# M&A Market in Transition Economies: Evidence from Romania

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**Abstract**

This study sheds light on a new facet of the financial architecture of transition economies by focusing on the original experience of the Romanian acquisition market. Our findings do not corroborate those provided by the extensive acquisition literature: on average, the target abnormal returns are not statistically different from zero. The shareholders short-term reaction carries information about the economic perspectives of target companies, as well as the effectiveness of the legal protection before and after this specific firm episode.

*JEL classification*: G14; G18; G34
*Keywords*: Event study; Corporate governance; Emerging market; Takeovers

## 1. Introduction

The market for corporate control throughout Central and Eastern Europe has been for a long time dominated by privatization. In the early 90s, the State decided to give up its hegemony in the economic sector, thereby abetting the emergence of the most fervent defenders of the Value Maximization Principle: the private shareholders. Nevertheless, the will of national authorities to begin making radical changes was not homogeneous either among countries or during the transition period. The comparative studies made on the restructuring effects of privatization in Continental Europe (e.g. Pohl et al., 1997) ascertain that, in the first stage of transition, one of the countries of this region – *Romania* – constantly dragged its heels. The skepticism about the capacity of the Romanian economy to challenge the last decade's events was mainly explained by the irregular rhythm of privatization.[1]

[1] Describing the complexity of privatization is beyond our purpose. The privatization policies performed in Romania are comprehensively presented in Earle and Telegdy (2002).

Despite this controversial evolution, the various methods of privatization proposed by the Romanian government have ultimately boosted the market for corporate control as nowhere else in Central and Eastern Europe. The redefined role of private property in industrial companies represented the central pillar of a new architecture of ownership and control systems that allowed investors to initiate their strategies of acquisitions directly on the market. In the years following the mass privatization program, more than one tenth of the five thousand privatized companies listed on the new established stock market[2] were targets of takeovers bids. Between 1998 and 2002, 993 takeover bids were approved by the National Security Commission (henceforth *CNVM*); 44 on the Bucharest Stock Exchange (henceforth *BVB*); and 949 on the OTC Market (henceforth *RASDAQ*). From this perspective, the Romanian experience represents an interesting case in which to assess the M&A market, the evolution of corporate governance mechanism, and legal protection of shareholders in transition economies.

Some recent analyses (e.g. Pajuste, 2002, Berglöf and Pajuste, 2003) provide qualitative evidence on the corporate governance practices in Central and Eastern Europe, including the evolution of control structures and the quality of legal provisions in Romania. For example, they show that in 2000/2001 the Romanian governance system perfectly complies with the internal model of governance dominating this geographical region: on average, the largest shareholder possessed a voting power of 53%; while the second one had 16% of the voting rights in the listed companies.

Inasmuch as capital concentration has not been an exclusive effect of privatization, our interest is therefore to identify private capital transactions, namely takeover bids, which could partially explain the stylized facts presented in the above-mentioned studies. For this purpose, we focus on the effect of takeovers on the target firms' performance, as reflected by stock prices. By employing the event-study approach and a unique dataset covering the public offers made between 1998 and 2002 on the *BVB* and *RASDAQ,* our empirical specifications generate interesting results about governance patterns in the post-privatization period. To the best of our knowledge, we provide the first study that addresses the efficiency concern of takeovers completed on the young markets of Continental Europe. The issue of shareholder value creation or destruction through capital transactions in transition economies is also discussed in Trojanowski (2002) for Poland, Gregoric and Vespro (2003) for Slovenia, and Atanasov et al. (2005) for Bulgaria. However, the first two studies analyze the ability of large

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[2] According to the total number of listed securities on the Bucharest Stock Exchange and *RASDAQ*, the Romanian market has been the largest stock market of the region.

shareholders to reap private benefits of control through block transactions that exclude mandatory bids, while Atanasov et al. (2005) sheds light on the delisting practices that caused the Bulgarian capital market to shrink after 1998.

The main objective of this study is to make a positive contribution to the debate on the achievement of restructuring objectives in transition economies. Besides, our empirical approach allows us to discern whether the peculiarities of investment and legal environment (high ownership concentration, the previous privatization of target firms) conferred some atypical features to the Romanian market for corporate control. By analyzing the impact of acquisitions on the return of target shareholders, in a context with a mandatory bid rule, we reveal the market opinion concerning the role of new shareholders in creating value, as well as the efficiency of legal protection.

The results suggest that the targets' abnormal returns in the announcement period are not statistically significant. Compared with the bulk of positive results reported on the other world markets, this one seems somewhat atypical. Nevertheless, when we analyze the determinants of the market price reaction to the takeover announcement, we ascertain that the investors include in their estimations information about the scope of expropriation potential *via* insider trading before the event, as well as the effective corporate restructuring perspectives.

The reminder of the paper is organized as follows. The main findings of a reach literature on takeover target returns around the world are outlined in Section 2. Section 3 focuses on the recent regulatory trends aiming to protect the minority shareholders' interests in Romania, which motivate our investigation of takeovers within the original framework of a transition regime. Section 4 presents the selection procedure, as well as the estimated abnormal returns. Section 5 describes the variables employed to explain the short-term wealth effects for target shareholders and the results of multivariate analysis. Section 6 purports to reveal how the phenomenon of poor market regulation can harm the restructuring process in emerging markets. The final section concludes.


## 2. Empirical evidence on the takeover target returns

The overwhelming empirical evidence on the implications of takeovers for target shareholders reveals that acquisitions are positive corporate events. The studies covering the developed markets for corporate control mainly from North America and Western Europe

agree that target shareholders obtain the largest share of the takeover gain.[3] On one hand, the event-studies analyzing the effect of acquisitions on dispersed shareholders place the emphasis on the possibility to free-ride the acquirer and thus capture his potential advantage. For the US market, Huang and Walkling (1987), Lang et al. (1989), Smith and Kim (1994), Davidson and Cheng (1997) reported abnormal returns between 20% and 40%. Franks and Harris (1989) analyzing the UK takeovers found that target shareholders could gain more than 25% at the announcement of acquisitions. On the other hand, the European control contest embodies the main characteristics of blockholder models. For continental Europe, Högfedt and Högholm (2000), Campa and Hernando (2004), Goergen and Renneboog (2003) show that lower but still positive (6% - 17%) abnormal returns are accounted for targets.

The evidence on the reaction on emerging markets is quite limited. Ocaña et al. (1997) found that the abnormal returns for target firms listed in the Spanish market, in the period following the integration in the European structures, reached high positive values of 40%. For the Portuguese market, Farinha and Miranda (2004) observed abnormal returns of a smaller magnitude, about 23%. Chari et al. (2004) reported that international acquisitions performed by the US acquirers in the emerging markets of East Asia an Latin America drove stock price reactions of 5% to 7%.

Nevertheless, this literature, fundamentally connected with the literature on corporate governance practices and financial market conditions, still does not definitively answers the question of the effect of successful takeovers on the shareholders' wealth. Our main argument for reiterating this approach is the specific evolution of the Romanian environment in which arbitrary decisions have decisively affected the investment incentives of private players.


## 3. Legal background and justification

The sequencing of privatization in Romania has had a strong effect on the clustering of voting power at high initial levels that ultimately designed the market for corporate control. However, the establishment of a stock market offered investors the opportunity to reinforce the stake initially acquired from the State or to purchase new stakes in the listed companies directly from shareholders immersed within privatization. In order to highlight the magnitude of these changes, we present in Table 1 (panel A and B) the distribution of companies by market, the dynamics of takeover bids during the analyzed period, as well as several comparative figures between the two parallel processes of control transfer.

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[3] For an overview on various studies performed on M&A transactions, the reader can refer to Bruner (2002).

*{Insert Table 1 about here}*

Since the emergence of strategic blockholders, the problem of governance has been arising within the relationships between the large and minority shareholders. Further success of economic reforms has depended on the development of a legal framework aiming to protect small shareholders against expropriation practices. In response to investors' fears regarding the protection of minority rights, the capital market regulation in Romania has been broadened to include takeover procedures in the very first stage of market development.

Following the European standards, the statutory framework of acquisitions stipulates the principle according to which an investor who wants to obtain certain levels of voting power must make a takeover bid (Mandatory Bid Rule). From 1994 until the first quarter of 2002 there were only two legal thresholds imposing such an obligation: 33 % (blocking minority) [4]; and 50 % (simple majority). In 2002, the entrenched ownership structure of many listed firms made the authority extend the bid obligation to 75 % (qualified majority) and to 90% of capital. The regulation aims to institute an equal treatment of target shareholders and eliminate any premium for the sale of a control block. Davies (2002) explains that the discrimination of shareholders is avoided only if the (1) equality within the offer;[5] (2) equality among the shareholders who tender their shares and those preferring to sell them directly on the market; and (3) equality in the case of obtaining an absolute majority stake are respected.

In the first case, all the shareholders must receive the same offer and benefit from any increase of the bidding price, even if they have already accepted the initial lower price. In the absence of such an obligation, the buyer could obtain *de facto* control, by offering a favorable price to a selected group of shareholders. The offer document has to contain information about the identity of shareholders owing more than 5% of the common shares of target and of bidder's company, the offer price, the number of targeted shares, the source of funds, and the business and investment policy orientation. The bid has to remain open for at least 15 days to allow the shareholders to make an informed tender decision. The regulation does not set the treatment applicable to various classes of shareholders (having shares that could differ according to the attached voting or dividend rights). A relevant argument focuses on the structure of share capital, broadly formed by a single class of shares (one share – one vote rule).

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[4] In this case, the acquirer has to make a public offer for the aimed percentage of capital. If the offer is over-subscribed he makes a pro-rata allocation of the tendered shares.

[5] Between 1996 and March 2002, this rule was the only protection guaranteed to shareholders during a change of control.

As regards the second point, the new Romanian takeover law has explicitly forbidden the buyer from purchasing the target shares directly on the market, once the public offer document is filed with the *CNVM*. Furthermore, it imposes a minimum bidding price that reflects both the price already paid by the acquirer during the last 12 months and the average weighted market price recorded for the same period.

Finally, the acquisition of more than 90% obliges the major shareholder of the target to buy out all available shares and transform the company into a privately-held company. In that case, the bidding price is assessed by an independent expert but minority shareholders have the right to refuse the set price and ask for an additional evaluation.

The public offer shall not be made by investors who acquire the control within the privatization process, irrespective of the size of block sold by the National Authority of Privatization (henceforth *AVAS*). *AVAS* benefits from a favorable legal treatment that allows it to negotiate blocks outside the public exchange. In this way, many investors were able to build important toeholds in targets, sometimes even to obtain the majority of votes in those companies, by circumventing the market.

The strategic role of State's property raises two major problems in the case of takeover regulation. First, under these circumstances, the disclosure measure that should promote an active market for corporate control becomes completely ineffective. In the absence of voluntary dilution (Grossman and Hart, 1980), the share of takeover gain appropriated by acquirers depends on the size of capital that could be accumulated in secret on the open market (e.g. Shleifer and Vishny, 1986, Hirshleifer and Titman, 1990, Chowdhry and Jegadeesh, 1994). The logic behind the disclosure requirement is to avoid the expropriation of target shareholders that would happen if the acquirer could obtain more than the surplus generated by its unique managerial skills. Second, the violation of the mandatory bid rule by legitimating the so-called "*excepted transactions*" casts doubt on the very good faith of authorities to preserve the interest of the external funds' providers. In order to illustrate how the State interests could interfere with those of private small shareholders we provide an example of a blocked public offer. At the beginning of 2003, the bid made by LNM Holdings NV for Ispat-Sidex Galati, the largest steel company of the region, was canceled after the acquirer bought 4.7% directly from the *AVAS*. This additional stake was sufficiently large to assure to LNM Holdings NV 90% of the capital, and hence the premises of the target's delisting.

Bearing in mind that the effect of the mandatory bid rule depends on the overall institutional environment as well as on the ownership and control structure prevailing in

target firms, we are interested in finding out whether and how the acquisition of control in an emerging market can create value for target shareholders.

## 4. Data and methodology

### 4.1 Samples selection

In order to assess the efficiency of an acquisition for the concerned parties, we analyze the market reaction at its public announcement. The abnormal returns over the theoretical values, which would have been recorded in the absence of events, measure the short-term gain resulting from such a decision. We make the estimations on different samples derived for (1) the market model and (2) the trade-to-trade model, which takes into account the infrequent trading (Maynes and Rumsey, 1993).[6] The severity of the non-trading problem is revealed for both markets in Table 2, which presents descriptive statistics for three homogeneous portfolios constructed after classifying the targets in a decreasing order of trading thickness.[7]

*{Insert Table 2 about here}*

We investigate also whether the results are sensitive to the methodological design by running the estimations on different periods – 100, 150, and 250 days – ending 11 days prior to the announcement. For space reasons we report only the results estimated on 150 days, whichever the market (*BVB* or *RASDAQ*) or the model (market model or trade-to-trade model) is. We have selected only the targets that during the estimation period had at least 40 returns for the first model and 30 returns for the second one.

The event day is the day the *CNVM* approves the bids or the day of the preliminary announcement for going-private transactions. The changing of offer initial terms (price, number of shares, offer period), and the squeeze out offers[8] are not treated as new announcements. If the market price is missing, the parameters of market model are estimated by employing the lumped return procedure. For the trade-to-trade model, we place an additional restriction, by selecting only the shares traded on the announcement day.

The information used in this study was kindly provided by the *CNVM*, *BVB*, *RASDAQ* (the lists of takeover bids), the *AVAS* (information on the privatization of selected targets, made directly by the *AVAS*) and the *KMARKET* private database (stock prices and market indices).

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[6] The lack of transaction prices on certain days influences the estimation of abnormal returns: if daily stock returns are not normally distributed, the OLS estimation of market model could be biased. However, Brown and Warner (1985) demonstrate that even under these circumstances statistical tests of abnormal returns still provide relevant results.

[7] The figures concerning the stock listed on *BVB* are compounded only in function of the trades made on regular and unlisted market. Since 1999, the market for listed shares has been structured on three different levels: the deal, regular and odd market. Besides, there is a different category comprising unlisted shares.

[8] Actually, once a squeeze-out offer is announced, the market transactions with the targeted stock are suspended.

Some offers parameters, like ownership structure used to explain the estimated returns, were hand collected by the author from the takeover documents filed with the *CNVM*.

We analyze only the successful bids, a restriction that reduces our overall sample from 993 to 861 observations. We define a successful offer as one in which according to the offer outcome, at least one share was tendered and purchased. The offers are also eliminated from the sample if during the event window, the targets receive rival offers. The offers are isolated from the other events (the share-capital change or dividend announcements), which could also influence the market price. In particular, to select the acquisition of a company listed on the RASDAQ we have imposed some additional selection criteria: (1) the total number of shares has to exceed 450,000 to avoid the small-size effect; and (2) the takeover bid must be made after January 4th 1999 in order to estimate the normal returns.[9] The standard event study analysis consists of testing whether these abnormal returns are equal to zero.

*4.2 Abnormal returns*

Since for each market there is a specific regulation governing trading activity and different market indices are available, the abnormal returns are calculated by treating separately the *BVB* and *RASDAQ* firms. The stock exchange is an auction market committed to require from the issuers relevant disclosure on company events and performance, as well as a minimum free-float of 25% of the total number of shares. *RASDAQ* is a dealer market where market makers set the price. The more lenient regulation of *RASDAQ* encourages the speculative behavior of traders, adding noise to the informative value of stock prices.

**BVB**. For stock exchange data, a weak positive impact (0.2%) is associated with the approval day, which is not statistically different from zero according to the parametric tests (see Table 3). From a total of 26 companies, 58% exhibit on the event day a positive abnormal return, the extreme being 2.18%. By analyzing the mean standardized abnormal returns, the null hypothesis is accepted in all the event days. According to the cross sectional test of Boehmer et al. (1991) that control for variance changes between the estimation and event period, the estimated abnormal return for the event day is significant at the 10% level. These results do not seem to be sensitive to the estimation procedure or the window length.

{*Insert Table 3 about here*}

Significant results at 1% levels (see Table 4) are obtained during the event period for the mean cumulative abnormal returns, including the standardized ones . The only insignificant

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[9] The RASDAQ-C index is available only after July 31st, 1998.

results, according to the parametric test, concern the announcement window [−1; +1]. The non-parametric tests of Corrado (1989) and Cowan (1992) strengthen the results of parametric tests for single-day and contradict those for multiple-day windows.

*{Insert Table 4 about here}*

**RASDAQ**. The stocks traded on *RASDAQ* have on the event day a mean abnormal return of 0.5% based on the market model and 3% after controlling for infrequent trading. According to either test we reject the null hypothesis at conventional confidence levels when the estimations are derived for the market model. Only the rank test proposed by Maynes and Rumsey (1993) (probably the most plausible one, viewing the market characteristics) certifies that the announcement of an acquisition has a trivial effect on the market value of targets.

A graphical representation of the mean abnormal return during the entire event period reveals three different sub-periods of its evolution: (1) a period beginning a week before the approval day, generally corresponding to the period the terms of offer are analyzed by the market authority; (2) a period extending between the days 0 and 5, (in the case of takeover bids, corresponding to the maximum legal period available to publicly announce the offer); and (3) the offering period, usually beginning 5 days after the approval day. The amplitude of returns is different on these periods, the most important (about 4%) being recorded four days before the event day. The mean abnormal return has the same pattern during the event window, irrespective of the specification of estimation period.

*{Insert Figure 1 about here}*

To better weight the influence of thick trading around the event on the shareholders' gains , we replicate this analysis on a sub-sample of securities having returns during the entire event period. The amplitude of the mean abnormal return on the event day (non-reported results) is comparable with that estimated for the complete samples. The value of the Student statistics ($t = 2.77$; $p < 0.05$) provides evidence of a significant average abnormal return on the event. However, the rank test does not confirm these results. By aggregating the abnormal returns on the event window for the same sub-sample, an ascending pattern is observed for the mean value of this measure that reaches its maximum on the last day of the event window (see Figure 2). The mean cumulative abnormal return over the window [−10; +15] is 26.56% ($t = 0.88$ and $z_r = −3.80$). These results could pertain to the arbitragists' role in takeover contests, as predicted by Högfedt and Högholm, (2000). After the announcement of a takeover, the building of new blocks sustains an increase in short-term gain for takeover shareholders.

*{Insert Figure 2 about here}*

The empirical evidence does not provide a compelling support in favor of positive abnormal returns. Bearing in mind the non-trading problem proved for this market, more credit should be given to the results of non-parametric tests: whichever the sub-period is, no significant result was found for the cumulative abnormal returns.

It is obvious that the announcement of an acquisition does not come at a surprise to the holders of target's shares. The contribution of Bhattacharya et al (2000)[10] elucidates the 'non-event' puzzle in transition economies, where the lenient enforcement of market regulation serves to profitable pre-event trading strategies. Investors possessing proprietary knowledge on information make purchases well before the event, which allow the earlier incorporation of private information into stock prices.[11] Consequently, the insiders appropriate gradually the takeover gain before the public announcement, to the detriment of small shareholders.

Some other findings are supportive for such an intuition. First, we find on both markets that the trading in the days preceding the announcement is accompanied by positive and significant abnormal returns. Second, the 62 percent of the total cumulative abnormal return gained on BVB it is accrued to shareholders before the event day.[12] Finally, a more telling story on the effect of pre-event information leakage is highlighted in Figure 2.

Under these circumstances, a more detailed analysis of the factors that could explain the differences among companies is needed.


## 5. Empirical results of multivariate regression analysis

To explain the estimated results, first, we pool together the *BVB* and *RASDAQ* data; then we run a cross-sectional regression using the cumulative abnormal return on the event window [−10; +15] derived from market model as dependent variable. The reason for merging the two datasets is that the price behavior at the acquisition announcement is influenced by qualitatively similar factors irrespective of market; that is, the additional

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[10] Several basic assumptions compete in order to explain our results: the market inefficiencies; the value irrelevant corporate announcement; the full anticipation; and the insider trading hypotheses. For example, when the block acquired within privatization besides the actual holdings of a known rider does not assure the control over the target the market could anticipate the acquisition.

[11] Cornell and Sirri (1992), Hung and Trezevant (2003) consider that the flow of insiders' value relevant information into stock prices improves their accuracy allowing hence to the market to discover earlier the true state of listed companies.

[12] However, Jarrell and Poulsen (1989) argue that prebid runup does not necessarily reflect insider trading. Moreover, Cornell and Sirri (1992) assert that if the market is capable of foreseeing the transaction the acquirer' stock should also react before the announcement.

information contained in the takeover document. Besides, we address the critics regarding the small degrees of freedom likely to affect the robustness of our results in the case of the *BVB* sample (only 25 observations).

Our approach consists of regressing the cumulative abnormal return against several variables that proxy for insider trading potential, acquirer's ownership (or bid premium), acquirer's motivation as well as other control variables. The general forms of regressions are:

$$CAR_j = a_0 + a_1 \text{Insidertrading potential} + a_2 \text{Toehold} + a_3 \text{Motivation} + \sum_{k=4}^{n} a_k CV_k \qquad (1)$$

where: $CAR_j$ is the cumulative abnormal return of the stock $j$ on the event window $[-10; +15]$; $a_k$ is the regression parameter for the $k^{th}$ variable; *Insider trading potential* is represented by the target's free float; *Toehold* is the target's capital already owned by acquirer at the bid date; *Motivation is* the acquirer's type dummy that proxy for restructuring *vs.* diversification motivation behind the acquisition decision; and $CV_k$ are various control variables. In some specifications the variable *Teohold* is replaced by the variable *Bid Premium*, which is compounded as the difference between the transaction price and the closing price on the last day of the estimation period divided by the closing price eleven days prior the event date. Descriptive statistics of the dependent and independent variables are presented in Table 5.

{*Insert Table 5 about here*}

In the light of theoretical evidence, which predicts that the target abnormal returns are decreasing in the potential intensity of insider trading ( e.g. Estrada, 1995)[13] and in the size of bidder initial position, (e.g. Shleifer and Vishny, 1986), we investigate whether our results reinforce the proofs provided by the vast empirical literature (e.g. Jarrell and Poulsen, 1989; Stultz et al., 1990; Högfeldt and Högholm, 2000). The testable hypotheses regard the way market liquidity affects the level of target gains:

*H1: The target gain is a decreasing function of the potential intensity of insider trading.*

*H2: The target gain is a decreasing function of the size of bidder's toehold.*

*5.1 Insider Trading Potential*

The foundation of market transactions is the size of outstanding capital, which depends on the ownership structure of the firm. Therefore, in the regression model, we use as proxy for

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[13] Estrada, (1995) shows that the trades performed by insiders drive correctly the stock prices. We infer that the differences between stock prices before and after event decrease.

the opportunity to trade, the free float of the target, compounded as a function of significant shareholdings at the bid date. According to the market regulation, a shareholder owing at least 5% of the voting rights of target at the bid date is considered a significant shareholder. The average free float of targets included in the sample is 7,796,136 shares. As the distribution is skewed to the left in the regression we employ the natural logarithm of this variable.

We find strong evidence that insider trading potential is a relevant factor explaining the market reaction to the takeover announcement. The result is robust even after controlling for other influences. Whichever the model specification is, the higher the effective number of outstanding shares the lower the cumulative abnormal returns, a result that validates the H1 hypothesis. The negative and significant coefficient of this variable can be explained by the surprise effect of a takeover announcement, which is more plausible in the case of illiquid stocks. On the contrary, the insider trading is more likely when more transactions can be made before acquisition, thanks to enhanced market liquidity[14].

## 5.2 Toehold

The distribution of acquirer's ownership shows that he directly controlled, on average, 39% of the target capital. According to the indirect holdings due to concert actions with other target shareholders, the average toehold reaches almost 50% of the total voting rights. Under such circumstances, the rider may capture an important percent of acquisition surplus since the demand for outside shares is so low. As in Stultz et al. (1990), we take into account a non-linear effect of ownership concentration by employing the square root of the bidder toehold.

We find evidence that the acquirer's direct toehold negatively affects the target returns, as predicted by the literature. However, when we correct for the indirect holdings, either by employing a dummy variable for the concert actions or by calculating the total stake of the acquirer in function of the holdings of affiliated persons, the coefficient is no longer significant in all specifications (not reported results).

## 5.3 Bid premium

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[14] In the light of insider trading argument, the volume that can be traded on the market for a given change in stock price describes the market liquidity. However, the market liquidity can be overstated when cross transactions between clients of the same brokerage house or a client and the brokerage house being also the market maker, allow large quantities of shares to be exchanged without modifying the market price.

The bid premium in the case of a concentrated ownership can have a two-fold effect. On the one hand, as Högfeldt and Högholm (2000) point out, a high positive premium gives arbitrageurs a large scope to enter and build new blocks. The arbitrage potential results in premium revising and hence in higher abnormal returns. In our case, the average revised premium is 40% compared with the average initial premium, which is only 27%. On the other hand, a high premium over the market price encourages the small shareholders to hold and tender their shares directly to the bidder, knowing that blockholder structure limits their ability to obtain shared benefits of control *via* market price. In the presented empirical analysis, the premium does not have any short-term effect on the abnormal returns accrued to target shareholders. This result is not sensitive to the bidding price revision.

*5.4 Acquirer's motivation*

Shareholders' wealth effects can also be driven by the acquirer's motives. If restructuring is the motivation, higher abnormal returns are expected when the acquirer is an industrial company. On the contrary, institutional or individual riders could be perceived as barriers to corporate restructuring, as long as their predominant reason for making the acquisition is rather diversification or wealth redistribution related (Goergen and Renneboog, 2003). The identity of acquirer is expressed by three dummy variables – *Industrial*, *Institutional*, *Family* – which take the value of 1 for each respective type. The *Industrial* dummy was dropped in order to avoid the multicolinearity in the data.

The target shareholders receive significantly lower cumulative abnormal returns when an institutional or individual investor makes the acquisition than in the case when the acquirer is an industrial company. However, the results do not reveal any significant difference between the acquisitions motivated by reasons other than restructuring.

*5.5 Government involvement*

The features of privatization are crucial for the acquirer's initial capital accumulation in the listed companies. The major ways to build a toehold in the target within the privatization process were to deal directly with *AVAS* or to buy its stake offered on the stock exchange.[15] The first method allowed for control in privatized companies to be transferred directly to investors by avoiding the market. In one third of cases, the acquirers have previously dealt

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[15] The main privatization methods used on the market are electronic auction, book building, Dutch auction, and firm commitment underwriting.

with *AVAS* for an average block amounting to 52% of the total capital. Consequently, in 23% of targets, the rider obtained the majority position within the privatization.

In order to capture such an effect we construct a dummy variable, *Toehold_Privatization*, which takes the value of 1 if the acquirer has previously bought the target shares directly from *AVAS*, and 0 otherwise. The insignificant result makes us think that the large footholds assembled through privatization could tip the market for future tender offers but as they often represented long-term positions in the target, it is also likely to be considered equivocal in the period close to bid.

Besides, the government involvement at the acquisition date, which may be viewed as an additional obstruction to future changes, is captured by the dummy variable *AVAS*, which takes the value of 1 if the State still owns shares in the target company. As in the previous case, the State ownership seems not to have had any effect on the target shareholders wealth.

### 5.6 Pivotal shareholders

The peculiarity of the Continental takeover regime (mandatory bid rule, squeeze out right) makes some significant shareholders pivotal to the result of the bid. The law and finance theory proposed by Högfeldt and Högholm (2000) argues that the very presence of a shareholder having blocking potential affects the distribution of the takeover gain in favor of the target shareholders. The pivotal shareholder control variable, *Pivotal*, is 1 if at least 10% of the target capital is owned by one private blockholder who does not act in concert with the acquirer. In our sample, 60% of transactions could have been blocked by an existing shareholder. The coefficient is not significant, but once we account for such an influence, the coefficient of the *Direct Toehold* variable becomes not significant in all specifications.

### 5.7 Subsequent offers

A bid sequence allows the market to isolate the incidence of acquirer attributes. A decreasing trend of abnormal returns is expected, arguing the increasing dilution of target shareholders' voting rights or the gradual reduction of potential synergies. This influence is not confirmed in our analysis.

### 5.8 Agency effects

In line with monitoring arguments, a high gearing ratio is associated with higher abnormal return. Once a bid is closed, the remaining minority shareholders hope to share a larger part of benefits, thanks to a better resource allocation imposed by the funds lenders. The logic

behind the market reaction pertains to the more efficient use of free cash flow, as predicted by Jensen (1986). A weak but significant positive influence is detected for this variable.

*5.9 Takeovers and market regulation effects*

In order to proxy for the regulation effects, we employ the *LAW* dummy variable that takes the value of 1 if the takeover was announced after March 2002 and 0 otherwise. We expect to find differences in wealth effects before and after that date, which might result from the more restrictive takeover regime imposed at the beginning of 2002. The differences between the regulations of the two markets are accounted for by including the *MARKET* variable, a dummy that takes the value of 1 if the target is listed on *BVB* and 0 if its stocks are traded on *RASDAQ*. Neither coefficient is significant whichever the regression is.

{*Insert Table 6 about here*}

Some variables usually employed in the event studies on mergers and acquisitions, like the form of payment (cash *vs*. stock), deal type (tender offer *vs*. merger) or status of acquisition (friendly *vs*. hostile), can not be used in this study. All bids included in the final samples are tender offers and cash bids. Besides, the acquirers formally claimed in the takeover documents that they do not intend to replace the target's management team after the acquisition.

In order to better reveal how the reasons behind the acquisition decision affect the cumulative abnormal returns we modify the equation (1), as follows:

$$CAR_j = a_0 + a_1 Insidertrading\ potential + a_2 Major + a_3 Institutional + a_4 Family +$$
$$a_5 Major * Institutional + a_6 Major * Family + \sum_{k=7}^{n} a_k CV_k \quad (2)$$

where, *Major* is a dummy variable that takes value of 1 if the acquirer's toehold is higher than 50% at the bid date, and 0 otherwise. Following the approach of Campa and Hernando (2004), we test for differences between the cumulative abnormal returns in acquisitions made by institutional or individual investors and those in acquisitions made by industrial companies, in two distinct situations: (1) when the transaction aims at acquiring the majority position; *vs*. (2) when the transaction aims at reinforcing the majority position.

{*Insert Table 7 about here*}

The results presented in Table 7 show that the acquisitions driven by restructuring objectives create more value than those motivated by diversification or wealth redistribution only when the acquirer aims at obtaining the majority. If the acquirer owns at least 50% of the votes at the bid date, no difference in expectations regarding the target value is triggered

by the acquirer's identity. The firms already controlled by acquirer provide more opportunities for insiders to trade based on privileged information. Consequently their market prices are impacted only gradually, reflecting earlier the insiders' proprietary knowledge of specific information (Zhu et al., 2002; Hung and Trezevant, 2003 ).

Overall, the empirical findings provide additional evidence that the degree of capital concentration, likely to determine the intensity of insider trading, influences the level of takeover gain. In addition, the market reaction driven by specific information, like the acquirer's identity, indicates that the abnormal returns capture expectations of development potential in addition to the announcement effect.

## 6. What do we learn from Romania that is relevant for other transition markets?

Our results provide evidence supporting the conjuncture that firm-specific episodes, like takeovers, in emerging markets are unlikely to benefit equitably to large and small shareholders. In order to put them in perspective we now try to spark the debate on the regulation and its legal enforcement in transition economies.

The first public policy message of this study, disseminated over the previous sections, is the need for a more stringent investigation of the trades surrounding tender offers. An effervescent M&A market fosters trading activity, even if concentrated ownership is the norm in listed companies. However, the corporate governance attributes of targets provide large shareholders with a greater ability to exploit specific information at the expense of remaining shareholders. It worth noting that, the concentration of capital by acquisitions is exactly the element raising the probability that controlling shareholders will be unopposed. Consequently, the resulting entrenched ownership structures conserve the large information advantages for insiders. This evidence suggests that the regulation has to address the pre-event trading abuses and to curb illegal insider trading, especially in firms where groups of controlling shareholders exist. Nevertheless, while none a single case of insider trading has been brought in the court, the threat of legal sanctions enacted in the 'written rules' is not credible.

The protection of shareholders is effective only if they gain or, to bring the discussion closer to the objective of this paper, if they can obtain a substantial part of the profit generated by the takeover. Högfedt and Högholm (2000) argue that, in the case of the mandatory bid rule and squeeze-out rights, large shareholders can condition the takeover outcome and thus secure a substantial part of takeover gain for target shareholders by using

their bargaining position. These opposite roles of large shareholders render the regulation a complex task.

Particularly, the takeover regulation plays a critical corporate governance function in a system with concentrated ownership. The increasing number of public offers requires the authorities to face the dilemma of whether they should assure stock liquidity, and hence promote an efficient company restructuring, or the investors' protection (Goergen et al., 2005).

Particularly, our results bring into question the effectiveness of a strict mandatory bid rule regime in transition economies. Under the pressure of control consolidation, the small shareholders are bound to accept a bid price rather defined by the recent evolution of target market price (Burkart, 1999). This limit becomes frustrating in the systems where the assembling of initial stakes supposes no trades among market actors (e.g. the case of direct negotiation with AVAS), or the prices can be manipulated by unbounded insider trading.

The setting proposed in this paper suggests that a strict mandatory bid rule combined with lenient enforcement of regulation governing insiders' trades favor the exit of outsider investors. Unfortunately, this effect is paralleled by a dramatic need for capital without which restructuring is valiant but vain.

## 7. Summary and conclusion

We reexamine in this study the restructuring puzzle in transition economies by focusing on the ownership concentration *via* public offers on the Romanian stock market. For this purpose, we analyze the short-term wealth effects of acquisitions over the period 1998-2002. The final sample contains 131 acquisitions: 25 transactions completed on the BSE; and 106 transactions on RASDAQ.

Our findings do not corroborate those provided by the extensive acquisition literature: on average, the target abnormal returns are not statistically different from zero. However, the empirical results of the multiple regressions suggest that investors are capable of discerning the new information on the potential changes of control in public companies. In particular, these ones show that the shareholders could gain when the corporate restructuring in the period following the acquisition is more likely. The short-term wealth of target shareholders is due to a large extent to the corporate governance attributes of target companies.

A second objective was to establish if the efficiency concern addressed by imposing a mandatory bid rule is validated on a young market. Unfortunately, this regulation leads to

less contestability of control, whose prevalence is considered an essential aspect for promoting industry restructuring on an ongoing base.

If an acquisition is still considered a transaction creating shareholder value, our findings make us think that the acquirer could capture the takeover gain. The concentration of the property rights and the successive offers made for the same target have finally the obvious purpose of appropriating the private benefits of control. Moreover, this strategy seems typical for all emerging stock markets of Central and Eastern Europe.

Future research may also consider whether the advocated restructuring has been achieved in the new privately-held companies. A more refined analysis of the magnitude of insider trading, by tracking the individual trades and cross transactions, distinguishing between real insiders and outside investors is another interesting research avenue.

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Table 1

Panel A: Summary statistics on the distribution of takeover bids by market

| | BVB | | | | | RASDAQ | | | | |
| | Listed Companies | Offer outcome | | Offer type | | Listed Companies | Offer outcome | | Offer type | |
| Year | | Success | Fail | Single | Multiple | | Success | Fail | Single | Multiple |
|---|---|---|---|---|---|---|---|---|---|---|
| 1998 | 126 | 3 | 1 | 4 | 0 | 5,946 | 133 | 34 | 130 | 17 |
| 1999 | 127 | 8 | 0 | 4 | 2 | 5,516 | 125 | 16 | 113 | 12 |
| 2000 | 114 | 14 | 1 | 8 | 2 | 5,382 | 185 | 28 | 169 | 18 |
| 2001 | 65 | 7 | 0 | 7 | 0 | 5,084 | 233 | 36 | 215 | 21 |
| 2002 | 65 | 7 | 3 | 5 | 2 | 4,822 | 147 | 12[*] | 130 | 14 |
| 1998–2002 | | 39 | 5 | 14 | 12 | | 823 | 126[*] | 500 | 183 |

Notes. The distribution of the takeover bids made between 1998 and 2002 according to offer outcome and the number of offers received by the same target. The reported figures do not comprise the preliminary announcements of going private transactions. If a target received two offers in two different years, it is counted in the single offer category in the respective years and in multiple offers category for the entire period.
[*] The RASDAQ data covers the period January 1998 – October 2002.

Table 1
Panel B: Summary statistics on the value of the takeover bids and the privatization made by AVAS

| | Takeover bids value (ROL bn) | | | Takeover bids value/ Market turnover % | | Privatization by AVAS (bn. ROL) |
| Year | | | | | | |
| | BVB | RASDAQ | TOTAL | BVB | RASDAQ | |
|---|---|---|---|---|---|---|
| 1998 | 1 | 704 | 705 | 0 | 19 | 4,104 |
| 1999 | 30 | 333 | 363 | 2 | 9 | 6,784 |
| 2000 | 69 | 575 | 644 | 4 | 19 | 6,290 |
| 2001 | 421 | 860 | 1280 | 11 | 32 | 9,823 |
| 2002 | 803 | 2,336 | 3139 | 12 | 56 | 8,239 |

Notes. The values are compounded based on official data provided by CNVM and data published in the annual reports of BVB, RASDAQ, and AVAS.

Table 2
Trading thickness of the Romanian Stock Market according to the number of trading days between two trades

| Liquidity of portfolio | BVB | | | | | | RASDAQ | | | | | |
| | (1) | | | (2) | | | (1) | | | (2) | | |
| | Mean | Min | Max | Mean | Min | Max | Mean | Min | Max | Mean | Min | Max |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Thick | 2 | 1 | 29 | 2 | 1 | 16 | 3 | 1 | 38 | 4 | 1 | 34 |
| Mod. | 4 | 1 | 59 | 5 | 1 | 67 | 7 | 1 | 129 | 9 | 1 | 100 |
| Thin | 8 | 1 | 168 | 8 | 1 | 190 | 19 | 1 | 235 | 17 | 1 | 268 |
| Total | 5 | 1 | 83 | 5 | 1 | 83 | 10 | 1 | 133 | 10 | 1 | 133 |

Notes. Trading thickness of three homogeneous portfolios according to (1) average number of trading days between two trades and (2) the maximum number of trading days between two trades over the period 1998–2002. The Rasdaq sample comprises the 255 targets having at least 450,000 authorized that have been traded on more than 30 days during the five-year period January 1998 – October 2002.

Table 3
Statistical tests of abnormal returns for the samples of targets listed on *BVB* and *RASDAQ:* Mean abnormal return, mean standardized abnormal returns and the corresponding statistics

| Day | Market model *BVB* | | | | | | | Trade-to-trade model *BVB* | | | | Market model *RASDAQ* | | | | | | | Trade-to-trade model *RASDAQ* | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $AAR_T$ | $t_1$ | *ocs* | *r* | SAAR | $z_1$ | *scs* | $AAR_T$ | *t* | *r* | Obs. | $AAR_T$ | $t_1$ | *ocs* | *r* | SAAR | $z_1$ | *scs* | $AAR_T$ | *t* | *r* | Obs. |
| −10 | 0.002 | 1.11 | 1.10 | −0.68 | 2.152 | 0.43 | 2.07 | 0.005 | 1.38 | −0.93 | 17 | 0.001 | 0.81 | 0.41 | 0.14 | 4.976 | 51.23 | 2.13 | −0.023 | −0.61 | −0.46 | 40 |
| −9 | 0.000 | −0.07 | −0.08 | −0.01 | 2.100 | 0.42 | 1.85 | −0.002 | 0.63 | 0.30 | 15 | 0.001 | 1.02 | 0.78 | −0.61 | 4.862 | 50.06 | 2.07 | 0.018 | 0.32 | 1.01 | 40 |
| −8 | −0.002 | −1.47 | −1.74 | −3.09 | 1.547 | 0.31 | 1.32 | −0.005 | −1.93 | −2.23 | 14 | 0.003 | 2.51 | 1.68 | −1.14 | 5.064 | 52.14 | 2.18 | −0.008 | 0.40 | −0.48 | 37 |
| −7 | 0.002 | 1.38 | 1.60 | 0.26 | 2.172 | 0.43 | 1.97 | 0.003 | 1.29 | 0.31 | 13 | 0.004 | 3.48 | 3.13 | −0.64 | 5.052 | 52.02 | 2.19 | −0.006 | 0.93 | −0.38 | 42 |
| −6 | 0.005 | 3.11 | 1.93 | 2.33 | 2.662 | 0.53 | 2.50 | 0.004 | 2.01 | 1.38 | 15 | 0.002 | 2.01 | 3.21 | −0.08 | 5.064 | 52.13 | 2.17 | 0.021 | 1.84 | 1.33 | 40 |
| −5 | 0.004 | 2.76 | 1.67 | 0.42 | 2.247 | 0.45 | 2.20 | −0.001 | 0.53 | −0.14 | 16 | 0.003 | 2.60 | 3.36 | 0.22 | 5.020 | 51.68 | 2.15 | 0.023 | 2.06 | 0.47 | 41 |
| −4 | 0.002 | 1.31 | 1.69 | −0.70 | 1.952 | 0.39 | 1.91 | 0.002 | 0.78 | −0.48 | 15 | 0.000 | −0.09 | −0.07 | −0.87 | 4.979 | 51.26 | 2.12 | 0.039 | 2.48 | 1.88 | 42 |
| −3 | −0.001 | −0.37 | −0.29 | −1.94 | 1.578 | 0.32 | 1.49 | −0.004 | −0.43 | −0.54 | 18 | 0.004 | 3.17 | 3.68 | 1.17 | 5.156 | 53.09 | 2.21 | 0.010 | 1.70 | 1.49 | 39 |
| −2 | 0.003 | 1.88 | 1.91 | 0.10 | 2.027 | 0.41 | 1.96 | 0.001 | −0.15 | −1.21 | 15 | 0.007 | 6.22 | 3.51 | 1.33 | 5.287 | 54.43 | 2.26 | 0.009 | 0.36 | −0.53 | 39 |
| −1 | 0.003 | 1.83 | 1.67 | −0.59 | 1.947 | 0.39 | 1.94 | 0.005 | 0.21 | −0.59 | 17 | 0.001 | 0.99 | 1.37 | 0.03 | 5.036 | 51.85 | 2.12 | −0.013 | −0.95 | 0.03 | 43 |
| 0 | 0.002 | 1.21 | 1.71 | −1.51 | 1.917 | 0.38 | 1.88 | 0.002 | 0.81 | −0.55 | 19 | 0.005 | 4.05 | 5.18 | 2.32 | 5.243 | 53.98 | 2.24 | 0.030 | 2.42 | 0.99 | 65 |
| 1 | 0.000 | −0.18 | −0.23 | −1.79 | 1.667 | 0.33 | 1.50 | −0.002 | −1.48 | −1.54 | 17 | 0.002 | 1.42 | 1.22 | −0.97 | 4.964 | 51.11 | 2.11 | 0.008 | 2.04 | 0.63 | 45 |
| 2 | 0.001 | 0.53 | 0.69 | −0.11 | 1.826 | 0.37 | 1.62 | −0.001 | −1.60 | −1.03 | 18 | 0.001 | 0.91 | 0.73 | −0.01 | 5.016 | 51.64 | 2.14 | 0.020 | 1.99 | −0.63 | 37 |
| 3 | 0.003 | 1.91 | 1.57 | −0.24 | 1.983 | 0.40 | 1.82 | 0.003 | −0.48 | −1.16 | 18 | 0.000 | −0.08 | −0.10 | −2.21 | 4.862 | 50.06 | 2.08 | 0.036 | 2.73 | 2.20 | 36 |
| 4 | 0.000 | 0.01 | 0.02 | 0.10 | 2.003 | 0.40 | 1.84 | 0.000 | 0.49 | 0.29 | 15 | 0.003 | 2.51 | 3.02 | −1.20 | 4.949 | 50.96 | 2.12 | 0.021 | 2.18 | 1.16 | 39 |
| 5 | 0.002 | 1.34 | 2.21 | 0.77 | 2.105 | 0.42 | 2.03 | 0.000 | −0.04 | 0.43 | 16 | 0.002 | 1.51 | 1.46 | −0.18 | 5.009 | 51.58 | 2.14 | 0.026 | 2.01 | 1.96 | 37 |
| 6 | −0.001 | −0.71 | −0.57 | −1.07 | 1.861 | 0.37 | 1.69 | 0.000 | 0.28 | −0.92 | 17 | 0.000 | −0.06 | −0.05 | −1.82 | 4.784 | 49.25 | 2.04 | 0.001 | 0.03 | −0.14 | 44 |
| 7 | 0.000 | 0.00 | 0.00 | 1.54 | 2.129 | 0.43 | 2.03 | 0.002 | 1.38 | 1.10 | 16 | 0.001 | 0.65 | 0.52 | −0.74 | 4.991 | 51.39 | 2.13 | 0.008 | 2.31 | 0.63 | 45 |
| 8 | −0.001 | −0.39 | −0.35 | −0.42 | 1.866 | 0.37 | 1.76 | 0.001 | 0.30 | −0.69 | 15 | 0.002 | 1.49 | 1.73 | 0.01 | 5.064 | 52.14 | 2.17 | 0.004 | 1.83 | 0.15 | 44 |
| 9 | 0.001 | 0.53 | 0.89 | −0.66 | 1.989 | 0.40 | 1.95 | −0.002 | 0.13 | −0.86 | 16 | 0.003 | 2.54 | 2.94 | 0.63 | 5.123 | 52.75 | 2.19 | 0.010 | 1.10 | −0.47 | 42 |
| 10 | 0.000 | 0.01 | 0.01 | −1.59 | 1.804 | 0.36 | 1.72 | 0.000 | −0.15 | −0.98 | 17 | 0.004 | 3.06 | 4.21 | −0.19 | 5.050 | 51.99 | 2.16 | 0.007 | 9.06 | 0.08 | 50 |
| 11 | 0.001 | 0.47 | 0.83 | 0.43 | 2.142 | 0.43 | 2.04 | 0.000 | 0.94 | 1.04 | 15 | −0.002 | −2.04 | −0.51 | 0.31 | 4.871 | 50.15 | 2.07 | 0.009 | 1.72 | 0.68 | 47 |
| 12 | 0.002 | 0.98 | 1.34 | −0.82 | 2.011 | 0.40 | 1.99 | 0.001 | 0.61 | 0.30 | 13 | 0.003 | 2.35 | 2.13 | 1.26 | 5.132 | 52.84 | 2.19 | 0.022 | 3.72 | 1.40 | 44 |
| 13 | 0.000 | 0.16 | 0.19 | 0.21 | 2.089 | 0.42 | 1.95 | −0.002 | 0.71 | −0.14 | 15 | 0.000 | −0.15 | −0.18 | −0.96 | 4.929 | 50.75 | 2.09 | 0.004 | −0.82 | −1.99 | 52 |
| 14 | 0.002 | 1.36 | 1.94 | 0.67 | 2.210 | 0.44 | 2.06 | 0.003 | 1.31 | 0.63 | 15 | 0.002 | 2.07 | 2.91 | 1.45 | 5.151 | 53.03 | 2.20 | 0.007 | 1.14 | −0.25 | 51 |
| 15 | 0.001 | 0.94 | 1.67 | 0.62 | 2.161 | 0.43 | 2.13 | 0.000 | 0.85 | 0.20 | 16 | 0.003 | 2.68 | 3.04 | 0.88 | 5.166 | 53.19 | 2.19 | 0.025 | 2.65 | 1.24 | 46 |

*Notes.* Reported results concern the event window [−10; +15] for the estimation period comprising 150 days. The event day is the day the takeover bid is approved by *CNVM* or the preliminary announcement day of going private transactions. The market model sample comprises 25 observations and the trade-to-trade model sample the number reported in the table.

Table 4
Statistical tests of abnormal returns for the samples of targets listed on *BVB and RASDAQ*
Mean cumulative abnormal return, mean standardized cumulative abnormal returns and the corresponding statistics

| Event window | Market model *BVB* | | | | | Market model *RASDAQ* | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | CAAR | $t_2$-stat | $z_r$-stat | SCAAR | $z_2$-stat | CAAR | $t_2$-stat | $z_r$-stat | SCAAR | $z_2$-stat |
| [−10; +15] | 0.031 | 3.85 | −1.40 | 52.147 | 1,313.13 | 0.055 | 9.05 | −0.37 | 130.84 | 1,337.95 |
| [−1; +1] | 0.004 | 1.52 | −2.05 | 5.531 | 157.55 | 0.008 | 3.73 | −0.79 | 15.24 | 160.94 |
| [−5; +5] | 0.019 | 3.71 | −1.52 | 21.253 | 565.48 | 0.027 | 6.87 | −0.12 | 55.52 | 586.21 |
| [−5; 0] | 0.014 | 3.54 | 1.17 | 11.669 | 304.19 | 0.021 | 7.05 | 1.77 | 30.72 | 324.35 |

*Notes*. Reported results concern the market model estimations made on 150 days. The event day is the day the takeover bid is approved by *CNVM* or the preliminary announcement day of going private transactions

Table 5
Samples summary statistics
Target and deal characteristics

| Variable | Mean | Median | Maximum | Minimum | Std.Dev. |
|---|---|---|---|---|---|
| CAR | 0.05 | 0.05 | 0.35 | -0.39 | 0.11 |
| Liquidity | 14.29 | 14.57 | 19.28 | 10.76 | 1.89 |
| Direct toehold | 0.39 | 0.40 | 0.96 | 0.00 | 0.29 |
| Indirect Toehold | 0.49 | 0.50 | 0.96 | 0.00 | 0.27 |
| Premium | 0.40 | 0.15 | 4.07 | -0.90 | 0.80 |
| Premium_Initial | 0.27 | 0.13 | 3.41 | -0.90 | 0.61 |
| Gear | 1.16 | 0.62 | 23.57 | -24.73 | 3.74 |

| Variable | Percentage |
|---|---|
| Industrial | 61.83 |
| Institutional | 28.24 |
| Family | 9.92 |
| Toehold_Privatization | 32.82 |
| AVAS | 18.32 |
| Pivot | 60.30 |
| Subsequent | 41.22 |
| Law | 16.03 |
| Market | 19.08 |

*Notes. CAR* is the average cumulative abnormal return over the event window [-10; +15], derived from the market model. *Liquidity* is the natural logarithm of the free float of target, compounded as the total number of shares less the number of shares owned by shareholders owing at least 5% of the voting rights of target at the bid date *Direct Toehold* is the size of the initial capital owned by the acquirer at the bid date. *Indirect Toehold* is obtained by adding to the direct toehold the size of the stake owned by the affiliated persons who act in concert with the acquirer. *Premium* is the proportional bid premium received by the target shareholders, compounded as the difference between the transaction price and the closing price on the last day of the estimation period divided by the closing price 11 days prior the event date. *Premium_Initial* is the proportional bid premium received by the target shareholders, compounded as the difference between the first bidding price and the closing price on the last day of the estimation period divided by the closing price 11 days prior the event date. *Gear* is the debt to equity ratio at the beginning of the year of acquisition. *Industrial/Institutional/Family* is the percentage of acquisitions made by an industrial company/institutional investor/individual investor. *Toehold_Privatization* is the percentage of transactions made by acquirers who have previously acquired a toehold by dealing directly with *AVAS. AVAS* is the percentage of transactions made for targets where the *AVAS* still owns a part of its capital at the bid date. *Pivot* is the percentage of transactions made for targets where there is at least a private shareholder who owns at least 10% of the capital of target and does not act in concert with the acquirer. *Subsequent* is the percentage of transactions that represented a subsequent offer made for the same target. *Law* is the percentage of transactions made after March 2002. *Market* is the percentage of transactions made on *BVB*.

Table 6
Cross sectional analysis
Determinants of target cumulative abnormal returns

| Explanatory Variables | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Insider trading potential | –0.16*** | –0.17*** | –0.17*** | –0.18*** | –0.02*** | –0.02*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| Direct Toehold | –0.05** | –0.05** | –0.03 | | | |
| | (0.03) | (0.04) | (0.27) | | | |
| Premium | | | | –0.02 | –0.02 | –0.02 |
| | | | | (0.16) | (0.17) | (0.27) |
| Institutional | | –0.04 | –0.04* | | –0.04* | –0.04** |
| | | (0.10) | (0.07) | | (0.08) | (0.05) |
| Family | | –0.05** | –0.05** | | –0.04** | –0.05*** |
| | | (0.02) | (0.01) | | (0.02) | (0.01) |
| Toehold_Privatization | | –0.03 | –0.02 | | –0.03 | –0.03 |
| | | (0.22) | (0.24) | | (0.12) | (0.20) |
| AVAS | | –0.02 | –0.02 | | –0.03 | –0.02 |
| | | (0.40) | (0.57) | | (0.42) | (0.59) |
| Pivot | | | 0.03 | | | 0.03 |
| | | | (0.18) | | | (0.11) |
| Subsequent | | –0.03 | –0.03 | | –0.03 | –0.03 |
| | | (0.15) | (0.14) | | (0.15) | (0.13) |
| Gear | | 0.01*** | 0.01*** | | 0.01*** | 0.01*** |
| | | (0.01) | (0.01) | | (0.01) | (0.01) |
| Law | | –0.01 | –0.02 | | –0.02 | –0.02 |
| | | (0.60) | (0.54) | | (0.54) | (0.46) |
| Market | | –0.01 | –0.01 | | –0.01 | –0.01 |
| | | (0.63) | (0.97) | | (0.58) | (0.94) |
| Intercept | 0.31*** | 0.31*** | 0.28*** | 0.33*** | 0.35*** | 0.31*** |
| | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) | (0.00) |
| $R^2$ | 0.09 | 0.16 | 0.16 | 0.09 | 0.17 | 0.18 |
| adjusted $R^2$ | 0.08 | 0.09 | 0.09 | 0.08 | 0.10 | 0.11 |
| F-stat | 6.88 | 2.34 | 2.34 | 6.48 | 2.41 | 2.46 |
| Prob (F-stat) | (0.00) | (0.01) | (0.01) | (0.00) | (0.01) | (0.01) |
| n | 131 | 131 | 131 | 131 | 131 | 131 |

*Notes.* OLS regression coefficients using the target cumulative abnormal return on the entire event period [–15; +10] as the dependent variable. *Liquidity* is the natural logarithm of the free float of target, compounded as the total number of shares less the number of shares owned by shareholders owing at least 5% of the voting rights of target at the bid date *Direct Toehold* is the size of the initial capital owned by the acquirer at the bid date. *Premium* is the proportional bid premium received by the target shareholders, compounded as the difference between the transaction price and the closing price on the last day of the estimation period divided by the closing price 11 days prior the event date. *Industrial/Institutional/Family* is the percentage of acquisitions made by an industrial company/institutional investor/individual investor. *Toehold_Privatization* is the percentage of transactions made by acquirers who have previously acquired a toehold by dealing directly with *AVAS*. *AVAS* is the percentage of transactions made for targets where the *AVAS* still owns a part of its capital at the bid date. *Pivot* is the percentage of transactions made for targets where there is at least a private shareholder who owns at least 10% of the capital of target and does not act in concert with the acquirer. *Subsequent* is the percentage of transactions that represented a subsequent offer made for the same target. *Law* is the percentage of transactions made after March 2002. *Market* is the percentage of transactions made on *BVB*. *Gear* is the debt to equity ratio at the beginning of the year of acquisition. Probability values resulting from Newey-West HAC Standard Errors & Covariance correction are reported in the parenthesis. */**/*** denotes significance at 10%/5%/1% level.

Table 7
Differences in cumulative abnormal returns

| Variable | Majority acquisition | Majority reinforcement |
|---|---|---|
| Industrial *vs.*Institutional | 0.04* | 0.05 |
| | (0.08) | (0.23) |
| Industrial *vs.*Family | 0.05*** | −0.06 |
| | (0.01) | (0.85) |

Differences in cumulative abnormal returns according to the type of acquirer (1) when the acquirer does not own the simple majority and (2) when the acquirer has the majority at the bid date. Probability values of coefficient tests are reported in the parenthesis. */**/*** denotes significance at 10%/5%/1% level.

Fig. 1. Evolution of mean abnormal return during the event period
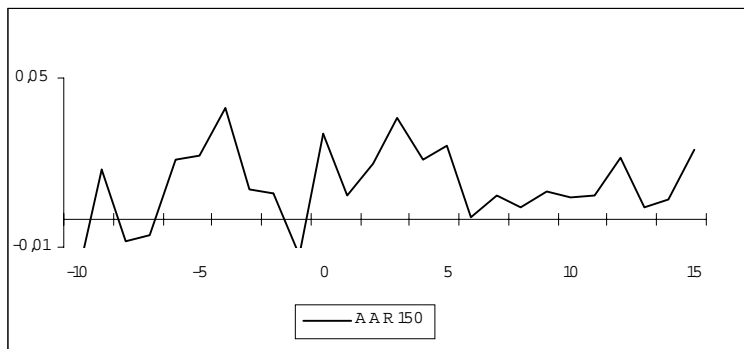


Mean abnormal return of the entire sample of targets listed on *RASDAQ* during the event period [−10; +15]. (trade-to-trade model)

Fig. 2. Evolution of mean abnormal cumulative return during the event period
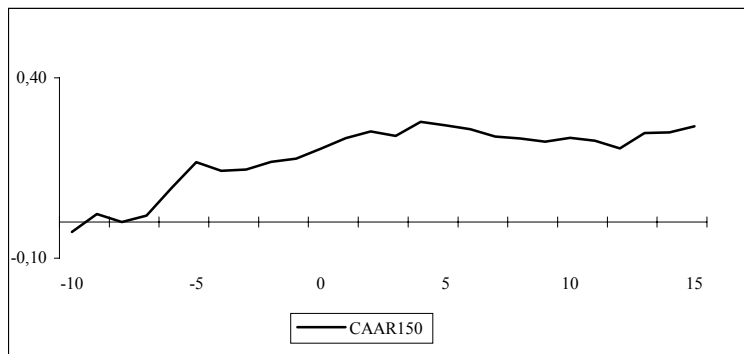


Mean abnormal cumulative return of the sub-sample of targets listed on *RASDAQ* having returns during the entire event period [−10; +15]. (trade-to-trade model)