

Delisting decisions in frontier emerging markets: An institutional profile of going to private transactions in Romania

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Abstract:

This research project aims at assessing the link between the regulation of control transactions and the corporate governance of Romanian public companies, by analyzing the delisting activity from 1997 to 2006. The focus of our research on the Romanian capital market is not fortuitous. The large number of listed companies offers a unique opportunity to investigate the appeal of a frontier emerging market for domestic and foreign investors. Over time the Romanian authorities have undertaken wide-ranging institutional reforms favoring more the large or strategic investors than small and dispersed shareholders. Our empirical approach based on the logit methodology and survival analysis allows us to analyze the evolution of public companies over this period and gives more insights on the likely events causing frontier emerging markets' eclipse. Our main findings reveal that delisting occurs especially when (1) the block obtained by circumventing the market is high; (2) the company experiences frequent takeover bids; and (3) the stock liquidity is low.

Keywords: takeover regulation, squeeze-out, minority shareholder protection

JEL Classifications: G34, G38, K22

Introduction

The question of how to structure the ownership and deal with conflicts arisen between the various protagonists of public companies has been recently restated within the context of the reform process undergone in the European emerging markets. Opening the capital of corporations through mass privatization to millions of citizens and the subsequent trading of distributed free shares on new revived markets have been viewed as genuine steps forward to the implementation of financial discipline in deficient corporations. The emergence of what have been confusedly called “dispersed shareholders” was viewed as a trump card of reforming governments from Central and Eastern Europe. Indeed, the existence of dispersed shareholders could justify to some extent the use of the “open corporations” label, but it represents at best a *‘sine qua non’* condition for implementing tough restructuring measures in privatized companies. Specifically, the need for restructuring asks for the involvement of institutional shareholders or industries’ leaders likely to have expertise in the area of financial engineering, while still providing substantial financial resources for acquiring controlling positions in those companies. The compromise ownership structure “controlling shareholder – small individual shareholders”, opened a new debate on the role of regulation governing the property rights and control transactions and the type of corporate governance solutions that could address the conflicts arising between private markets actors. In this respect, facilitating the emergence of a sound private sector requires specific measures insulating minority shareholders from the expropriation by the controlling ones. In emerging markets, the authorities considered that leveling the playing field could be achieved simply by transposing some of the rules applicable in well-established financial markets. Whether “importing” legal texts reflects the evolving domestic institutional issues and has the expected wealth effects remains an open empirical question.

In order to put this essential opposition into perspective, we focus on the delisting decision involving the Romanian companies having shares traded on the over-the-counter market RASDAQ between 1997 and 2006. Our empirical investigation takes into account the genesis of ownership structures of 3,321 companies by controlling for privatization outcomes and takeover bids characteristics made during their market episode. We posit that the institutional choices of Romanian government dramatically influenced not only the power balance between large and small shareholders, but also the subsequent market regulations that could adjust the erroneous initial administrative decision. The continuous dilution of minority rights

in public companies led OECD¹ to recommend delisting as one of the viable solutions to restore the confidence in the private economic sector. Our evidence shows that this controversy finds its roots in the proliferation of deals with large blocks made by circumventing the market. Besides, the wave of abandoning public markets has exacerbated the agency conflicts between shareholders compelled to restructure and those whose simple presence is the essence of the financial visibility of companies, due to the low liquidity of stocks. This polemic has been intensified by some notable exceptions from the mandatory bid rule, as well as by a series of amendments to the valuation criteria of minority equity stake in going to private transactions.

Our contribution to the literature is twofold. Firstly, the empirical results add to those reported for other emerging markets from Central and Eastern Europe (see Atanasov et al., 2005, 2006; Jackowicz and Kowalewski, 2005; and Fungacova, 2007) and enhance our understanding of the evolution of “bottom-up” established capital markets. Second, the large sample of delisted companies offers an expanding opportunity set for investigating which hypothesis tested on developed markets is relevant after taking into account the experimental design set in the privatization process.

The remainder of the paper is structured as follows. In Section 2, we make a parallel between the evolutions of privatization and regulation of control transactions in Romania, with a focus on the main challenges raised by the implementation of fair price standards in freeze-out bids. In Section 3, we discuss the arguments founding the delisting decisions and summarize the main empirical findings of the related studies on going private and going dark transactions. Section 4 presents the empirical methodology employed in our research and describes our sample selection procedure and the selected independent variables. In Section 5, we present the results of logistic and duration analyses explaining the likelihood a company changes its public status into the private one. The final section concludes.

2. Institutional setting and legal provisions regulating control transactions

The peculiar experience of Romanian stock market has been fuelled by the controversial privatization policy. Unless in other countries from Central and Eastern Europe, in Romania

¹It is worth underlining that some international or private bodies, like OECD, EBRD, World Bank, Standard and Poor's, Wilshire Consulting, are closely analyzing the institutional transformations likely to boost the restructuring of companies chartered in emerging countries. These bodies publish regularly comparative analyses on the quality of institutional environment based on a large number of indicators.

all the privatization methods have been experienced in a long and heterogeneous process: the MEBO method supposing the exclusive involvement of employees into privatization; the mass privatization program addressed to all citizens; direct deals made by the Romanian Authority for Privatization (AVAS) with strategic investors; and market bids concerning mainly the minority stakes still held by the Government in public companies. On the one hand, the mass privatization concerning more than 5.000 industrial companies created millions of small shareholders but very few companies with dispersed shareholdings. For the end of 1998, Earle and Telegdy (2002) report a mean and median ownership of shareholders who received shares into mass privatization program of 24.5% and 18.4%, respectively. On the other hand, the further privatization methods have established a favorable framework for the hegemony of block-holders.² According to AVAS data, on 9.258 direct sells dealt over ten years period 1993-2003, more than 45% transactions involved majority stakes.

In order to allow the “voucher shareholders” to enjoy the last free lunch proposed by the government, all the companies included in that program were compulsory listed on the new established stock market (Bucharest Stock Exchange and the over-the counter market, RASDAQ). According to the number of listed companies, the Romanian market has become the largest market of the region.³ Paradoxically, the stock market logic was rather to offer a platform where citizens could sell their holdings than to allow companies raise additional capital. Fraught with the inconvenience of receiving free shares up to a limit impeding them to make any corporate decision even with perfect coordination, the shareholders involved in mass privatization have been for a long time regarded as a class of tolerated passive investors. In fact, the very way of structuring the sale of AVAS holdings shows that the authorities aimed principally at attracting large investors. While investments in controlling positions arouse the interest in performing the needed changes, the pervasive private ownership structures obstruct the portfolio investments. Fama and Jensen (1983) argue that this dissuasive effect of block-holdings constrains the companies to change their public status. Maupin et al. (1984), Jansen and Kleimeier (2003), Atanasov et al. (2005) report that the ownership concentration is strongly correlated with the likelihood of going private. Mehran and Peristiani (2006) find evidence that the side-effect of the ownership concentration,

² For more details about the privatisation process in Romania the reader can refer to Earle et Telegdy (1998, 2002) et Brown et al. (2006).

³ Berglöf et Pajuste (2003) and Pajuste (2002) present a comparative analysis among the markets of Central and Eastern Europe which could provide the reader with further details.

namely the low stock turnover, plays an important role for the timing of decision to go private. In illiquid markets, the investors possessing private information have the ability to exploit the inefficiencies caused by the low free float (Lehn and Poulsen, 1989). As under these views the gradual disappearance of public companies can be reasonably predictable, our contention is that Romanian stock market is an excellent candidate for analyzing the delisting decision in frontier emerging markets⁴. We argue that the resulting dominating design of corporate governance arrangements is the consequence of privatization, as well as the capital transactions leading to the reinforcement of the control position in public companies. Specifically, the takeover bids have proliferated after 1997 as a mean of collecting the remaining shares. More than 1.000 takeover bids were approved by the Romanian market authority over a 10 years span.

Contrary to the dominant opinion according to which the changes in transition economies have been performed in a legal vacuum, in Romania the control transactions between private investors have been regulated from the market inception. The regulation of acquisition has been strongly linked to the concept of restructuring; all the more such an objective supposes enhanced relationships between owners and the agents mandated to use the company resources. The main protection guaranteed to shareholders concerns the obligation of an investor to make a non discriminatory public offer whenever he aims at acquiring at least 50% of the total number of shares of a listed company. Nevertheless, the takeover law dissimulates the sheer ignorance about the future of minority shareholders. The mandatory bid rule, as it was conceived, seems subordinated to the privatization objective. Particularly, an acquirer who obtains the majority position following a transaction made within privatization process is exempted from the obligation to make a bid for the rest of the company shares. Because of these “excepted transactions,” the other external investors can neither learn from the market price evolution about the acquirer’s intentions nor put any additional burden on the side of the market. With a high toehold obtained by circumventing the market, large shareholders avoid sharing any gain associated with the control acquisition with the minority shareholders. Besides, the concentrated ownership structures create

⁴ In order for a market to be considered as “emerging” several criteria have to be met: (1) the market is localized in an emerging country;⁴ (2) the market does not exhibit financial depth;⁴ (3) there exist broad based discriminatory controls for non-domiciled investors; (4) it is characterized by a lack of transparency, depth, market regulation, and operational efficiency *Wilshire Consulting* provides an annual report classifying the emerging markets in two distinct categories: (1) “investable” emerging markets and (2) “frontier” emerging markets. The aim of this classification is to identify those markets that are able to support institutional investments and not to evaluate the current attractiveness for investment managers. For the time being, the only European emerging markets classified as “investable” are Hungary, Poland, and the Czech Republic.

opportunities for insiders to impact stock prices only gradually and thus expropriate outside investors.

Because of this limitation, the regular change of takeover regulation, and the looser intervention of market authority against the abuses proliferated by majority shareholders, we wonder whether the measures promoted on this market assure the proportionally participation of shareholders in the value of the company. Our approach tries to establish how the reform agenda of Romanian market authority can give insights on the level of minority shareholders protection, which could be relevant for other transition economies. For a brief review, we present in the Appendix 2 a schema detailing the regulations and laws regarding takeovers and securities transactions performed on the Romanian market. However, our following discussion will be focused exclusively on the main aspects concerning the companies delisting.

According to the regulation from 1996 a company was allowed to deregister only (a) after concluding a public offer initiated in the name of the majority of shareholders to buy-back the outstanding shares and (b) if, the General Assembly of Shareholders of the company having after the offer fewer than 500 shareholders or a share capital lower than 1 billion ROL decides to transform the company into a private one. The main objective of this regulation was to maintain a minimal functionality of capital market on behalf of small shareholders willing to trade their stocks. However, the OCDE report from 2001 on the corporate governance in Romania stated that one of the priorities facilitating the emergence of a strong private sector is to facilitate the delisting of small and medium-sized companies. Such a measure was deemed to limit the expropriation inflicted to minority shareholders by controlling shareholders and managers. Beginning with 2002, the updated takeover rules in respect with the recommendations made in the OCDE report, state the obligation for the largest shareholder owning at least 90% of the capital the right to cash out the minority shareholders. The law regulating the capital market promulgated in 2004 redefines this obligation as a right of controlling shareholder owning 95% or whenever he obtained more than 90% of the shares in a previous takeover bid.

In spite of this evolution, the appraisal remedy granted to the minority shareholders has raised a lot of controversy. The conditions of determining the buyout price had been changed no less than five times between the first draft of the market law from 2002 and the end of that year. Particularly, in some cases (e.g. the delisting of Timken Romania) the major shareholders interpreted the rules only with respect to the obligation to delist the controlled

company and neglected the obligation concerning the minimum price to be paid to minority shareholders. The ambiguity created by the law encouraged some active minority shareholders to contest the decisions concerning public to private transactions made by the market authority. According to the final version of the appraisal remedy established at the end of 2002, the buyout price proposed to minority shareholders had to be compounded based on three distinct values: (1) the average market price in the 12 months preceding the going private transaction; (2) the maximum price paid by the acquirer for the target shares over the same period; and (3) the equity per shares valued based on the International Accounting Standards. Beginning with 2004, the squeeze out price provision states that the price paid in a previous tender offer according to which at least 90% of the remaining shares were tendered is a fair price.⁵ Unless the controlling shareholder does not make use of his right in the next three months following the acquisition of such a stake, the fair price will be valued by an independent expert. Besides, according to the market law of 2004 minority shareholders can have the right to sell-out the remaining shares⁶ to the dominant shareholder owning 95% of share capital either according to the terms of the bid preceding the acquisition of such a position⁷ or based on the valuation of an external expert. However, if an external valuation of the minority holdings is necessary, the small shareholder contesting the price being offered is obliged to bear the valuation costs. When small shareholders are wealth constrained, such fairness principle becomes simply unfeasible.

The odd market conditions reflecting the manipulation of thinly traded positions and low equity valuations made takeovers on Romanian market cheap and the public to private transactions highly affordable. Corroborated with the set of favorable circumstances offered in the privatization process, this pressure to change the public status creates the premises of an inconsistent playing field between large and minority shareholders.

⁵ According to the acquisition literature, establishing a price for the going private transaction equal to that paid in the previous stage of a two-stage bid conditioned by the acquisition of 90% of the voting rights, it is argued by the free rider behaviour of atomistic shareholders. If the final price were higher than this limit, all the minority shareholders would wait the final stage of the offer. Besides, as each stockholder has a choice of whether to tender the shares to prospective investor such a price could not be considered coercive.

⁶ According to Holderness and Sheenan (1988), such a fair price provision restricts ex-ante the scope of bidders' opportunism and insulates the small investors from excessive expropriation.

⁷ An extensive discussion about the mirroring characteristics of the rights of controlling shareholder and minority shareholders, respectively, is provided in Burkart and Panunzi (2004).

Particularly, the criteria based on the previous bid prices applied for valuing the minority shareholdings in the case of delisted firms seem highly inadequate in emerging markets. According to the Bates et al (2006)'s "theory of bid capture," the minority shareholders need protection mainly because of the ability of major shareholder to structure binding bids. Bebchuk and Kahan (2000) argue that there is an adverse selection effect that results from the use of market prices as benchmark for no freeze-out value of minority shares. The freeze-out right is regarded as an important source of private benefits, whenever the controlling shareholder uses private information having a downside effect on the company value. Pop (2006) stresses the ineffectiveness of the mandatory public offers made on the Romanian market from the point of view of minority shareholders of the target company, especially when a dominant shareholder exists and the scope of insider trading is more important. In public to private transactions the minority shareholders run the danger to be under-compensated despite the premium paid above the market price. Consequently, in markets fraught with opportunities to exert 'substantive coercion' on minority shareholders, the authorities should avoid imposing the price paid in the previous tender offers as the exclusive benchmark of fair value.

A way of avoiding the coercion by the buyer would have consisted of a non-waiveable "majority of the minority" condition, at least when the position that assures the squeeze out right is acquired by dealing directly with AVAS. Arguably, the interference of the State authority within control transactions could involve a degree of tension between controlling shareholder and minority shareholders. Such situations not only raise the problem of financial considerations but embrace also the question of fair dealing that means analyzing how some control transaction are initiated, structured, and disclosed to the other stockholders. A protective legislation would provide the minority shareholders with a judicial review under the entire fairness standard, that is a remedy allowing the oppressed minority not only to receive the value of their shares as assessed by the Court but also damages if this price exceeds the freeze-out price established unilaterally by controlling shareholder.

Gilson and Gordon (2003) state that one of the main conditions that could make a freeze-out tender offer by a controlling shareholder non-coercive, regards the involvement of independent directors in the process of decision making of non-controlling shareholders. Particularly, these ones should hire their own advisers and disclose adequate information about the company that entitles minority shareholders to an enhanced price.

The ample phenomenon of delisting that experienced Romanian market brings into question the likely effectiveness of the introduction of the squeeze out rights and advocate for more diligence when adopting European texts.

3. Wealth sources in going private and going dark transactions

The objective of maximizing the firm value asks often the revision of the form of business organization of firms from public to private ownership. A going private transaction usually refers to a buyout transaction of a public company by one or a handful of the target's shareholders, its management or external investors. Typically, the remaining stocks are paid in cash, sometimes by debt raising, which is backed by the target's assets and serviced by its operating cash flow. The intent of offeror to take private a company is materialized in a tender offer for the outstanding shares. One can prefer a two-step deal having similar economic terms: (1) a tender offer directly to the target's stockholders; (2) conditioned on the acquisition of 90% of the target's stock, a squeeze out of minority stockholders who did not tender in the previous offer. While it is acknowledged that going private transactions create some benefits, there is a broad disagreement around the sources of the gain arising by reason of leaving the market. In the studies conducted on developed markets the following hypotheses were tested: (1) the agency costs-related hypotheses, including the free cash flow hypothesis, incentive realignment hypothesis, and control hypothesis; (2) the undervaluation hypothesis; (3) the takeover defense hypothesis; (4) the transaction costs hypothesis; (5) the tax benefit hypothesis; and (6) the wealth transfer hypothesis (see Renneboog et al., 2007). A broad reading of international evidence shows that the assumptions made in the related literature for explaining why the private status is preferred to the public one are not necessarily mutually exclusive.

Turning to private equity is an extreme form of corporate restructuring allowing to a group of shareholders, like managers, to exploit valuable investments opportunities⁸ or conversely, to address the lack of growth potential.⁹ Kaplan (1997) and Weir et al. (2002)

⁸ Burkart and Panunizi (2004) cite among the reasons in favor of going private transactions the need for integrating the organizational structures in order to create financial synergies.

⁹ This strategy seems suitable for stable growth firms, characterized by high pay-out ratios and low reinvestment (Lehn and Poulsen 1988; Kieschink, 1989; Opler and Titman, 1993).

underline that, when the internal governance mechanisms are likely to be associated with best practices there can be a shift in emphasis away from external governance control.

A shareholders buyout may help avoiding the conflicts stemming from the separation of ownership and control. De Angelo et al. (1984), Weir and Laing (2002), Weir et al. (2005a) argue that the interest to take a company private comes from the improvement of monitoring made by an active shareholder, while Jensen (1986), Lehn and Poulsen (1989), Opler and Titman (1993), Rao et al. (1995), Jansen and Kleimer (2003), Mehran and Peristiani (2006) point to the free cash flow problem¹⁰ and the refocus on performance. However, when an investor having access to superior information learns that the firm is undervalued, he tries to obtain exclusively the unrealized lock-up value. The empirical findings of De Angelo et al. (1984), Maupin et al. (1984), Marais et al. (1989), Kim and Lyn (1991), Damodaran and Liu (1993), Betzer et al. (2004), Weir et al. (2005b) give support to the undervaluation hypothesis.

The low trading price of some companies exposes them to hostile takeover risk while limiting their ability to issue new shares against acquisitions because of the dilutive effect on their existing shareholders. Many going private transactions are preceded by competing bids and takeover rumors, which could signal to insiders the accrued interest for the company. In Lehn and Poulsen, (1989), the significant influence of takeover potential validates the “takeover defense hypothesis,” proving that sometimes going private transactions make sense.

Another leading hypothesis confirmed in the previous studies concerns the tax saving effect associated with the modified corporate status or the financing methods engineering buyouts (see Halpern et al. 1999; Marais et al., 1989; Kosedag and Lane, 2002).

Depending on certain circumstances, a public company that can no longer meet the requirements under the securities regulation can elect to delist. The process of going dark does not involve any cash transfer in the benefit of shareholders, as it is the case of going private transactions. Besides, the shareholding structure is preserved after the company becomes private. Thus, any gain from removing the costs associated with stock listing is shared by shareholders proportionally with their holdings. A non exhaustive list of such costs would contain the costs of organizing the shareholders general assemblies, of disclosing periodical information about the financial state of the company, as required by legal and statutory provisions protecting the shareholders’ interests. The difficulty to comply with such corporate

¹⁰ This argument is more relevant in the case of leveraged buyouts, where the debt financing used in transaction reduces the free cash flow available in the period following the delisting decision.

governance standards may encourage the small public companies to leave the public arena. Consequently, management can focus on long term business strategies instead of meeting external investors' expectations. The argument concerning the reduction of stock listing costs backs the "transaction costs hypothesis" (see De Angelo et al., 1984).

Notwithstanding the reasons favoring the private status instead of the public one, the potential of raising equity capital in future and the company's ability to take advantage of growth opportunities are clearly diminished. The ultimate effect of the decision to delist on the shareholders' wealth varies with respect to ownership and control structures in target firms, as well as to the regulatory constraints imposed on such transactions. It is widely recognized that *allocational acquisitions* are possible only if acquirers can either limit the access of minority shareholders to post-acquisition gains (via dilution, private benefits of control or squeeze out rights¹¹) or build a toehold in the target. Within a dispersed shareholdings system, the exclusion mechanisms can have a socially desirable impact, as long as these ones allow the market for corporate control play its disciplinary role. While providing an acquirer with a squeeze-out right could be an alternative for voluntary dilution in systems with widely dispersed shareholdings (Yarrow, 1985), when concentrated ownership structures predominate, the market authority should prepare the ground for regulating the public to private transactions. Particularly, it should assess whether, under the conditions prevailing on the capital market, acquirers and target shareholders really play a zero-sum game in which small shareholders of target are eternal winners. To get a better view on the range of conditions likely to defy those provisions, in the next section we analyze empirically whether specific trades (privatization, public offers, and capital transactions) could explain the choice for a private status of controlled companies, as well as the timing of delisting decision.

4. Data and Methodology

In order to analyze the determinants of the delisting process for the Romanian companies listed on the OTC market RASDAQ, we use three different empirical specifications. The first specification is based on a standard *logit* model of the following form:

¹¹ Particularly, the acquisition of the equity percentage providing the shareholder the right to cash-out the remaining shareholder is often stringently regulated.

$$Proba[STATUS_t = 1] = F(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n)$$

where $F(\cdot)$ represents the cumulative logistic distribution, X_1, \dots, X_n a set of explanatory variables, and

$$STATUS_t = \begin{cases} 1 & \text{if the firm was delisted at time } t \\ 0 & \text{otherwise} \end{cases}$$

Our second specification is based on a Cox proportional hazard (PH) or multiplicative model of the form:

$$h(t) = h_0(t) \cdot g(X_1, X_2, \dots, X_n)$$

where $h(t)$ represents the proportional hazard function, $h_0(t)$ the baseline hazard, and $g(\cdot)$ a nonnegative function of the covariates. The choice commonly adopted in the survival analysis literature is to let $g(\cdot)$ equal the relative risk, $g(X_1, X_2, \dots, X_n) = e^{\beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n}$. So, the hazard function in our Cox proportional hazard model is assumed to be

$$h(t) = h_0(t) \cdot e^{\beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n}$$

The β_i coefficients and the corresponding hazard ratios were estimated by maximizing the *partial* log-likelihood function

$$\ln \ell = \sum_{j=1}^D \left\{ \sum_{r \in D_j} X_r \beta - d_j \ln \left[\sum_{i \in R_j} e^{X_i \beta} \right] \right\}$$

where j stands for the ordered delisting times $t_{(j)}$, $j \in \{1, \dots, D\}$, D_j is the set of d_j observations that “fail” (i.e. are delisted) at $t_{(j)}$, d_j is the number of “failures” (i.e. delisted firms) at $t_{(j)}$, and R_j is the set of observations that are “at risk” at time $t_{(j)}$. X_k is the raw vector of covariates for the time interval $]t_{(k)}, t_k]$ for the k -th observation in the dataset, $k \in \{1, \dots, N\}$, and β is the vector of regression coefficients. The survival model allows for censoring in the sense that not all companies are included in our sample were delisted during the analyzed period (see Kalbfleisch and Prentice, 1980, for more details on the estimation of survival models).

A crucial assumption behind the Cox proportional hazards specification is that the hazard ratio is proportionally distributed over time. To evaluate this assumption, we performed a test of nonzero slope in a generalized linear regression of the scaled Schoenfeld residuals on various functions of time (see Grambsch and Therneau, 1994, for additional details). The test is equivalent to evaluate the hypothesis that the log hazard ratio function is constant over time. After estimating each Cox proportional hazard model, we generated the

matrix of Schoenfeld residuals (scaled adjusted), tested the null hypothesis that the slope is equal to zero for each covariate in various models, and performed the global test recommended by Grambsch and Therneau (1994). Although the null hypothesis of zero slope in the appropriate regressions was accepted for some *individual* covariates of interest, the *global* test indicated in most cases deviations from the proportional hazards assumption. Consequently, our third specification is based on an alternative modeling choice: the *accelerated failure-time* (AFT) model.

The AFT specification supposes a linear relationship between the logarithm of the survival time $\ln(t_j)$ and the covariates X_j

$$\ln(t_j) = X_j\beta + \varepsilon_j$$

where ε_j is the error with density $f(\cdot)$. As usual, the assumption on the distributional form of the error term determines the class of the regression models. Particularly, assuming a normal, logistic, extreme-value or three-parameter gamma distribution for the error term, the corresponding regression models are lognormal, log-logistic, Weibull and generalized gamma, respectively. In the present paper, we opted for the generalized gamma model for two distinct reasons. First, as it is well known, the hazard function implied by the generalized gamma specification is extremely flexible, allowing for a large specter of possible shapes (in particular, the Weibull and lognormal distributions can be viewed as special cases of the generalized gamma density). Second, to discriminate between various AFT models, we computed for each model the log likelihood the *Akaike Information Criterion* (AIC). According to our comparisons, the gamma generalized model appears to be the best-fitting model (i.e. exhibiting the largest log likelihood) and the one with the smallest AIC value.

Compared to the PH specification, in the AFT models the parameter vector γ and covariate coefficients β are estimated by maximizing the *full* log-likelihood function

$$\ln\mathcal{L} = \sum_{j=1}^U \ln\{f(t_j, \gamma | t_{0j})\} + \sum_{j=U+1}^N \ln\{S(t_j, \gamma | t_{0j})\}$$

where N is the total number of firms, U of whom have uncensored times, $f(t_j, \gamma | t_{0j})$ is the contribution to the likelihood function of a firm j known to be delisted at time t conditional on the listed time t_0 , $S(t_j, \gamma | t_{0j})$ is the contribution to the likelihood function of a (right) “censored” firm j only known to survive up to time t or, otherwise speaking, the probability of surviving beyond time t conditional on the entry time t_0 .

The two classes of regression models used in our empirical analysis (*logit* and *survival - PH & AFT* -- models) help to shed light on two distinct facets of our main research question. On the one hand, the *logit* methodology allows us to conclude on the *unconditional* predictive power of the various determinants of the decision to delist. On the other hand, the *survival analysis* allows us to obtain estimates of the impact of the covariates on the *conditional* probability to delist; that is, the probability to delist *conditional* on being listed to a certain point in time and exhibiting certain values for the covariates in the previous period. The later methodological issue is highly relevant to the literature on the decision of public companies to delist.

4.1 Sample selection and construction of independent variables

The large number of privatized firms having stocks traded on RASDAQ offers a unique framework to investigate the going-private deals in frontier emerging markets. From the universe of 3,596 companies that were delisted between 1997 and 2006, we excluded all those justifying their decision based on the following reasons: (1) merger with other companies; (2) divestiture; (3) bankruptcy; (4) radiation from the Commerce Registry; (5) administrative decision of the market authority; (6) transfer to the Bucharest Stock Exchange. Particularly, among the various reasons driving the decision to delist, we are interested only by those implying the continuation of activity as a privately held company. We further deleted the companies having the one-digit NACE code “A. – Agriculture, forestry, and fishing”, as far as during the analyzed period the judicial regime of the land had been ambiguous. Consequently, we identified 2,081 delisted companies having as stated argument on the official market reports either “withdrawn” or “closely held company” reasons. In order to reveal the rationale behind the decision to delist, we construct a matched control sample, which includes 1,240 industrial companies that were still listed on RASDAQ at December 31st, 2006. As in the previous case, we excluded from the control sample all agricultural firms. To the best of our knowledge, we address the research question of delisting on the largest data set analyzed up to date.

For each of these companies we collect detailed information about privatization, public offers, share capital changes, stock market data, as well as financial data during the public status episode. In order to construct our independent variables we explored and cross examined several sources of information: RASDAQ, the Romanian Minister of Finance,

AVAS, CNVM, and Romanian Universe Database. The stock market raw information regarding the transaction history of the peer companies was kindly provided by Broker SA.

As our main inquiry is whether the privatization policy of AVAS influenced the decision to take a company private, we construct three alternative variables: (1) *AVAS_major*, which is a dummy variable taking the value of 1 if the size of the block sold directly by AVAS exceeds 50% and 0 otherwise; (2) *AVAS_maxdir*, representing the maximum size of the block dealt with AVAS by circumventing the stock market; and (3) *Privatization Rounds*, defined as the total number of privatisation rounds in which the company was involved. To test whether the ability to restructure, or conversely to divert resources, depends on the identity of the major shareholder, we include in our empirical models two dummy variables, *ESOP* and *Individual*, that equal 1 if the maximum block of AVAS was sold to the company's employees or individuals, respectively, and 0 otherwise.

The takeover activity is captured by constructing the following variables: (1) *First Bid_Submitted* representing the ratio of the number of shares submitted to the number of targeted shares in the first takeover bid; (2) *First Bid_Listed* defined as the number of days between the listing date and the date of the first takeover bid; (3) *Nb Bids*, representing the total number of takeover bids made for the company's shares; (4) *Bid_Av Price*, expressed as the ratio of maximum bidding price to average price over the considered period.

To control for market conditions, we used the *Stock Turnover* variable, measuring the ability of firms to attract the market participants' interest, computed as the ratio of transaction volume to the average number of shares. The denominator of this variable is compound by taking into account the duration between every two subsequent share capital changes over the considered period. Besides, we control for the stock market conditions by including in the analysis the proxy *Market Trend*, the ratio of the last closing price in the last transaction day of the considered period to the average market price over the same period. For the peer companies, we construct the market specific variables with respect to the 31st of December 2005, in order to avoid an implicit bias in the size of transaction volume linked to their continual public status.

In the related literature it is argued that new share issues might represent a subtle strategy for adjusting the position of large shareholders in the detriment of the small ones. The OECD report (2001) provides anecdotal evidence about practices aiming to dilute minority shareholders through capital increases without prior revaluation of existing capital or through in-kind contribution of the majority shareholders. However, during the analyzed period all firms included in our sample were allowed to revalue their assets. In order to update the

equity value, they could choose between modifying the number of total shares or the face value of shares. In the last case, companies may have not issued any additional shares. As we have no information about the ownership structure, we take into account such an impact *via* (1) the number of times the selected firms have changed the total number of shares, *Nb. Capital Changes*, and (2) the total percentage share capital increases between the delisted or “censored” date and the listing date, *Capital Change*.

The relationship between the financial characteristics and probability of delisting is expressed by the following variables (descriptive statistics are presented in [Table 1](#)): (1) *Size*, the logarithm of total assets; (2) *ROE*, which whenever the equity value is negative this ratio is considered -100% ; (3) *Leverage* computed as the ratio of debt to total assets; (4) *Assets turnover*, equal to sales divided by total assets; and (5) *FATA*, representing the proportion of fixed assets in total assets. All financial variables are based on the financial statements reported by companies at the end of the year preceding the delisting year/“censored” year.

5. Empirical Results

The empirical results presented in [Table 2](#) reveal a positive and significant relationship in all specifications between the variables used as proxies for the Government involvement in the process of capital concentration and the probability of going private. Firms involved in direct privatization end with lesser investor participation, as the block held by AVAS is dealt with a single or a very restrained group of investors. This result lends support to Bates et al.’s (2006) thesis that the likelihood of having minority shareholders “left out in the cold” increases whenever there is discrepancy between them and the controlling shareholder. By linking this result to the theory of bid capture, we validate indirectly the control hypothesis indicating that the delisting decision and wealth of minority shareholders are negatively related. While highly significant in the logistic regression, the size of the block obtained by avoiding the market, irrespective of its size, has no impact on the duration of public status (see [Tables 3&4](#)). However, this result is of common sense. On the one hand, in closing-held companies no private investor could easily accept to have the Government as partner. On the other hand, bearing in mind the strong dealing position of AVAS it is hard to imagine that it could behave like a usual shareholder by accepting to tender its shares in a regular takeover bid. The stylized facts show that AVAS has always preferred to cash out its minority positions in distinct deals. A similar effect of the Government stakes is reported in Atanasov et al. (2005), in their analysis of the Bulgarian market but they explain their results by political

costs arguments. As direct privatization leads to high ownership concentration, the shareholder base of companies can not be unexpectedly changed. Under these circumstances, the takeover defense hypothesis is less plausible in our case.

The probability and conditional probability to delist are lower when companies are controlled by employees' association compared with those firms whose blocks were dealt by other firms or institutions. We link this result to the peculiar type of contracts allowing employees to differ the complete payment of the negotiated price for several years. While being the owners of privatized company, they could not resale the acquired block to another investor during this "teasing period", which justifies the negative sign of this variable in our empirical models.

The significant positive effect of *OPA_submitted* shows that companies whose shareholders massively accepted the conditions of the first takeover bid are taken private sooner than their counterparts. The positive and significant coefficient of the *Nb.Bids* variable reveals that when bidders intend to obtain the whole participation in the target, the company has more chances to end its public episode. It is hard to find a reasonable economic explanation to the *OPA_listed* variable. Intuitively, one expects to find a negative relationship between the time span between the listing date and the date the company is identified by prospective acquirers (the shorter the period, the higher the probability to end by owing all the company's shares). However, this result could be justified in the light of the specific regulation of going to private transactions enacted in the last part of the analyzed period. As a direct consequence, the number of public offers approved by the market authority after 2002 increased dramatically, as far as controlling shareholders owing more than 90% of capital had the obligation to delist the company.

The change in organizational form becomes less likely for companies that modify the total number of shares more often. The sign of variable *Nb. Capital Changes* is negative and highly significant in all empirical specifications. We have also controlled for the amplitude of these changes through the ratio of the number of shares before delisting date/"censored" date to the initial number of shares, but the estimated results based on this variable are not conclusive in the logit model. One possible explanation could be that in the case of very intensive assets firms, the revaluation process could cause a steep increase in the total number of shares. As in such cases existing shareholders receive free shares proportionally with their holdings, such a decision could be followed by improved market liquidity. Another way of explaining why the estimated coefficients of this variable are not significant concerns the distribution of dividend

shares. It is worth underlying that the two types of decisions leading to the increase of share capital do not trigger any change in the ownership structure. Even if the stylized facts reported by the OECD show that the dilution inflicted by major shareholders through in-kind contributions was a recurrent practice in small and medium size enterprises, tracing such acts based only on the history of capital changes is practically impossible. In order to distinguish between “benign” and “malign” operations, we would have to control for the ownership structure before and after such an event (unavailable data). However, when we control for this influence in the hazard model, our intuition is confirmed by the results; that is, within companies experiencing a steeper increase in the total number of shares the decision to end the public episode is made sooner than in the peer companies.

As one of the main concerns of our study is to test how the conflicts of interest over the use of companies’ resources influence the decision to go private or dark, in the empirical models we control for financial conditions. Financial literature predicts that companies that expend their activity by sacrificing the profitability objective are more likely to face conflicts of interest. By using the operating decision against small shareholders’ interest, the blockholders seek to affect minority discounts paid in going to private transactions or to simply influence their willingness to delist the company. Gilson and Gordon (2003) argue that by taking private the company, the large shareholders can capture the capitalized value of future private benefits over the value of a non-controlling share. Besides, there is a strong link between those gains and the level of benefits likely to be appropriated by operational means. If so, the positive sign of *Assets turnover* and the non-significant influence of the financial performance (measured by the *ROE*) can be interpreted as an indication of the use of such stratagems, i.e. disadvantageous transfer prices between the public companies and other companies owned by the controlling shareholder. The positive and significant coefficient of the *FATA* variable lends support to the conjecture that companies in which expropriation behavior is more likely choose to leave the stock market and exit sooner than their counterparts. As companies listed on the stock market were seriously undervalued, significant gains could be realized by taking over the company and by selling afterwards its physical assets by pieces. This finding is consistent with the hypothesis that dilution inflicted to the small shareholders can be a practice associated with the decision to go private. The low market capitalization made the debt a useless source of financing and going to private transactions neutral events with respect to taxes. Consequently, the conditions needed for testing the traditional tax benefit and the wealth transfer hypotheses are not validated within the peculiar context of the Romanian market. According to our findings, the probability of

delisting is decreasing in the company's size. The inherent difficulty to completely acquire companies of large size is a common result in the literature.

One of the previous influences, namely the ownership concentration, creates scope for insider trading based on proprietary information and consequently for market misvaluation. The negative and significant coefficient of the *Stock Turnover* variable lends additional support to our intuition that the delisting decision concerns mainly public companies obliterated by the investors' ignorance. This finding is in line with those reported by Jackowicz and Kowalewski (2005) and Atanasov et al. (2005, 2006) for other emerging markets from Central and Eastern Europe and proves that the absence of scrutiny from small investors could be critical for the survival of public companies.

All in all, our results validate the control and undervaluation hypotheses. The delisting practices prevailing in Romania bring attention on the operations involving control positions and to the subsequent effects of the low free float. As the selling of the State's holdings in public companies is an arbitrary choice that can decisively affect the investment incentives of private players, our results can be viewed as an empirical proof that the law *does* fit the institutional environment expressing the political decisions made during privatization and the interests of those shareholders likely to be more influential.

Conclusion

The expropriation of minority shareholders is one of the main stated concerns, as well as an empirical regularity in emerging markets from CEE. Atanasov et al. (2005, 2006) provide evidence on the delisting strategies in Bulgaria that are in line with this view: the minority freeze-out at large discounts represents an extreme form of financial tunneling, likely to be promoted in countries with poor legal protection. Besides, Jackowicz and Kowalewski (2005) confirm that agency problems occurred in the post-privatization period are one of the reasons behind the delisting decision in Poland. While similar in intuition, this study distinguishes from the previous works in that it addresses the fear that corporate governance regulation could dissimulate the protection of minority shareholders in emerging markets behind "politically correct" texts. This approach emphasizes the possibility that the incentives to take advantage of outside shareholders are explained by the very way the initial shareholdings of controlling shareholders are chosen.

The conclusion is derived from the consideration of governance and market attributes of a sample of 2,081 companies that were delisted from the Romanian OTC market RASDAQ and a sample of 1,240 still public firms at the end of December 31st, 2006. Delisting is likely to occur especially when (1) the block obtained by circumventing the market is higher; (2) the companies are more often the object of capital transactions; and (3) the companies are less scrutinized by investors and therefore market prices are less informative. In the light of our empirical findings, the regulatory provisions seem to perversely defend the sticky concentrated ownership structures. Beyond the considerations of fair compensations to be offered to small shareholders, a matter of serious reflection should be the shrink of capital markets caused by massive delisting.

Growing acquaintance with the market framework should be translated in more pressure on market authorities to take into account the peculiarity of the governance system and should encourage the search of solutions for preserving the channel of external financing. The present study can be extended in at least one interesting way. In order to better distinguish between the delisting decisions aiming at creating scope for real restructuring and those followed by the complete eviction of companies from the industrial scene, it would be informative and interesting to track the performance history several years after this momentum event.

References:

- Atanasov, Vladimir, Conrad S. Ciccotello and Stanley B. Gyoshev, 2005. How does law affect finance? An empirical examination of tunneling in an emerging market. The William Davidson Institute Working Paper 742.
- Atanasov, Vladimir, Bernard S. Black, Conrad S. Ciccotello, and Stanley B. Gyoshev, 2006. The anatomy of financial tunneling in an emerging market. ECGI Working Paper 123.
- Bennedsen, Morten and Daniel Wolfenzon, 2000. The balance of power in closely held corporations. *Journal of Financial Economics* 58, 113–139.
- Bates, Thomas W, Michael L. Lemmon, and James S. Linck, 2006. Shareholder welfare and bid negotiation in freeze-out deals: Are minority shareholders left out in the cold?. *Journal of Financial Economics*, 81, 681-708..
- Bebchuk, Lucian Arye and Marcel Kahan, 2000. Adverse selection and gains to controllers in corporate freezeouts. in *Concentrated Corporate Ownership* (Randall Morck, Eds.), 247-261.
- Berglöf, Erik et Anete Pajuste, 2005. What do firms disclose and why? Enforcing corporate governance transparency in Central and Eastern Europe. *Oxford Review of Economic Policy*, 21(2), 178-197.
- Betzer, André, Christian Andres, and Mark Hoffmann, 2004. Going Private via LBO - Shareholder Gains in the European Market, working paper University of Bonn.
- Brown, David J., John S Earle and Álmos Telegdy, 2006. The productivity effects of privatization: Longitudinal estimates from Hungary, Romania, Russia, and Ukraine. *Journal of Political Economy*, 114(1), 61-99.
- Burkart, Mike, Denis Gromb, and Fausto Panunzi, 1998. Why higher takeover premia protect minority shareholders. *Journal of Political Economy* 106, 172–204.
- Burkart, Mike and Fausto Panunzi, 2004. Mandatory Bids, Squeeze-out, Sell-out and the Dynamics of the Tender Offer Process in Reforming Company and Takeover Law in Europe, Ferrarini, Hopt, Winter, & Wymeersch (eds), Oxford University Press, Oxford.
- Damodaran, Aswath and Crocker H. Liu, 1993. Insider trading as a signal of private information. *Review of Financial Studies* 6(1),79-119.
- De Angelo Harry, Linda De Angelo, and Edward M. Rice, (1984). Going private: minority freezeouts and stockholder wealth. *Journal of Law and Economics*, 27, 367-401.
- Earle, John S. and Álmos Telegdy, 1998. The results of “mass privatization” in Romania: A first empirical study, *Economics of Transition*, 6(2), 313-332.
- Earle, John S. and Álmos Telegdy, 2002. Privatization methods and productivity effects in Romanian industrial enterprises. *Journal of Comparative Economics* 30, 657-682.
- Fama, Eugene and Michael Jensen, 1983. Separation of ownership and control. *Journal of Law and Economics* 26, 301–325.
- Falkenstein, Eric, 1996. Preferences of stock characteristics as revealed by mutual fund portfolio holdings. *Journal of Finance*, 51, 111-135.

- Fungacova, Zuzana, 2007. Can market fix a wrong administrative decision? Massive delisting of the Prague Stock Exchange. CERGE-EI working paper series 335.
- Gilson Ronald J. and Jeffrey Gordon, 2003. Controlling controlling shareholders. University of Pennsylvania Law Review 152, 785-843.
- Halpern, Paul, Robert Kieschnick and Wendy Rotenberg, 1999. On the heterogeneity of leveraged going private transactions. Review of Financial Studies, 12, 281-309.
- Holderness, Clifford G. and Dennis P. Sheehan, 1988. Constraints on large-block shareholders, NBER working paper no. 6765.
- Jackowicz, Krzysztof and Oskar Kowalewski, 2005. Why Companies Go Private in Emerging Markets? Evidence from Poland, working paper Leon Kozminski Academy of Entrepreneurship & Management.
- Jansen, Karsten and Stefanie Kleimeier, 2003. Motives for Going Private in Germany. Limburg Institute of Financial Economics, LIFE Working Paper 03 – 016.
- Jensen, Michael C, 1986. The agency costs of free cash flow: Corporate finance and takeovers. American Economic Review, 76(2), pp. 23-39.
- Kaplan, Steven, 1997. The evolution of US Corporate Governance: We are all Henry Kravis now. Unpublished paper, University of Chicago.
- Kieschnick, Robert L., 1998. Free cash flow and stockholder gains in going private transactions revisited. Journal of Business, Finance and Accounting, 25(1), 187-202.
- Kim, Wi Saeng and Esmeralda O. Lyn, 1991. Going private: Corporate Restructuring under information asymmetry and agency problems. Journal of Business Finance and Accounting, 18(5), 637-648.
- Kosedag Arman and William R. Lane, 2002. Is it free cash flow, tax saving, or neither? An empirical confirmation of two leading going private explanations: The case of ReLBOs. Journal of Business Finance and Accounting, 29(1), 257-271.
- Lehn, Ken and Annette Poulsen, 1989. Free cash flow and stockholder gain in going private transactions. Journal of Finance 44, 771-788.
- Marais, Laurentius, Katherine. Schipper, and Abbie. Smith, 1989. Wealth effects of going private for senior securities. Journal of Financial Economics 23(1), 155-191.
- Maupin, Rebekah J., Clinton M. Bidwell, and Alan K.. Ortegren, 1984. An empirical investigation of the characteristics of publicly held corporations that change to private ownership via management buyouts. Journal of Business Finance & Accounting 11, 435-450.
- Mehran, Amid and Stavros Peristiani, 2006. Financial Visibility and the Decision to Go Private, working paper Federal Reserve Bank of New York.
- OCDE (2001). Report on Corporate Governance in Romania.
- O'Brien, Patricia C. and Ravi Bhushan, 1990. Analyst Following and Institutional Ownership. Journal of Accounting Research. 28, 55-65.
- Opler, Tim and Sheridan Titman, 1993. The determinants of leveraged buyout activity. Free cash flow versus financial distress costs. Journal of Finance. 48(5), 1985-1999.

- Pajuste, Anete, 2002. Corporate governance and stock market performance in Central and Eastern Europe: A study of nine countries, 1994-2001. SSEES Working Paper No.22.
- Pop, Diana, 2006. M&A market in transition economies. Evidence from Romania, *Emerging Markets Review*, 7(3), 244-260.
- Rao Spuma M., Mellisa S Waters, and Bruce Payne, 1995. Going private: A financial profile. *Journal of Financial and Strategic Decisions*, 8(3), 53-59.
- Weir Charlie, David Laing, 2002. Going private transactions and corporate governance in the UK. Aberdeen Business School Working Paper.
- Weir Charlie, David Laing and Mike Wright, 2002. Going private transactions and the market for corporate control. Aberdeen Business School Working Paper.
- Weir Charlie, David Laing and Mike Wright, 2005a. Incentive effects, monitoring mechanism and the market for corporate control: An analysis of the factors affecting public to private transactions in the UK. *Journal of Business Finance and Accounting*, 32, 909-943.
- Weir Charlie, David Laing and Mike Wright, 2005b. Undervaluation, private information, agency costs and the decision to go private. *Applied Financial Economics*, 15, 947-961.
- Yarrow, George K., 1985. Shareholder protection, compulsory acquisition and the efficiency of the takeover process. *Journal of Industrial Economics*, 24, 3-16.

Appendix 1

Table 1. Descriptive statistics on key explanatory variables

Indep. variable	N	Mean	St. dev.	Median	Min	Max
AVAS_major	2437	0.52	.	1.00	0.00	1.00
AVAS_maxdir	2436	55.85	21.46	50.96	0.46	100.00
Privatization Rounds	2437	1.23	0.55	1.00	1.00	6.00
ESOP	2437	0.30	.	0.00	0.00	1.00
Individual	2437	0.20	.	0.00	0.00	1.00
First Bid_Submitted	855	0.38	0.47	0.25	0.00	5.84
First Bid_Listing ^a	855	1634.54	918.02	1578.00	0.00	3598.00
Nb. Bids	855	1.47	0.88	1.00	1.00	12.00
Bid_Av Price	838	1.78	4.31	1.09	0.00	92.54
Nb. Capital Changes	1696	1.82	1.26	1.00	1.00	7.00
Capital Change ^a	1693	6.22	41.17	1.56	0.00	1116.07
Size	2879	16.54	2.31	16.73	7.26	24.67
ROE	2881	-0.24	2.80	0.01	-110.46	9.24
Leverage	2878	0.76	1.95	0.47	-0.11	53.98
Asset Turnover	2881	1.12	1.97	0.78	-0.07	77.08
FATA	2882	0.56	0.27	0.57	0.00	5.41
Stock turnover	3160	0.47	1.27	0.18	0.00	52.42
Market Trend ^b	3159	1.35	1.75	1.00	0.00	38.84

Table 2. Logistic Regression Analysis of the likelihood that firm delist

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
AVAS_major	0.054 (0.512)	0.257*** (0.006)	0.222** (0.020)				
AVAS_maxdir				0.005*** (0.001)	0.004** (0.009)	0.006*** (0.000)	
Privatization Rounds							0.208*** (0.002)
ESOP	-0.508*** (0.000)	-0.383*** (0.000)	-0.358*** (0.001)	-0.424*** (0.000)	-0.388*** (0.001)	-0.345*** (0.002)	-0.376*** (0.001)
Individual	0.372*** (0.003)	0.084 (0.545)	0.103 (0.460)	0.040 (0.777)	0.060 (0.671)	0.100 (0.489)	0.115 (0.425)
First Bid_Submitted	0.641*** (0.000)	1.189*** (0.000)	1.233*** (0.000)	1.242*** (0.000)			
First Bid_Listing ^a					0.038*** (0.000)		
Nb. Bids						0.600*** (0.000)	0.581*** (0.000)
Bid_Av Price	0.009 (0.493)	0.034 (0.108)	0.058** (0.053)	0.056* (0.058)	0.023 (0.283)	0.011 (0.520)	0.013 (0.461)
Nb. Capital Changes	-0.577*** (0.000)	-0.211*** (0.000)	-0.206*** (0.000)	-0.206*** (0.000)	-0.220*** (0.000)	-0.202*** (0.000)	-0.203*** (0.000)
Capital Change ^a	0.026 (0.599)	0.023 (0.762)	0.021 (0.760)	0.021 (0.762)	0.020 (0.753)	0.018 (0.816)	0.016 (0.786)
Size		-1.092*** (0.000)	-1.101*** (0.000)	-1.093*** (0.000)	-1.134*** (0.000)	-1.179*** (0.000)	-1.171*** (0.000)
ROE		0.016 (0.354)	0.016 (0.353)	0.015 (0.372)	0.016 (0.358)	0.013 (0.435)	0.015 (0.339)
Leverage		0.059 (0.145)	0.058 (0.153)	0.061 (0.135)	0.064 (0.122)	0.074* (0.081)	0.078* (0.071)
Asset Turnover		0.137*** (0.006)	0.137*** (0.006)	0.137*** (0.006)	0.126** (0.011)	0.125** (0.012)	0.117** (0.018)
FATA		0.440** (0.025)	0.435** (0.027)	0.434** (0.027)	0.444** (0.024)	0.429** (0.031)	0.426** (0.032)
Stock turnover			-0.095** (0.015)	-0.091** (0.019)	-0.076** (0.031)	-0.104** (0.018)	-0.125*** (0.008)
Market Trend ^b			0.003 (0.406)	0.002 (0.418)	0.002 (0.393)	0.003 (0.377)	0.002 (0.373)
Intercept	1.126*** (0.000)	8.011*** (0.000)	8.109*** (0.000)	7.954*** (0.000)	8.237*** (0.000)	8.435*** (0.000)	8.450*** (0.000)

Mc Fadden R

squared 0.096 0.197 0.200 0.201 0.202 0.212 0.212

Akaike inf. criterion 1.184 1.092 1.090 1.088 1.087 1.072 1.073

N 3.161 2.731 2.731 2.731 2.731 2.731 2.731

Notes : *AVAS_major*, is a dummy variable that takes the value of 1 if the size of block sold directly by AVAS exceeds 50% and 0 otherwise. *AVAS_maxdir* is the maximum size of the block dealt with AVAS by circumventing the stock market. *Privatization Rounds* represents the total number of privatisation rounds in which the company was involved. *ESOP/Individual* is a dummy variable that takes the value of 1 if the block was sold to the company's employees/physical person and 0 otherwise. *First Bid_Submitted* represents the ratio between the number of shares submitted in the first takeover bid and the number of targeted shares. *First Bid_Listed* represents the number of days between the listing date and the date of the first takeover bid. *Nb Bids* represents the total number of takeover bids made for the company's shares. *Bid_Av Price* is the ratio between the maximum bidding price and the average price on the considered period. *Nb Capital Changes* is the number of

times the company has changed its total number of shares. *Capital Change* is the percentage difference between the final number of shares and the number of shares at the listing date. *Size* is the logarithm of total assets. *ROE* is the return on equity. *Leverage* is the ratio between the debt and total assets. *Assets turnover* is the ratio between sales and total assets. *FATA* is the ratio between fixed assets and total assets. *Stock Turnover* is the ratio between the total volume and the average number of shares on the considered period. *Market Trend* is the ratio between last closing price and the average market price over the considered period. Probability values are reported in the parenthesis. ***/*** denotes significance at 10%/5%/1% level. ^a(x 10⁻²). ^b(x 10⁻⁴)

Table 3: Results from Cox Proportional Hazards Regressions

Indep. Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
AVAS_major	0.950 (0.273)	1.005 (0.922)	0.981 (0.720)				
AVAS_maxdir				0.999 (0.417)	0.999 (0.273)	1.000 (0.622)	
Privatization Rounds							1.025 (0.501)
ESOP	0.734*** (0.000)	0.780*** (0.000)	0.789*** (0.000)	0.796*** (0.000)	0.797*** (0.000)	0.802*** (0.001)	0.787*** (0.000)
Individual	1.162** (0.013)	0.982 (0.792)	0.987 (0.840)	0.996 (0.952)	1.005 (0.938)	1.024 (0.731)	1.008 (0.903)
First Bid_Submitted	1.467*** (0.000)	1.561*** (0.000)	1.578*** (0.000)	1.576*** (0.000)			
First Bid_Listing ^a					>1.000*** (0.000)		
Nb. Bids						1.252*** (0.000)	1.254*** (0.000)
Bid_Av Price	>1.000* (0.086)	>1.000** (0.034)	>1.000** (0.035)	>1.000** (0.034)	>1.000** (0.033)	>1.000** (0.034)	>1.000** (0.035)
Nb. Capital Changes	0.637*** (0.000)	0.773*** (0.000)	0.774*** (0.000)	0.774*** (0.000)	0.776*** (0.000)	0.782*** (0.000)	0.781*** (0.000)
Capital Change ^a	>1.000** (0.037)	>1.000*** (0.000)	>1.000*** (0.000)	>1.000*** (0.000)	>1.000*** (0.000)	>1.000*** (0.000)	>1.000*** (0.000)
Size		0.759 (0.000)	0.760*** (0.000)	0.760*** (0.000)	0.755*** (0.000)	0.750*** (0.000)	0.750*** (0.000)
ROE		1.041 (0.093)	1.047* (0.069)	1.048* (0.065)	1.049* (0.059)	1.048* (0.071)	1.046* (0.081)
Leverage		0.989 (0.006)	0.989*** (0.005)	0.989*** (0.005)	0.989*** (0.007)	0.989*** (0.006)	0.989*** (0.006)
Asset Turnover		1.035 (0.002)	1.037*** (0.001)	1.037*** (0.001)	1.035*** (0.002)	1.035*** (0.002)	1.035*** (0.002)
FATA		1.666 (0.000)	1.679*** (0.000)	1.684*** (0.000)	1.698*** (0.000)	1.684*** (0.000)	1.672*** (0.000)
Stock turnover			0.949* (0.060)	0.946* (0.052)	0.953* (0.068)	0.930** (0.020)	0.934** (0.022)
Market Trend ^b			<1.000 (0.571)	<1.000 (0.571)	<1.000 (0.576)	<1.000 (0.566)	<1.000 (0.565)
Number of firms	3160	2729	2729	2729	2729	2729	2729
Delisted firms	2030	1632	1632	1632	1632	1632	1632
Log likelihood	-15088.3	-11682.4	-11676.3	-11676.0	-11690.2	-11666.5	-11666.4
LR	504.9***	997.3***	1009.5***	1010.0***	981.6***	1029.0***	1029.2***

This table presents the estimation results from Cox Proportional Hazards (PH) regressions using various sets of covariates. For ease the interpretation, results are presented in the *log relative-hazard metric*, e.g. a hazard ratio equal to 2 means that a one-unit change in the covariate doubles the hazard of “failure”, whereas a hazard ratio of .3 implies that a one-unit change in the covariate cuts the hazard to one-third. *P*-values are reported in parenthesis, below each hazard ratio estimate.

***, **, * indicate statistical significance at the 1%, 5%, and 10% respectively

Table 4: Results from the Generalized Gama Duration Regression

Indep. Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
AVAS_major	0.009 (0.506)	-0.003 (0.879)	0.006 (0.764)				
AVAS_maxdir				+0.000 (0.353)	+0.000 (0.221)	+0.000 (0.525)	
Privatization Rounds							-0.006 (0.704)
ESOP	0.105*** (0.000)	0.100*** (0.000)	0.096*** (0.000)	0.091*** (0.000)	0.091*** (0.000)	0.087*** (0.001)	0.093*** (0.000)
Individual	-0.026* (0.099)	0.007 (0.787)	0.006 (0.831)	0.001 (0.961)	-0.003 (0.910)	-0.010 (0.719)	-0.004 (0.868)
First Bid_Submitted	-0.083*** (0.000)	-0.176*** (0.000)	-0.181*** (0.000)	-0.180*** (0.000)			
First Bid_Listing ^a					-0.000*** (0.000)		
Nb. Bids						-0.093*** (0.000)	-0.094*** (0.000)
Bid_Av Price	-0.000*** (0.000)	-0.000* (0.055)	-0.000* (0.057)	-0.000* (0.055)	-0.000* (0.052)	-0.000* (0.056)	-0.000* (0.058)
Nb. Capital Changes	0.146*** (0.000)	0.100*** (0.000)	0.099*** (0.000)	0.099*** (0.000)	0.099*** (0.000)	0.096*** (0.000)	0.096*** (0.000)
Capital Change ^a	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)	-0.000*** (0.000)
Size		0.107*** (0.000)	0.106*** (0.000)	0.106*** (0.000)	0.109*** (0.000)	0.112*** (0.000)	0.112*** (0.000)
ROE		-0.011 (0.167)	-0.013 (0.142)	-0.013 (0.136)	-0.014 (0.118)	-0.012 (0.159)	-0.012 (0.166)
Leverage		0.005*** (0.002)	0.005*** (0.001)	0.005*** (0.001)	0.004*** (0.002)	0.005*** (0.002)	0.005*** (0.002)
Asset Turnover		-0.015*** (0.001)	-0.016*** (0.000)	-0.016*** (0.000)	-0.015*** (0.001)	-0.016*** (0.001)	-0.016*** (0.001)
FATA		-0.201*** (0.000)	-0.204*** (0.000)	-0.206*** (0.000)	-0.210*** (0.000)	-0.206*** (0.000)	-0.204*** (0.000)
Stock turnover			0.021* (0.057)	0.023** (0.046)	0.019* (0.064)	0.031** (0.015)	0.029** (0.017)
Market Trend ^b			+0.000 (0.570)	+0.000 (0.570)	+0.000 (0.576)	+0.000 (0.561)	+0.000 (0.560)
Intercept	8.239*** (0.000)	6.436*** (0.000)	6.435*** (0.000)	6.422*** (0.000)	6.382*** (0.000)	6.345*** (0.000)	6.360*** (0.000)
Ancillary	0.128	0.401	0.402	0.402	0.402	0.406	0.405
Kappa	4.484***	0.872***	0.866***	0.862***	0.862***	0.838***	0.843***
Number of firms	3160	2729	2729	2729	2729	2729	2729
Delisted firms	2030	1632	1632	1632	1632	1632	1632
Log likelihood	-2705.7	-1958.7	-1952.7	-1952.3	-1966.5	-1940.9	-1941.0
LR	431.6***	990.8***	1002.8***	1003.6***	975.2***	1026.5***	1026.2***
AIC	5431.5	3947.4	3939.5	3938.7	3967.1	3915.8	3916.0

This table presents the estimation results from the Generalized Gamma duration regressions using various sets of covariates. For computational reasons, it is worth noting that the results presented in this table are expressed in the *accelerated failure-time metric*, e.g. negative coefficient estimates translate into a *positive* impact on the hazard of “failure”, whereas a positive coefficient estimate implies that a change in the covariate decreases the hazard. *P*-values are reported in parenthesis, below each coefficient estimate.

***, **, * indicate statistical significance at the 1%, 5%, and 10% respectively

Appendix 2. The main legal acts regulating takeovers and public to private transactions in Romania

Legal indicator	<i>Takeover Regulation 1996</i>	<i>Market Law 2002</i>	<i>Takeover regulation 2003</i>	<i>Market Law 2004</i>
Disclosure rule (<i>Significant shareholder</i>)	5%	10%	10%	10%
<i>(Voluntary) Public Offer</i>				
Control stake	33%+1	33%+1	33%+1	
Preliminary announcement approved by the CNVM	no	no	no	yes
Publicity of the offer	a. by mail; b. announcement in a national journal	announcement in two national journals	na	announcement in a national journal and a regional journal
The minimum offer price	na	Based on the rules imposed by CNVM	a. if possible, the maximum price between the price paid for the targeted shares by the offeror during the last 12 months preceding the offer and the average weighted market price during the last 12 months preceding the offer b. if not, based on the corrected net asset value	Based on the rules imposed by CNVM
Restrictions imposed on the offeror and the persons acting in concert with the offeror	na	The targeted stocks are suspended from transaction	The market transactions involving the targeted stocks are forbidden.	It is forbidden to make a new offer for the same shares during the next 12 months following the closing date of the actual offer
The opinion of the Board of Directors of target company	Voluntary recommendation for accepting or rejecting the offer	na		Within the next 5 days from the date of preliminary announcement, the board of directors must disclose their opinion on the opportunity of the offer

Restrictions on the decisions of the Board of Directors	na	na	Na	after the date of preliminary announcement, all the decisions likely to affect substantially the value of assets of target are forbidden
Restrictions on the rival offers	na	na	<ul style="list-style-type: none"> a. the acquisition of the same stake b. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer c. a single closing date for all the rival offers 	<ul style="list-style-type: none"> a. the offer has to be made at least for the same number of shares as in the first offer b. the price of the rival offer has to exceed the price of the first offer with at least 5%. c. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer d. a single closing date for all the rival offers but not latter than 60 transaction days following the beginning date of the first offer
<i>Strict Mandatory Bid Rule</i>				
Majority Position	50%+1	50%+1	50%+1	50%+1
Qualified Majority Position	na	75%+1	75%+1	na
Preliminary announcement approved by the CNVM	na	yes	yes	yes
Publicity of the offer	<ul style="list-style-type: none"> a. by mail b. announcement in a national journal 	<ul style="list-style-type: none"> a. by mail b. announcement in a national journal 	<ul style="list-style-type: none"> a. by mail b. announcement in a national journal 	<ul style="list-style-type: none"> a. by mail b. announcement in a national journal

The minimum offer price	na	based on the rules imposed by CNVM	<p>a. if possible, the maximum price between the price paid for the targeted shares by the offeror during the last 12 months preceding the offer and the average weighted market price during the last 12 months preceding the offer</p> <p>b. if not, based on the corrected net asset value</p>	<p>a. if possible, the price paid for the targeted shares by the offeror during the last 12 months preceding the offer</p> <p>b. if not, based on the average weighted market price during the last 12 months, the net assets value calculated in respect with the audited financial statements and the valuation proposed by an independent expert.</p>
Restrictions imposed on the offeror and the persons acting in concert with the offeror	na	na	<p>acquisition of the same stake</p> <p>b. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer</p> <p>c. a single closing date for all the rival offers</p>	<p>a. the offer has to be made at least for the same number of shares as in the first offer</p> <p>b. the price of the rival offer has to exceed the price of the first offer with at least 5%.</p> <p>c. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer</p> <p>d. a single closing date for all the rival offers but not later than 60 transaction days following the beginning date of the first offer</p>
The opinion of the Board of Directors of target company	voluntary recommendation for accepting or rejecting the offer	mandatory disclosure of its opinion to the offeror, the CNVM and the market within 5 days from the preliminary announcement of the offer		mandatory disclosure of its opinion to the offeror, the CNVM and the market within 5 days from the preliminary announcement of the offer
Restrictions on the decisions of the Board of Directors	na	<p>after the date of preliminary announcement</p> <p>a. all the transactions concerning the targeted stocks have to be disclosed to the CNVM</p>		<p>after the date of preliminary announcement</p> <p>c. all the transactions concerning the targeted stocks have to be disclosed to the CNVM and the market</p>

			and the market		all the decisions likely to affect substantially the value of assets of target, like increasing the share capital, new issues of securities providing the right to subscribe to shares or to convert the securities into shares, the use as collateral or the transfer of assets representing one third of the total assets, are forbidden
			b. all the decisions likely to affect substantially the value of assets of target, like increasing the share capital, new issues of securities providing the right to subscribe to shares or to convert the securities into shares, the use as collateral or the transfer of assets representing one third of the total assets, are forbidden		
Restrictions on the rival offers	na		<ul style="list-style-type: none"> a. the acquisition of the same stake b. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer c. a single closing date for all the rival offers 	<ul style="list-style-type: none"> a. the acquisition of the same stake b. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer c. a single closing date for all the rival offers 	<ul style="list-style-type: none"> a. the acquisition of the same stake b. the document of the new offer has to be filled with the CNVM within the 10 transaction days following the beginning date of the first offer c. a single closing date for all the rival offers
<i>Public to private transactions</i>					
Preliminary announcement approved by the CNVM	na	Yes	Yes	Yes	Yes
Conditions to transform a public company in a private company	<p>after the conclusion of a share buy-back public offer, the company has</p> <ul style="list-style-type: none"> a. less than 500 shareholders b. a share capital lower than 1 billion ROL 	<ul style="list-style-type: none"> a. the majority shareholder owns at least 90% of the total shares of the company and makes a public offer aiming at transforming the company in a private company b. the decision of the General Assembly of Shareholders when the total number of shareholders is lower than 100 and the share capital 	mandatory delisting when the majority shareholders owns more than 90% of the total number of shares		<p>following a public offer, a shareholder has a squeeze out right if</p> <ul style="list-style-type: none"> a. he owns at least 95% of the total number of shares of the company; b. at least 90% of the outstanding shares have been tendered in a previous purchasing public offer

is lower than 100.000 euros

Available period for organizing a buyout transaction	na	12 months after the acquisition of a stake higher than 90%	12 months after the acquisition of a stake higher than 90%
The buyout price	In respect with the net assets value	<p>the mean of at least two out of the three following prices:</p> <p>a. the average weighted market price during the 12 months preceding the offer;</p> <p>b. the net assets value based on the IAS</p> <p>c. the highest price paid by the offeror during the last 12 months preceding the offer</p>	<p>calculated by independent experts as the mean of the following three prices</p> <p>a. the average weighted market price during the 12 months preceding the offer;</p> <p>b. the net assets value based on the IAS</p> <p>c. the highest price paid by the offeror during the last 12 months preceding the.</p> <p>Fair price:</p> <p>a. the offer price accepted in the previous offer assuring more than 90% of the targeted shares is considered a fair price</p> <p>b. In all the other situations, the fair price will be established by an independent expert in respect with the international valuation standards.</p>
Restrictions imposed on the transactions with the targeted stocks	na	the transactions with targeted stocks are suspended after the date of announcement	suspended after the preliminary announcement
Rights of the minority shareholders	na	the minority shareholders owning at least 75% of the free float can question the offer price	the offer price can be questioned the right to ask the majority shareholder owning at least 95% of the total shares of the company to buy out the remaining shares at a fair price
Obligations of minority shareholders	na	na	na in the case of the sell out right, the costs raised by the valuation of the buyout price is assumed by the minority shareholders

Contestation resolution	na	a new valuation by an independent expert	a new valuation by an independent expert	
The buyout price, when the first price is questioned	na	<ul style="list-style-type: none"> a. if the new price is higher with at least 20% than the initial price a new valuation is imposed; b. if not, the offer price is equal to the mean of prices proposed by the independent experts representing the majority and minority shareholders, respectively. 	<ul style="list-style-type: none"> a. if the new price is higher with at least 20% than the initial price a new valuation is imposed; b. if not, the offer price is equal to the mean of prices proposed by the independent experts representing the majority and minority shareholders, respectively. 	
Excepted transactions	na	<ul style="list-style-type: none"> a. during privatization b. from the Minister of Finance, following the execution of the budgetary claims 	<ul style="list-style-type: none"> a. during privatization b. from the Minister of Finance, following the execution of the budgetary claims 	<ul style="list-style-type: none"> a. during privatization b. from the Minister of Finance, following the execution of the budgetary claims; c. the transfer of shares between the mother company and its subsidiaries d. following a voluntary public offer for these shares, having as object of the offer all the shares of the company
Treatment applicable to multiple classes of shares	na	na	na	the obligations imposed to buyout transactions are distinctively applicable to various classes of shares

Remarks	the takeover regulation 1996 is founded on the market law 1994	the obligation to buy out the minority shareholders is not applicable in companies where the Government owns at least 90% of the total shares	the takeover regulation 2003 is founded on the market law 2002	<ul style="list-style-type: none"> a. the two distinct terms regarding the offers for a control position and for a majority position are no longer used; b. the obligation to refrain from transactions with the targeted stocks concerns also the intermediary of the offer c. the mandatory bid rule is applicable to shareholders owning 33% of the voting rights at the date of the actual rule and who had not respected the conditions imposed by the rules applicable at the date such a stake had been acquired.
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