italiana, while the time series of security market prices and the information about company financial statements from Datastream. Details of the offers, such as for instance the announcement dates, were extracted from the offering prospectuses available on the CONSOB (the Italian financial market authority) website, and from the "Il Sole 24 Ore" (the mainstream Italian financial daily newspaper).

The original sample consists of 195 operations of equity issues performed by listed companies. Following common practice in the literature (Loderer and Zimmermann, 1988; Böhren et al., 1997; Bigelli, 1998), we excluded all rights issues where also non-ordinary shares were offered, thereby obtaining a full sample of 141 operations. Moreover, the event analysis in this section is based on a subsample of 90 operations only due to missing time series, suspended trading during the estimation window (21 issues), dual-class structure companies (20 issues), and exclusion of all operations where the discount on market price is negative (10 issues), as in Bigelli (1998)¹². Further, in the regression analysis, the sample size is reduced from 90 to 68 due to the exclusion of financial companies (22 issues). Table 1 summarizes some descriptive statistics with respect to the full sample (Panel A), and to the two subsamples used in the event analysis (Panel B) and in the regression analysis (Panel

¹²Sensitivity analyses have been carried out using different samples with either negative-discount operations or dual-class structure companies were included. Results are largely unaffected, they are not reported but available upon request.

Table 1:

Descriptive Statistics. Panel A refers to the full sample of 141 rights issues limited to ordinary shares carried out by listed companies in Italy. Panel B refers to the subsample of 90 issues used in the event analysis (21 issues dropped because of missing time series, suspended trading during the estimation window, 20 issues dropped because of dual-class capital structure, 10 issues dropped because of negative discount). Panel C refers to the subsample of 68 issues used in the regression analysis (22 issues dropped because referring to financial companies). Sample period: 1996-2008.

| | Market Value (M€) | Offer Size (M€) | Offer Size/MV | Discount | Subscription rate |
|---|-------------------------|-----------------------|------------------|----------|----------------------|
| Panel A: Full sample of 141 rights issues (limited to ordinary shares) | | | | | |
| Mean | 1,152.02 | 267.97 | 83.12% | 27.88% | 84.10% |
| Median | 162.95 | 79.93 | 37.16% | 26.19% | 98.00% |
| St. dev. | 3,072.96 | 506.55 | 162.74% | 30.49% | 24.50% |
| Panel B: Sample of 90 rights issues employed in the event analysis | | | | | |
| Mean | 1,949.45 | 399.30 | 48.42% | 38.58% | 86.53% |
| Median | 444.20 | 89.36 | 30.74% | 34.00% | 98.00% |
| St. dev. | 4,553.10 | 709.82 | 56.35% | 23.88% | 21.42% |
| Panel C: Sample of 68 rights issues employed in the regression analysis | | | | | |
| Mean | 1,582.47 | 405.16 | 46.76% | 37.20% | 84.88% |
| Median | 444.20 | 65.48 | 30.74% | 34.00% | 98.00% |
| St. dev. | 3,227.90 | 764.04 | 54.16% | 22.64% | 21.43% |

C).

The first column reports the market value of the companies on the announcement date (when the offer conditions are communicated to all investors), while the second column indicates the size of the offer. The whole sample is characterized by the presence of some outliers, as proved by a large difference between mean and median values. In the full sample, the mean market value is equal to 1.15 billion Euros whereas the median is 0.16 billion Euros; at the same time, the mean offer size is 0.27 billion Euros whereas the median is only 0.08 billion Euros. In Panel B and in Panel C both market value and offer values are larger in mean and median values, because a good fraction of the smaller issues are dropped in the selection process.

There is large variety in the relative offer size. The full sample of 141 issues contains relatively small equity issues, accounting for only 3% of the market value of the company, as well as very large ones, where the size of the offer is about fourteen times the market value of the firm. Mean and median values are also rather distant from each other, 83% and 37% respectively. Once again, extreme values are dropped when moving to the two subsamples as reported in Panels B and C, where the mean value decreases to 48% and 48%, respectively, just as the standard deviation, decreasing from 163% in the full sample to 56% and 54% respectively in the two subsamples.

The mean and median values (27.88% and 26.19%) of the discount of the full sample are consistent with previous research on the Italian market, but the data also present some interesting cases of deeply negative discounts (the issue price is set above market price) with a peak of -78.99%. These operations are quite atypical, because they determine a wealth transfer from the controlling shareholder (that we suppose to be active) and the underwriter (if any) to the existing shareholders, who will stay passive unless the market price will rise above issue price. As far as the subsamples in Panel B and C are concerned, there is an higher mean discount rate, due to the exclusion of issues with a negative discount¹³.

¹³As also reported in Bigelli (1998), this type of issue is usually carried out when the market price is lower than the par price and the company absolutely needs to raise new capital. Notice that the Italian legal framework for equity issues does not allow to set the issue price below par price. Another reason may be simply to let some selected new investors enter in the share capital of the company.

Finally, the subscription rate at the end of the rights market (before the auction of unsubscribed rights or the intervention of the underwriter.) is typically very high, but while the median value is 98.0% the mean value is just 84.1%. The latter value, very similar also when calculated for the subsamples in Panel B and C, is affected by some outliers in the left tail of the distribution, representing equity offers that were not appreciated by the market.

4.1.2 Results

An event study is here employed to measure the impact of rights issues announcement and execution on the market values of the sample we are analyzing. We study market model abnormal returns, where the market model has been estimated using 200 daily stock returns starting on day "d"-231 (where "d" is the event date), so that data belonging to event windows are not used for the estimation. The market portfolio is proxied by the Italian FTSE Italia All-share (formerly MIBTEL) index.

Stock price effects around the announcement date. In this analysis, the size of the sample is reduced from 141 to 90 due to missing time series, suspended trading during the estimation window, dropping dual-class structure companies, excluding all operations where the discount on market price is negative following Bigelli (1998)¹⁴. The full sample of rights issues is clustered into "financial" and "non-financial", depending on the business sector of the issuing firm. In our analysis, a company belongs to the "financial" group when its ICB Supersector name is equal to "Banks", "Insurance" or "Financial Services". All other companies are included into the "non-financial" group.

In order to identify the operations at high "risk of enforcement", non-financial companies are further clustered into "HI_DEBT" and "LOW Interest Cover", where:

¹⁴Sensitivity analyses have been carried out using different samples with either negative-discount operations or dual-class structure companies were included. Results are largely unaffected, they are not reported but available upon request.

- "HI_DEBT" is the group of companies with a ratio between total net debt (Long and Short term debt minus Cash and Equivalent) and market value (DISTRESS henceforth) higher than the sample median¹⁵. This position is evaluated at the end of the year preceding the issue, while the market value of the company is calculated multiplying the number of shares outstanding by the stock price on the announcement date.
- "LOW Interest Cover" is the group of firms with a ratio between Earnings Before Interests and Taxes (EBIT) and Interest Expense on Debt (IED) that is lower than the sample median. Both indicators are calculated at the end of the year preceding the issue.

Table 2 shows the cumulative average abnormal returns (*CAAR*) estimates calculated on the event windows (-1,0), (-1,+1), (-3,+3), (-5,+5), and (-30,+30), where the event date (0) is the day when offer conditions are announced. The full sample of rights issues displays a positive *CAAR* of +1.6% on the event window (-1,0), significant at the 5% level. When we distinguish between business groups, however, we notice that the major contribution to this result is provided by non-financial firms, with a positive and significant *CAAR* that is equal to +2.0%. Conversely, financial companies display a stock price reaction that is not statistically different from zero. For these three groups, all the other event windows do not show any significant result.

The "HI_DEBT" group does not show any significant *CAAR*, but it is interesting to make a comparison with the entire sample of non-financial companies: for the "HI_DEBT" group, the reaction of the market around the announcement date is always less positive. The (-30,+30) event window makes an exception.

Finally, the analysis of "LOW Interest Cover" companies shows unexpected results: in all the event windows, *CAARs* are always positive and higher than the entire sample of non-financial companies. In particular, on the windows (-1,0) and (-1,+1) we observe a *CAAR* of +2.3% and +3.4% respectively, both significant at the 10% level.

¹⁵The sample median is a better threshold than a conventional level of distress, as it takes into account the higher-than-average level of debt of companies carrying out a rights issue.

Table 2:

Market reaction to the announcement of rights issues of ordinary shares (CAARs). No dual-class-structure companies. No operations with negative discount. The event analysis is performed on the full sample, on the sample of financial companies and on the sample of non-financial companies. HI_DEBT refers to the group of non-financial companies with a ratio between total net debt and market value higher than the sample median. LOW INTEREST COVER refers to the group of non-financial firms with a ratio between EBIT and Interest Expense that is lower than the sample median.

| window | FULL SAMPLE | FINANCIAL | NON FINANCIAL | | |
|-----------|--------------------|------------------|--------------------|-------------------|-------------------|
| | n=90 | n=26 | ALL OP n=64 | HI_DEBT n=33 | LOW INT. n=32 |
| (-1,0) | 0.016** (0.007) | 0.004 (0.006) | 0.020** (0.009) | 0.015 (0.013) | 0.023* (0.013) |
| (-1,+1) | 0.017* (0.009) | 0.003 (0.008) | 0.021* (0.012) | 0.018 (0.018) | 0.034* (0.018) |
| (-3,+3) | 0.003 (0.011) | 0.004 (0.011) | 0.002 (0.014) | -0.003 (0.021) | 0.014 (0.021) |
| (-5,+5) | 0.010 (0.016) | 0.004 (0.010) | 0.012 (0.021) | -0.004 (0.035) | 0.018 (0.037) |
| (-30,+30) | -0.006 (0.035) | 0.021 (0.041) | 0.001 (0.044) | 0.021 (0.062) | 0.014 (0.067) |

***, **, * denote 1%, 5% and 10% significance level.

Standard errors in parenthesis.

The positive and significant stock price reaction at the announcement is consistent with previous research on the Italian equity market (see Bigelli 1998). Nonetheless, we did not find support to the hypothesis that rights issues carried out under "enforcement condition" determine a worse market reaction than the case of no enforcement. This may be due to that the market might become aware of the risk of an enforcement with some delay. In addition, Further, this result may be due to several confounding effects, and regression analysis reported in the next section aims to disentangle and identify the individual components of the market reaction.

Stock price effects during the rights market activity. We now focus on the stock price effects during the rights market activity. With the same procedure, we calculate *CAARs* on the event windows (0,+1), (0,+5), (0,+10), (0,+15) and (0,+30), where again the event date (0) now coincides with the beginning of the rights issue. [In this case, no pre-event analysis is carried out, as the effect we aim to measure fully develops during the exchange of rights.

The results reported in Table 3 display a common behavior of stock market prices during the rights market activity. Independently of the cluster, though positive the *CAARs* are always statistically insignificant at the beginning of the operation, while they turn to be negative and statistically significant when the event window gets wider.

The event window (0,+30) is the most interesting, as the reaction of the market becomes significantly negative though at 10% significance level: the full sample of companies shows a negative *CAAR* of -3.4%. When we distinguish between business groups, we observe that non-financial companies display a negative market reaction of -4.2%, while the contribution by financial companies is not significant.

The *CAAR* registered by the "HI_DEBT" group on this event window is even more adverse (-5.1%), but statistically insignificant.

Finally, the "Low Interest Cover" group presents the most severe decline with a *CAAR* of -6.7%, significant at the 10% level. This result is interesting, as the "Low Interest Cover" group displays the most positive market reaction at the announcement of the operation. These results show that

rights issues that are more likely to be enforced are followed by the worst market reaction during the rights market activity. This evidence, in support of Hypothesis 2, is also confirmed in Figures 3-5, where we report the *CAAR* trend over the rights market for the entire sample of non-financial companies, for the "HI_DEBT" group and for the "Low Interest Cover" group respectively.

Table 3:
Market reaction during the rights market. No dual-class-structure companies. No operations with negative discount. The event analysis is performed on the full sample, on the sample of financial companies and on the sample of non-financial companies. HI_DEBT refers to the group of non-financial companies with a ratio between total net debt and market value higher than the sample median. LOW INTEREST COVER refers to the group of non-financial firms with a ratio between EBIT and Interest Expense that is lower than the sample median.

| window | FULL SAMPLE n=90 | FINANCIAL n=26 | NON FINANCIAL | | |
|---------|---------------------|-------------------|--------------------|-------------------|--------------------|
| | | | ALL OP n=64 | HI_DEBT n=33 | LOW INT. n=32 |
| (0,+1) | 0.009 (0.009) | 0.000 (0.008) | 0.013 (0.012) | 0.003 (0.018) | 0.003* (0.017) |
| (0,+5) | 0.000 (0.015) | -0.013 (0.009) | 0.005 (0.021) | 0.007 (0.036) | 0.020 (0.036) |
| (0,+10) | -0.010 (0.014) | -0.009 (0.013) | -0.011 (0.019) | -0.015 (0.030) | -0.024 (0.031) |
| (0,+15) | -0.022 (0.015) | -0.008 (0.015) | -0.028 (0.021) | -0.025 (0.034) | -0.033 (0.035) |
| (0,+30) | -0.034* (0.018) | -0.013 (0.023) | -0.042* (0.024) | -0.051 (0.034) | -0.067* (0.035) |

***, **, * denote 1%, 5% and 10% significance level, respectively.

Standard errors in parenthesis.

To summarise, we find evidence of statistical significance abnormal returns for specific groups of companies "at risk of enforcement". We now turn to the analysis of the determinants of market reactions, in order to address whether they are linked to the conditions for the "rights issues enforcement".

Figure 1: **CAARs over the rights market activity for the sample of rights issues by all non financial firms.** CAARs are calculated starting from the beginning of the rights market activity, and up to 30 days afterwards. Dotted lines represent 95% confidence interval boundaries.

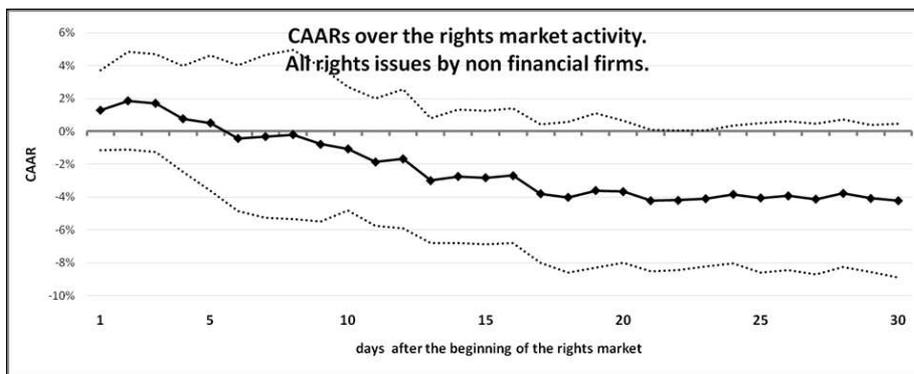


Figure 2: **CAARs over the rights market activity for the sample of rights issues by firms with a Total Debt to Market Value ratio higher than the sample median (HI_DEBT firms).** CAARs are calculated starting from the beginning of the rights market activity, and up to 30 days afterwards. Dotted lines represent 95% confidence interval boundaries.

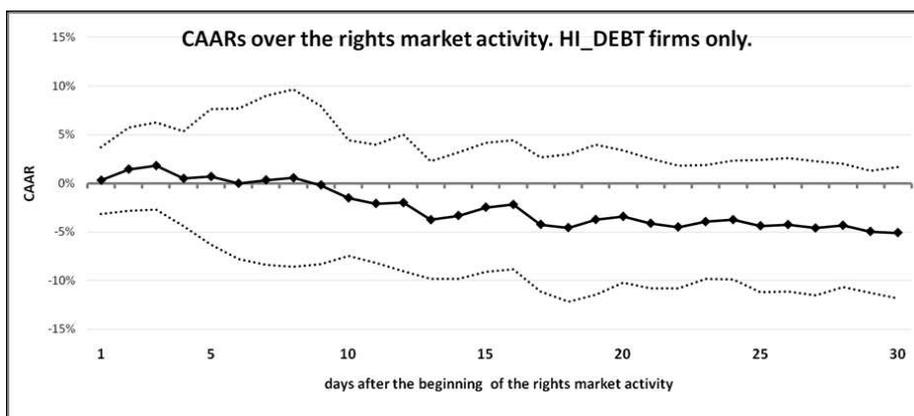
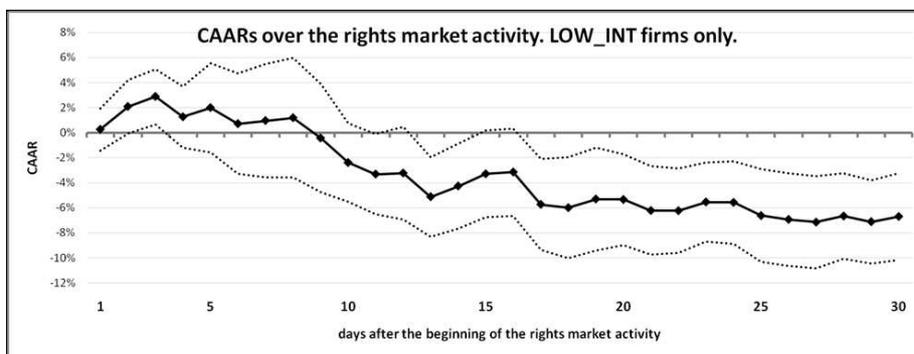


Figure 3: CAARs over the rights market activity for the sample of rights issues by firms with a EBIT to Interest Expense on Debt ratio lower than the sample median (**LOW_INT** firms). CAARs are calculated starting from the beginning of the rights market activity, and up to 30 days afterwards. Dotted lines represent 95% confidence interval boundaries.



4.2 Regression Analysis

On this section, we report a cross-sectional regression analysis of CAR to identify the determinants of the market reaction linked to the "enforcement" mechanism described in our theoretical model.

4.2.1 Sample selection and descriptive statistics

The sample we employ in the analysis includes all rights issues performed by non-financial companies with no dual-class structure, limited to the issue of ordinary shares and with a positive issuing discount. The complete sample consists therefore of 68 issues. The list of the selected explanatory variables is reported in Table 4.

First, in order to test the validity of Hypothesis 1, we employ a set of variables that might signal to investor that the issue is at risk of enforcement. Once again, in this paper we consider private benefits likely to be relevant in presence of financial distress. We therefore include in our regression: *DISTR*, a proxy for financial distress of the company, defined as the ratio between $NET\ DEBT_{-1}$ (Total Debt minus Cash and Equivalents) in the year preceding the issue and the market value on the announcement day (MV_0); *INTCOV*, the level of interest cover, defined as the ratio between

Earnings Before Interests and Taxes ($EBIT_{-1}$) and Interest Expense on Debt (IED_{-1}) in the year preceding the issue; HI_RISK , a dummy variable set to 1 when the company has simultaneously a level of $DISTR$ that is higher than the third quartile and an interest cover that is lower than the first quartile; otherwise its value is 0¹⁶. The dummy identifies cases when we observe both a very high level of $DISTR$ and a very low level of $INTCOV$. Therefore it is the best candidate to proxy for issuing at high risk of enforcement.

In order to test Hypotheses 2, we need to include a variable measuring the dilution effect in the rights issue. In former literature (see, for instance, Eckbo and Masulis, 2009), the use of a variable measuring the discount $DISC$ on the new shares (1 minus the ratio between the issue price P_{iss} and market price on the announcement day P_0) is common. An alternative to $DISC$ is the use of a measure of dilution DIL , set to 1 minus the ratio between the theoretical ex-right price (P_{th}) and the market price on the announcement day (P_0). In fact, our hypothesis assumes that the controlling shareholder can set up an enforcement mechanism whose effectiveness is proportional to the level of discount; however, the discount alone is not sufficient to understand the potential dilution effects that existing shareholders may suffer because it does not take into account the amount of new shares. In order to take into account the real potential dilution effect we prefer to use the variable DIL ¹⁷. Actually, according to former literature (Bigelli, 1998), DIL is expected to have a positive effect on abnormal returns around the announcement. Still, we believe that this effect is going to be negative for issues carried out at risk of enforcement. We aim to identify this effect through ENF , which is equal to DIL only in the case HI_RISK is equal to 1.

In order to test Hypothesis 3, we need to test whether the enforcement mechanism ENF is effective during the rights market activity for uninsured issue. We therefore replace ENF with

¹⁶Quartiles are better thresholds than conventional levels for distress and interest-cover ratios, because they account for both the higher-than-average level of debt and the lower-of average level of interest-cover ratio of companies carrying out a rights issue. A sensitivity analysis where HI_RISK is defined for companies with a $DISTR > 2$ and a $INTCOV < 0.8$ has been carried out. The estimated coefficient remains negative though at a lower significance level. Results are available upon request.

¹⁷ $DISC$ and DIL are very correlated, as the two variables capture the same effect. Because of the theoretical implications mentioned above, we use DIL in all our tables. Nevertheless, the use of $DISC$ did not yield any significantly different results. This evidence is available upon request.

$LATE_ENF$, which is equal to ENF only when the issue is uninsured. We use the variable $UNINS$ as a control variable in all the regressions.

Table 4: Description of Explanatory Variables

| VARIABLE | DESCRIPTION |
|----------|---|
| DISTR | $(NET\ DEBT_{-1})/MV_0$ |
| INT.COV | $(EBIT_{-1})/IED_{-1}$ |
| HI_RISK | <i>dummy</i> = 1 when $DISTR$ is higher than the third quartile AND $INT.COV$ is lower than the first quartile, for the issuing company |
| DIL | $1 - P_{th}/P_0$ |
| ENF | $HI_RISK * DIL$ |
| UNINS | <i>dummy</i> = 1 when the issue is uninsured |
| LATE_ENF | $ENF * UNINS$ |
| OFFSIZE | $\Delta K_{th}/MV_0$ |
| F_SIZE | $\ln MV_0$ |
| RUN_UP | return in the 90 days prior the rights issue announcement |

Also, coherently with former literature (Eckbo and Masulis, 2009), we include a set of control variables as follows. OFF_SIZE is the relative size of the offer, defined as the ratio between the theoretical size of the offer (ΔK_{th}) and MV_0 . INS is a dummy variable set to 1 when the rights issue is insured and 0 otherwise. F_SIZE is the market value of the firm at the time of the issue; RUN_UP is the price return for each assets in the 90 days before the rights issue announcement.

Table 5 report descriptive statistics and correlations for the continuous explanatory variables.

4.2.2 Results

Cross-sectional analysis of CARs around the announcement date In order to test Hypotheses 1 and 2, we analyze the effect of a rights issue around the announcement date, and we employ $CARs$ obtained (-1,+1) event analysis as dependent variable¹⁸, reported in Table 6, Model 1. Model 1 shows that the coefficients corresponding to DIL , ENF and $UNINS$ are significant.

¹⁸We obtain almost the same results when using the (0:+1) window. Results are available on request.

Table 5: Explanatory Variables - Descriptive statistics and Correlation Matrix

| Panel A: Descriptive Statistics | | | | | | | |
|---------------------------------|---------|-----------|----------|--------|----------|----------|----------|
| | Min | Max | Mean | Median | St.dev. | Skewness | Kurtosis |
| DISTR | -0.37 | 12.45 | 1.37 | 0.68 | 2.22 | 3.42 | 13.09 |
| INT.COVS | -23.26 | 42.77 | -1.16 | -1.02 | 9.02 | 1.36 | 8.15 |
| DIL | 0.4% | 86.6% | 20.5% | 10.5% | 23.3% | 1.59 | 1.48 |
| OFF_SIZE | 7.6% | 703.7% | 77.3% | 36.6% | 121.3% | 3.68 | 15.07 |
| F_SIZE | 5.4 | 30,358.70 | 1,582.47 | 444.20 | 3,227.90 | 4.58 | 26.33 |
| RUN_UP | -17.28% | 31.49% | 1.39% | 2.36% | 7.33% | 0.65 | 6.35 |

| Panel B: Correlation Matrix | | | | | | | |
|-----------------------------|-------|----------|------|----------|--------|--------|--|
| | DISTR | INT.COVS | DIL | OFF_SIZE | F_SIZE | RUN_UP | |
| DISTR | 1.00 | | | | | | |
| INT.COVS | -0.12 | 1.00 | | | | | |
| DIL | 0.40 | -0.20 | 1.00 | | | | |
| OFFSIZE | 0.66 | -0.17 | 0.40 | 1.00 | | | |
| F_SIZE | 0.27 | 0.05 | 0.02 | 0.28 | 1.00 | | |
| RUN_UP | 0.14 | -0.08 | 0.12 | 0.19 | -0.05 | 1.00 | |

The positive and significant contribution given by the level of dilution is consistent with previous research on the Italian equity market and with the quasi-split effect reported by Bigelli (1998), who shows that Italian rights offerings signal an increase in the dividend yield when the issue price is lower than market price and the dividend per share is not decreased. For a given allocation ratio of the new shares, the lower is the issue price, the higher are the quasi-split effect and the dividend increase signal (see Bigelli 1998).

As far as the validation of our hypotheses is concerned, we do not have enough evidence to confirm Hypothesis 1 (HI_RISK is negative but not significant), while Hypothesis 2 is confirmed by the negative sign of ENF . In this sense, the "risk of enforcement", as measured by the financial distress ($DIST$), by the interest cover ($INT.COVS$), and by their combination, does not seem to influence the reaction of the market at the announcement. It is the combination of "risk" and use of dilution that generates the strong negative reaction.

Last, we find an interesting evidence that uninsured rights issues ($UNINS$) have better market reaction. This is consistent with our model, because only in the case of insured issues the enforce-

ment mechanism works automatically at the time of announcement. Still, in order to validate our consideration on uninsured issues, we need to verify Hypothesis 3 during the rights market activity.

Analysis of CARs over the rights market We conduct our cross-sectional analysis over the rights market on the event window (0,+30), where once again the event date (0) is the beginning of the rights trading. Results are reported in Table 6, Model 2.

In this model we aim to validate Hypothesis 3, verifying whether a late enforcement mechanism takes place, not on announcement, but during the rights market activity. The coefficient of *LATE_ENF* is actually negative and statistically significant, validating our hypothesis that, for uninsured rights issues, the enforcement mechanism takes place when the investors realize that a large fraction of minority participates.

Interestingly, in this model *DISTR* and *INT.COV* have positive coefficients, showing that, on average, rights issues carried out by companies in distress generate positive aftermarket returns.

4.3 Alitalia's rights issue in 2005: anecdotal evidence of a "rights issues enforcement"

"Rights issues enforcements" are often easy to spot in the markets because they are characterised by specific features. First, "enforcement" is carried out by companies in financial distress which are more likely to invest in negative-NPV project (necessary condition). Second, the issuing price is set much lower than the market price, i.e. the discount is set at an "abnormal" level. Third, rights issues end up as "fully subscribed", even if the market price reaction is strongly negative around the announcement date. The Alitalia's rights issue in 2005 contains all the specific features described above ¹⁹.

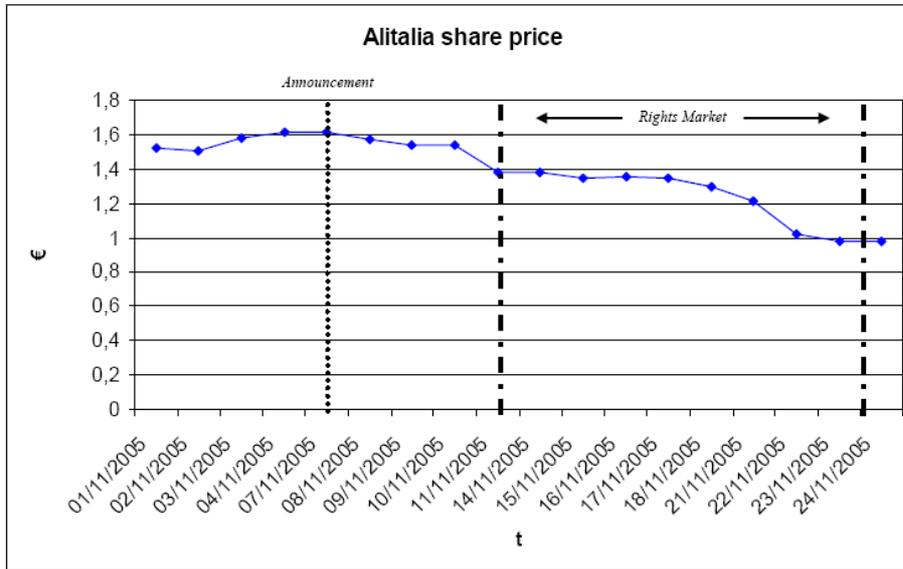
¹⁹One could argue that the intention of the Italian Treasury was not that of extracting (financial) private benefits, but rather of rescuing the company from a very likely bankruptcy. The conflict of interest between controlling shareholder (Treasury) and minorities is due to that the "private benefits" objective of the Treasury was the protection of employment and to keep the flag company in the market. Of course, these objectives differ from a firm value

On the 7th November 2005, Alitalia's Board of Directors set the following conditions for a rights issue: 1,257,562,072 new shares were to be offered, at the 13:2 issue ration, at the issuing price of €0.80, for a whole €1,006,049,657.6 rights issue. At the time of the announcement, the market price per share was of €6.44. On the 10th of November 2005, the Treasury, the controller of Alitalia, announced its plan to subscribe shares for €489.2 millions, in order to reduce its share in the company from to original 62.3% to just less than 50%. Another relevant shareholder, Air France, submitted its 2% share, by paying around € 20 millions. The Deutsche Bank AG was the stand-by underwriter, i.e. the institution committed to buy the unsold shares, namely €200 millions as its investment and the remaining on behalf of other institutions. For instance, €100 millions for Intesa Bank; €25 millions each for Lehman Brothers, Unicredit, Sanpaolo-IMI, Société Générale; plus smaller amount for other institutions such as Capitalia, Nomura, Morgan Stanley). The stand-by underwriter was nor needed as the offered shares were quickly sold out in the market, with only a negligible 0.6% of rights unexercised.

The success of this subscription was very impressive but unjustified if we consider the pattern of Alitalia share prices in the market. In the three days following the announcement, the price dropped by 15% from €6.44 to €5.48 (*cum-rights, unadjusted*), and even more impressively (see Figure 1), during the following ten days, when the rights could be traded on their specific market, share prices dropped by another 29%, from 1.38 to 0.98 (*ex-rights*). According to a public report published by the Deutsche Bank, Alitalia stock share's value was worth approximately €0.01 at the beginning of 2008. Then, in August 2008, Alitalia went bankrupt. On the 12th December 2008, Compagnia Aerea Italiana (CAI) bought the Alitalia brand and assets for €1.052 billion (\$1.33 billion), paying €427 million in cash and taking on €625 million in Alitalia debts.

This anecdotal evidence shows that Alitalia's rights issues in 2005 satisfies both the necessary and the sufficient conditions for "enforcement". The necessary condition holds when the minorities subscribe though the expected return is surely negative, while the controlling shareholder is in maximization. We thank William Megginson for bringing this point to our attention.

Figure 4: **Alitalia (adjusted) share price in November 2005.**



conflict of interest given the presence of private benefits: indeed, Alitalia had posted operating losses for every year between 1999 and 2004, and had accumulated net losses of about €2.4 billion in the first six months of 2005. Thus, it is quite amazing to see that the 99.4% of Alitalia shares were subscribed. Regarding the sufficient condition for a "rights issues enforcement", our model predicts that the discount level has to be high enough so that the dilution effect is greater than the expected loss following the investment: indeed, Alitalia new shares were issued at €0.80, with a 87% discount with respect to the market price of €6.44.

5 Conclusions and policy implications

In this paper, we propose the concept of "rights issues enforcement". Rights issues are an important regulatory device to protect minorities from both ownership and value dilution due to seasoned equity issues at prices lower than the market. We analyze rights issues carried out at negative-NPVs because of the existence of private benefits. We investigate the role of preemptive rights in avoiding minorities to lead the issue to a failure. We highlighted the risk for minorities to be

enforced to take part to equity issues against their own interest. The risk is particularly high when a controlling shareholder needs to defend or enlarge its flow of private benefits, such as when a company is in financial distress. In support of the theoretical framework, we showed how negative abnormal returns are significant for rights issues carried out under risk of enforcement, and how the condition of enforcement is correlated to the determination of these returns.

The contribution of our paper is threefold. First, in previous literature, for a rights issue to have a valuation effect, sufficient asymmetric information about something is required. For example, in Eckbo and Masulis (1992), the uncertainty is about the actual take-up of rights; in Hansen and Pinkerton (1982), the uncertainty is about enough blockholders who are willing to subscribe to their entitled rights; in Wu and Wang (2007), the uncertainty is about hidden private benefits of control. By contrast, in this paper no explicit assumption on the asymmetric information between controlling and minority shareholder is needed. The enforcement mechanism works when rights issues are employed, notwithstanding any alternative available mechanism to raise capital.

Further, we propose a novel theoretical model where private benefits play a key role in explaining why rights issues carried out in firms with negative-NPV are always fully subscribed. Our approach also sheds light on some puzzling announcement effects of rights issues documented in the literature. Also in countries where the average rights issue produces a positive announcement effect (Bigelli, 1998, reports evidence on the Italian case), it is possible to observe cases of abnormal negative returns. This is due to the decision of controlling shareholders to choose value-destroying investment (such as the rescue of financially distressed companies) as long as their gain in private benefits overcompensates for the loss of security benefits from their own equity holdings.

Lastly, the empirical analysis showed that neither ownership framework nor the level of discount affect market reaction. The "rights issues enforcement" framework allows to identify issues that are detrimental to shareholders' value.

There are relevant policy issues that the results in paper suggest. First, there may be the need to introduce some adjustments to the common legal procedure to use rights issues. We think that a

revision of rules regarding issuing price in rights issues has to be expected. Second, given that the (almost) unlimited use of the discount is the key to enforcement, it may necessary to fix a maximum amount, in terms of past volatility of assets. However, in the light that the use of the discount is not negative per se, another solution consist in providing an "exit option" for minorities, as for instance in the case of the UK the London Stock Exchange (1997, 4.17(c)) that allows shareholders who pre-renounce their rights to receive 50% of the difference between the theoretical price and the offer price. Therefore, the provision of a compensation may acts as a mitigation effect to the "rights issues enforcement". Finally, an alternative policy strategy to protect the role of rights issues would be a revision of majority requirements, at least when issues are preemptively offered at high discounts. In the absence of such a provision, controlling shareholders may keep on "enforcing" their rights issues, trying to rescue companies experiencing financial distress and undertaking investments detrimental to shareholder's value.

Finally, it will be interesting to test the validity of our "rights issues enforcement" model to a range of countries with different legal enviroment. We leave this to further research.

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References

- Almeida, H., Wolfenzon, D., 2005. The effect of external finance on the equilibrium allocation of capital, *Journal of Financial Economics* 75, 133-164.
- Armitage, S., 2000, The direct costs of UK rights issues and open offers, *European Financial Management* 6, 57-68.
- Balachandran, B., Faff, R.W., Theobald, M.F., 2008. Rights offerings, takeover, renounceability, and underwriting status, *Journal of Financial Economics* 89, 328-346.
- Bigelli, M., 1998. The quasi-split effect, active insiders and the Italian market reaction to equity rights issues, *European Financial Management* 4, 185-206.
- Bøhren, Ø., Eckbo, B. E., Michalsen, D., 1997. Why underwrite rights offerings? Some new evidence, *Journal of Financial Economics* 46, 223–261.
- Datta, S., Iskandar-Datta, M., Raman, K., 2005. Executive compensation structure and corporate equity financing decisions, *Journal of Business* 78, 1859–1889.
- Dyck, A., Zingales, L., 2004. Private benefits of control : An international comparison, *Journal of Finance* 59, 537-600.
- Eckbo, B.E., Masulis, R.W., 1992. Adverse selection and the rights offer paradox, *Journal of Financial Economics* 32, 293-332.
- Eckbo B.E., Masulis, R.W., Norli, O., 2009. Security offerings, in Eckbo, B.E., eds.: *Handbook of Corporate Finance, Volume 1*, (North-Holland/Elsevier).
- Fama, E., 1970. Efficient capital markets: a review of theory and empirical work, *Journal of Finance*, 25, 383-417.
- Gajewski, J.F., Ginglinger, E., 2002. Seasoned equity issues in a closely held market: evidence from France, *European Finance Review* 6, 291-319.

- Goh, J., Gombola, M.J., Lee, H.W., Liu, F.Y., 1999. Private placement of common equity and earnings expectations, *The Financial Review* 34, 19-32.
- Grossman, S. J., Hart, O. D., 1986. The costs and benefits of ownership: a theory of vertical and lateral integration. *Journal of Political Economy*, 94, 691-719.
- Grossman, S. J., Hart, O. D., 1988. Takeover bids, the free-rider problem, and the theory of the corporation, *Bell Journal of Economics* 11, 42-64.
- Hansen, R.S., 1989. The demise of the rights issue, *Review of Financial Studies* 1, 289-309.
- Hansen, R., Pinkerton, J., 1982. Direct equity financing: A resolution of a paradox, *Journal of Finance* 37, 651-665.
- Heron, R.A., Lie, E., 2004, A comparison of the motivations for and the information content of different types of equity offerings, *Journal of Business* 77, 605–632.
- Herzel, M., Smith, R. L., 1993. Market discounts and shareholder gains for placing equity privately, *Journal of Finance* 48, 459–485.
- Holthausen, R. W., Leftwich, R.W., and Mayers, D., 1987. The effect of large block transactions on security prices: A cross-sectional analysis, *Journal of Financial Economics* 19, 237-268.
- Jensen, M., 1986. Agency costs of free-cash-flow, corporate finance, and takeovers, *American Economic Review* 76, 323-329.
- Jung, K., Kim, Y., Stulz, R., 1996. Timing, investment opportunities, managerial discretion, and the security issue decision, *Journal of Financial Economics* 42, 159-85.
- Kadan, O., Madureira, L., Wang, R., Zach, T., 2009. Conflicts of interest and stock recommendations: the effects of the global settlement and related regulations, *Review of Financial Studies* 22, 4189-4217.
- La Porta, R., Lopez-de-Silanes, F., and Shleifer, A., 1999. Corporate ownership around the world, *Journal of Finance* 54, 471-517.
- Loderer, C. F., Zimmermann, H., 1988. Stock offerings in a different institutional setting: The Swiss case, *Journal of Banking and Finance* 12, 353–377.

- London Stock Exchange, 1997, The listing rules.
- Marsh, P., 1979. Equity rights issues and the efficiency of the U.K. stock market, *Journal of Finance* 34, 839–862.
- Michaely, R., Womack, K. L., 1999. Conflict of interest and the credibility of underwriter analyst recommendations, *Review of Financial Studies* 12, 653–686.
- Myers, S., Majluf, N., 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13, 187-221.
- Shleifer, A., Vishny, R.W., 1986. Large shareholders and corporate control. *The Journal of Political Economy* 94, 461-488.
- Shleifer, A., Vishny, R.W., 1997. A survey of corporate governance, *Journal of Finance* 52, 737-783.
- Singh, A.K., 1997. Layoffs and underwritten rights offers, *Journal of Financial Economics* 43, 105-130.
- Slovin, M.B., Sushka, M.E., Lai, K.W.L., 2000, Alternative flotation methods, adverse selection, and ownership structure: evidence from seasoned equity issuance in the U.K., *Journal of Financial Economics* 57, 157-190.
- Smith, C., 1977. Alternative methods for raising capital rights versus underwritten offerings, *Journal of Financial Economics* 8, 273-307.
- Tsangarakis, N. V., 1996. Shareholder wealth effects of equity issues in emerging markets: Evidence from rights offerings in greece, *Financial Management* 25, 21–32.
- Ursel, N., 2006. Rights offerings and corporate financial condition, *Financial Management*, 35, 31–52.
- Wruck, K. H., 1989. Equity ownership concentration and firm value: Evidence from private equity financings, *Journal of Financial Economics* 23, 3–28.
- Wu, X.P., Wang, Z., 2005. Equity financing in a Myers-Majluf framework with private benefits of control, *Journal of Corporate Finance* 11, 914-945.

Wu, X.P., Wang, Z., 2007. Private benefits of control and the choice of seasoned equity flotation method, Available at SSRN: <http://ssrn.com/abstract=685262>

Zingales, L., 1994. The value of the voting right: A study of the Milan Stock Exchange experience, *Review of Financial Studies* 7, 125-148.

Zingales, L., 1995. What determines the value of corporate votes?, *Quarterly Journal of Economics*, 110, 1047-1073.

Table 6: Regression analysis of CARs (-1,+1) around announcement date (Model 1 and Model 2) and over the rights market activity (Model 3 and Model 4).

| | Model 1 | Model 3 |
|----------|---------------------|---------------------|
| Constant | -0.017 (0.022) | -0.016 (0.040) |
| DISTR | 0.005 (0.007) | 0.033** (0.013) |
| INT.COVS | 0.001 (0.001) | 0.006*** (0.002) |
| HI_RISK | -0.028 (0.032) | -0.070 (0.049) |
| DIL | 0.252*** (0.076) | -0.015 (0.123) |
| ENF | -0.270** (0.101) | - - |
| LATE_ENF | - - | -0.382** (0.155) |
| UNINS | 0.041* (0.022) | 0.024 (0.047) |
| OFF_SIZE | 0.003 (0.012) | 0.005 (0.020) |
| F_SIZE | -0.001 (0.002) | -0.001 (0.004) |
| RUN_UP | 0.053 (0.152) | 0.205 (0.039) |
| R^2 | 0.315 | 0.325 |
| n | 68 | 68 |

***, **, * denote 1%, 5% and 10% significance level, respectively.

Standard errors in parenthesis.