

**Is the company performance endogenous to ownership concentration?
Evidence from the Romanian Mass Privatization**

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Abstract

This study addresses one of the most controversial questions in corporate finance, namely the causal effect between the company performance and private ownership. We use the information about the original design of the mass privatization in Romania in order to test whether the subscription decision of small, private, non-pivotal, financially unconstrained and uncoordinated shareholders is performance-related. We propose three different metrics for the size of private ownership depending on the treatment applied to the degree of subscription of the privatization offer. Our results support the idea that individuals behave in conformity with the percepts of the market theory and call attention on the importance of the high quality disclosure enabling the market participants to make their own assessment.

JEL classification: G32; G34; L33

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Introduction

The privatization of the State owned capital carried out during the 90s in Central and Eastern Europe is undoubtedly the most comprehensive reform ever performed in the economic history of modern states. Those governments should deal simultaneously with a similar challenge that is the reallocation of the homogenous State ownership to private investors, without having any previous experience of this scale as benchmark. According to Nellis (1998), the aggregated offer in this continental region counted for more than 50,000 enterprises. Nowadays, the economic merits of privatization are largely recognized. The surveys by Megginson and Netter (2001), Estrin et al. (2009) and Estrin and Pelletier (2016) document that the selling of state-owned assets had a positive impact on the economic growth, company financial performance and labor productivity. The size of those effects varies not only among countries but also among privatization methods, depending on the timing, scope, sequencing of privatization and the type of private investors involved. The cross-country analyses on privatization results had broad

policy implications in terms of regulatory and economic reforms that were valuable for other developing countries.

According to the EBRD transition report (1999), in the European transition countries (except for Hungary) the mass privatization (hereafter MPP) was either the primary privatization method (the Czech Republic, Lithuania, Romania) or the secondary one. The objective being sought by this generic scheme was to fairly distribute the ownership to general population. However, the implementation details of the divesting programs that led to the emergence of private shareholdings were quite different from one country to another. Estrin and Stone (1996) identifies the main criteria allowing a taxonomy of mass privatization schemes: (1) the rhythm of the State's offer (continuous or in waves)²; (2) the accessibility of citizens to the State offer (through free or costly vouchers); (3) the liquidity of citizens' rights (bearer vouchers, registered but non-transferable vouchers, registered and tradable vouchers); and (4) the degree of intermediation of the State offer (exclusive demand through privatization investment funds, direct access of citizens to the company ownership, flexible access to ownership either directly or via a privatization fund).

Understanding the merits and drawbacks of a particular technique and unfolding the lessons that can be drawn from such a complex process require a deep understanding of the reform packages at the country-level. For example, based on the peculiarities of the Bulgarian mass privatization³, Atansaov (2005) provides an original method for measuring the magnitude of control premium and new insights on the prevailing rationales behind the bidding behavior of large institutional investors. In our contention, the unique design of the Romanian MPP, which also marked the return of stock market, provides a natural setting for addressing the causal effect between company performance and ownership concentration. From theoretical and empirical perspectives, the relationship between these two measures is ambiguous. Once in place, the private ownership is seen as an exogenous source for future enhanced performance via better monitoring, access to specific skills, group membership that can relieve the competition pressure. However, Demsetz (1983), Demsetz and Lehn (1985), Demsetz and

² Romania is the only country that proposed two mass privatization schemes: one continuous in 1992, one in waves in 1995.

³ In Bulgaria the ownership was distributed through a three-round discriminatory, "different size-different price" type auction involving dozens of privatization funds that collected vouchers distributed for free to Bulgarian citizens. As the uncontested majority was inhibited by the legal rules, the funds opted for either forming coalitions or bidding for minority stakes.(cf. Atanasov, 2005)

Villalonga (2001) show that the investors take into account the financial soundness when they buy a stake in the first place. In line with this stream of financial literature, we recognize that the endogeneity is an important issue, and deal with it by tracing the private ownership back to its very emergence. Thus, we go around sophisticated empirical techniques employed in the above mentioned studies by proposing an original context-based approach.

Our study builds on Earle and Telegdy (1998), which presents the first comprehensive description of the MPP implemented in Romania and engages a first critical debate about the likely alternatives that the Romanian Government could have at hand. However, our contribution distinguishes from Earle and Telegdy (1998) at least in two respects. First, we analyze the size of the SOF offer with respect to performance-linked measures. Second, we employ the *public* information available in the privatization call in order to test whether the small shareholders took into account the company performance when they made their subscription decision.

The remainder of the paper is structured as follows. Section 1 provides the background information about how the designed voucher scheme in Romania shaped the ownership structure of privatized companies. Section 2 provides details about the data collection procedure and reports the results of the statistical analysis of the privatization offer and demand. Section 3 presents three distinct metrics for private ownership dealing with the unobservability issue engendered by the degree of offer subscription and presents the multivariate analysis explaining those measures with respect to company performance proxies. The final section concludes.

1. The Romanian mass privatization design

In 1995 the Romanian Government launched the second wave of MPP, probably the most controversial scheme applied in the former communist countries of Central and Eastern Europe. Particularly, every adult citizen recorded on December 31st, 1995 was entitled to receive, *for free*, a coupon with an equivalent face value of 975,000 ROL besides the voucher already issued at a previous stage whose value established meanwhile on the informal market at 25,000 ROL. The citizens eligible for both rounds received a voucher of 1,000,000 ROL (app. USD 40) while the youngest adults got one of only 975,000 ROL. Those vouchers could be used as “money”

in exchange for the shares of one single company.⁴ Any market transaction or intermediation by a private investment company during the subscription period was explicitly forbidden. In order to inform citizens about the privatization offer, the Ministry of Economy published a list containing 3,905 companies selected for partial privatization. Those companies were classified in alphabetical order by each of the 41 administrative counties and Bucharest with the following firm-level information: (1) name; (2) location; (3) industrial sector; (4) Share Capital; (5) Sales; (6) Net Income, if positive, or 0 if the company had losses⁵; and (7) the maximum stake offered for subscription, which was set either at 60% or 49% of the share capital. This list could be acquired from the county department of the State Ownership Fund (hereafter SOF) and was, even if parsimonious, the only common source of information for making a subscription decision.

At the end of the subscription period, which lasted 6 months⁶, the demand for shares has been aggregated at the company level. Then, the value of all vouchers was compared to the value of the share capital offered for privatization. The distribution of shares to new small shareholders depended on the degree of subscription. Earle and Telegdy (1998) reports that in 70% of companies, the SOF could not dispose entirely the offered stake, while 30% of the offers were over-subscribed.

If the offer was under-subscribed, the SOF transferred to citizens the actual subscribed stake and included back into its portfolio the undistributed fraction. Each shareholder of those companies received either 39 shares (for vouchers of 975,000 ROL value) or 40 shares (for vouchers of 1,000,000 ROL) having a par value of 25,000 ROL.

For the over-subscribed offers, the SOF decided to keep the level of its blockholding published in the privatization call but to modify the number of shares issued for each certificate instead, such that to include in the shareholder base of a company all the citizens who opted for it. First, the par value was set at the minimum legal level regulated by the Commercial Code for joint-stock companies, that is 1,000 ROL/share. In such a case, the number of shares that could have

⁴The citizens could also place their certificates with one Private Ownership Fund. In 1991, the ownership of companies was split between the State Ownership Fund and one of the five Private Ownership Funds, according to an allocation rule of 70:30.

⁵ All the accounting data are at December 31st, 1994. The real size of losses is unknown.

⁶ According to the privatization law the citizens could opt for a company till December 31st, 1995 and for one of the five Private Ownership Funds till March 31st, 1996.

been issued for each voucher, without changing its value, should have been either 975 or 1,000 shares. However, in the case of all over-subscribed offers the available number of shares for privatization was much lower than those levels. Consequently, the matching between the value of shares for each shareholder and the face value of the exchanged vouchers was realized mathematically, by applying an artificial “allocation index”.

The Romanian Institute of Management and Informatics was in charge with printing 15,166,266⁷ individual certificates of ownership comprising besides the identification information about each shareholder and company: (1) the number of issued shares; (2) the par value; and (3) the allocation index. Those certificates have been distributed to citizens by Postal services.

The emergence of millions of individual shareholders called for a solution allowing the trading of the MPP stocks. The first market transaction on the Bucharest Stock Exchange (hereafter, BSE) was concluded in November 1995. However, at least over the short run, the majority of the privatized companies were unable to meet the BSE listing criteria concerning the size and profitability. Faced with this constraint, in August 1996, the stock market authority (hereafter, FSA) approved the implementation of a trading system inspired by the American dealer market, which was called alike, RASDAQ. The objective of the OTC market was to offer an organized structure where the small individual shareholders could enjoy the free lunch offered by the MPP.

According to the Government Decision of March 15th, 1997⁸ a comprehensive report about the results of the allocation of shares and the allocation index for each privatized company should have been published within 6 months from its publication in the Official Bulletin. However, up to date no searching criterion in the database of Official Bulletin allowed us to identify whether the promised report was finally released to the public.

The decision to make the stock distributed through the MPP automatically available for sale remained unknown for many small shareholders and sometimes for the concerned companies

⁷ We take this figure from Earle and Telegdy (1998). The authors also reported that 2,105,178 vouchers were placed with the Private Ownership Funds. Thus, the Romanian mass privatization involved 17,271,444 adult citizens.

⁸ The Government decision 76//15.03.1997, released in the Official Monitor on 26.03.1997.

themselves. One, doubtlessly unintended, consequence of the genesis of stock market structures concerned the further treatment of minority shareholders. However, beyond an *a priori* ineffectiveness of a program involving millions of persons with respect to the objective of company restructuring justifying the very privatization decision, exploring the results of the peculiar Romanian MPP could provide an answer to one of the most controversial questions in corporate finance “Does the size of private ownership depend on the company’s performance?”

2. Data and summary statistics of privatization offer and demand

We start our analysis by identifying all the public companies (including those delisted meanwhile) for which we find ownership structure information at October 31st, 1996. Such data were collected from the database of Tradeville, an investment company which has a direct access to some electronic platforms of the Stock Exchange, Central Depository, and FSA, which are not available to the public. Then, based on the fiscal code, we identify the companies selected for privatization and hand collected the published details from the paper version of the SOF privatization list. The next step involves identifying the number of outstanding shares and the par value at the listing date. We trace the history of the equity changes of all listed companies and screen those details for the companies subject to mass privatization. Thus, we end up with a sample of 3,665 observations.

To distinguish the over-subscribed offers from the under-subscribed ones, we compare the level of the private ownership labelled in the records as “MPP” to the offered block published in the privatization call. If strictly equal we infer that the offer was over-subscribed. We double-check the distinction between these two offer types, by looking at the par value at the listing date: a par value of 25,000 ROL should correspond to an under-subscribed offer, while one of 1,000 ROL to an over-subscribed offer. However, we find 85 companies for which the offer was over-subscribed based on the par value criterion but the reported MPP stake in their case was lower than the maximum stake available for privatization. We further check whether those companies were partially sold to private investors or employees’ association before the closing of MPP. In the official record of private deals performed by SOF, provided on request, we found a total of

153 sample companies involved in such partial sales before the December 31st 1995, from which 82 are companies with over-subscribed MPP offer.⁹

The bivariate analysis (Table 1a) shows that, on average, the companies where SOF retained the majority stake have higher Sales and Profit are larger and more profitable than those with 60% privatization offer. The Wilcoxon rank-sum test (Table 1b) confirms the significant difference between the two groups for all variables.

{Insert Tables 1a. and 1b. about here}

Contrary to the implicit expectations of authorities signaled by the offered stake, that the companies where it was offered only 49% were likely to attract more shareholders, the demand exceeded the offer in smaller companies according to both proxies of firm size, Share Capital and Sales. Besides, the difference between the mean profits is not statistically different between the over-subscribed and under-subscribed offers when the unprofitable companies are excluded from the sample (see Table 2a.).

{Insert Tables 2a. and 2b. about here}

Those results raise the question whether the selection bias initially identified on the offer side is a relevant issue for the subscription decision making. Earle and Telegdy (1998) underlines that the natural resources and energy were exploited by companies with a different corporate regime that remained 100% under the State property. The banks and financial institutions were also excluded from the privatization offer. The companies when the state retained full ownership sometimes were seen as “the crown jewelries” (energy sector), sometimes as “the black whole of the economy” (especially the coal mining industry). The SOF list contains a lot of small firms but also flagship companies at that time, like national brand Dacia – the Romanian car manufacturer, Alro – the largest aluminum smelter in CEE, Sidex Galati one of largest iron and steel production sites in Europe, covers all industrial sectors and counties.

⁹ Sometimes the private investors who bought a partial stake from SOF by direct deals do not appear in the ownership structure at the listing date. One likely explanation is that those private deals were not entirely paid until the listing date and consequently, the sold stakes were still recorded on the SOF name. In some cases, the recorded privatized stake by private deals is zero. However, we cannot distinguish between a typing error in the SOF official database and a deal that were afterwards canceled because the contract covenants were not met, unless there are two different transactions with the same stake but at different dates and with different buyers. For the objective of this study such empty figures are ignored.

Besides, MPP was not structured on a continuous basis, allowing a sequencing of companies based on previous subscription rates. The information about all the companies arrived in the same time to citizens and the direct subscription period ended at the same date for everybody without disclosing anything about the options expressed by citizens before the closing. Besides, the SOF had not made any communication about the treatment applied to offers, in case of under-subscription over-subscription.

3. The empirical model explaining the size of private ownership

The allocation procedure based on the degree of offer subscription does not allow a direct comparison of the MPP shareholdings between the under-subscribed and over-subscribed offers. While in the first case the ownership structure provides an indication about the real interest for the privatized company, in the case of over-subscribed offers, the private ownership is clustered either at 49% or 60%. In order to deal with such an unobservability issue, we decompose the value of the certificate of ownership into the product of the (1) assigned number of shares; (2) par value; and (3) allocation index. The higher the subscription degree over the offered stake, the lower the number of issued shares for each citizen, and consequently, the higher the allocation index reported on the certificate of ownership.

$$\text{Allocation Index} = \frac{\text{The face value of the certificate of ownership}}{\text{Assigned number of shares} * \text{Par value}}$$

As in the case of under-subscribed offers, the citizens received 39 or 40 shares with a par value of 25,000 ROL, the allocation index for such a company is equal to 1.

To the best of our knowledge, the subscription results and, thus, the number of shares assigned to the certificates of ownership were never released to the public. We infer that figure from the frequency of the traded volume after the listing date. In the early period, the stock market liquidity, at least for RASDAQ, was very low, and the trades involved necessarily the whole number of shares allocated on a certificate of ownership. The existence of two possible values for the certificates of ownership (975,000 ROL and 1,000,000 ROL) reduce the identification errors, as the two allocation indices should be approximately equal for the same company. On 1,240 over-subscribed offers, we find these two data items in 886 cases and an accurate

information about at least one of the two certificates in 69 cases. Besides, it is possible to add up 115 new observations¹⁰ by randomly assigning value of allocation index to one of the two types of certificates of ownership.

We construct two different proxies for the private ownership engendered by the MPP: (1) the actual privatized stake for the under-subscribed offers and; (2) the allocation index for the over-subscribed offers.

Besides, we compound a synthetic private ownership measure under the assumption that Government could have decided to deal with the oversubscription by equitizing the extra-demand for shares. Such a decision would have implied the issuance of new shares and an increase of the weight of MPP in the ownership structure. The third measure of private ownership is obtained by adjusting the MPP stake with respect to the allocation index as follows:

$$\text{Equitized MPP (\%)} = \frac{\text{MPP stake} * \text{Allocation index}}{(\text{Allocation index} - 1) * \text{MPP stake} + 100} * 100$$

In order to test whether the company performance has any influence on the level of private ownership we regress a proxy for MPP ownership based on the degree of offer subscription on a set of explanatory variables involving the basic information at which the citizens had access when they made their own subscription decision. The general form of the regressions is:

$$\begin{aligned} \text{MPP ownership proxy}_i &= a * \text{Firm Size}_i + b * \text{Capital Turnover}_i + c * \text{Profit Margin}_i \\ &+ \text{Industry Dummy} + \text{County Dummy} + \varepsilon \end{aligned}$$

where the *Firm Size* is the natural logarithm of Share Capital, the *Capital Turnover* is expressed as the ratio between Sales and Share Capital while the *Profit Margin* is compounded by dividing Net Income to Sales. All the accounting figures are reported at the end of 1994. In all regressions we controlled for industry and regional fixed effects. For constructing industry dummies we

¹⁰ In the case of companies having only several trades over the listing period we are not able to identify whether the number of issued shares corresponds to a certificate of 975, 000 or 1,000,000 ROL.

use instead of the standard NACE classification, the description of the company's sector that could be read in the privatization call. There are 32 industry dummies and 42 County dummies. The demand for firms' stocks can be triggered by unobservable firm quality and features unlinked to the financial soundness of privatized companies. The interest for preserving the actual job could make individuals choose the very firm that employs them thinking that, as shareholders, they could have more of a voice in events directly affecting their employment and wage conditions. The oversubscription is more likely in bigger counties where there are a high number of public employees, especially when the local industry is dominated by flagship enterprises. In order to deal with such issues we should need detailed information about the shareholders themselves. Constraint by the nature of data, we try to take into account such a "home bias" by rerunning all the econometric specifications using restricted samples from which we exclude the firms from agricultural sector. The agricultural companies, usually located in villages, concentrated the local labor force.

The estimated results across all tables are consistent and show that the private ownership establishes at higher levels in companies more performant (the coefficient of Profit Margin is always positive a statistically significant at confidence level of 99%), likely to be under-capitalized at the privatization date (the coefficient of Capital Turnover is always positive a statistically significant at confidence level of 99%) and having a smaller size (the Share capital had a negative coefficient statistically significant at a confidence level of 99%). Those links are similar among the samples of over-subscribed, under-subscribed and combined offers. Besides, the sense of the influence is not triggered neither by the inclusion in the analysis of the companies without positive net income, nor by the companies for which the individual shareholders display a potential home bias.

{Insert Tables from 3a. to 5b. about here}

Conclusion

Despite the scope of MPP, the Romanian companies were only partially privatized letting the State, at least on the short run, with a dominating role. For this reason the emerged corporate ownership was classified as a blockholder-oriented corporate governance regime. After the closing of mass privatization the class "MPP shareholders" has longtime been treated as a group of individuals who made no financial effort to enter into the ownership structure of public

entities. An argument often invoked was that they have no legitimacy in asking for legal protection to preserve the shares' value, because any market price would guarantee them a positive capital gain.

By using the original design of the mass privatization in Romania, this study shows that the decision to become a shareholder is, on average, an informed one and depends on the financial performance of the selected company. The more performant and under-capitalized companies attracted more shareholders and created or, could have been created, the premises of a contestable market. When compared with other studies, the choice of covariates set chosen in this study is at best parsimonious. There are much more variables that give stronger insights about the attractiveness of a company, like equity, leverage, tangibility of assets, cash holdings, the links between management team and politics, etc. However the information that arrived simultaneously to uncoordinated, financially unconstrained, non-pivotal citizens concerned only the Share capital, Sales and Profit. Our results support the idea that individuals behave in conformity with the precepts of the market theory and call attention on the importance of the high quality disclosure enabling the market participants to make their own assessment.

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Table 1a. Comparison of the minority (49%) and majority (60%) offered stake

Summary statistics for key published information in the privatization call and the set of explanatory variables by SOF offered stake. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. Table shows *t*-test for differences in the mean value of covariates.

Variable	Offer 49%	Offer 60%	Difference	T-Test Value
Share capital (million ROL)	40,900	5,909	34,900	14.302***
Sales (million ROL)	24,800	3,486	21,300	14.545***
Net Income (million ROL)	1,144	175	969	12.147***
Profit ((million ROL)	1,498	234	1,264	12.470***
Share capital Turnover	1.77	1.20	0.57	2.683***
Profit Margin (Profit & Loss)	6.30	4.70	0.18	3.105***
Profit Margin (if positive)	8.25	6.29	1.96	2.956***
Number of firms	727	2,935		
Number of profitable firms	555	2,192		

Table 1b. Comparison of the minority (49%) and majority (60%) offered stake

Summary statistics for key published information in the privatization call and the set of explanatory variables by the privatization offered stake. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. Table shows *z*-test for differences in the median value of covariates.

Variable	Offer 49%	Offer 60%	Z-Test Value
Share capital (million ROL)	13,000	2,655	23.329***
Sales (million ROL)	7,617	1,156	23.405***
Net Income (million ROL)	150	16	12.660***
Profit (million ROL)	387	43	18.147***
Share capital Turnover	0.53	0.48	2.707***
Profit Margin (Profit & Loss)	2.68	1.51	4.016***
Profit Margin (if positive)	4.74	3.23	18.147***
Number of firms	727	2,935	
Number of profitable firms	555	2,192	

Table 2a. Comparison of the under-subscribed and over-subscribed privatization offer

Summary statistics for key published information in the privatization call and the set of explanatory variables by the degree of offer subscription. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. Table shows *t*-test for differences in the mean value of covariates.

Variable	Under-subscription	Over-subscription	Difference	T-Test Value
Share capital (million ROL)	16,700	5,394	11,300	5.365***
Sales (million ROL)	8,242	6,753	1,489	1.117
Net Income (million ROL)	308	488	-180	2.701***
Profit (million ROL)	439	577	-138	1.612
Share capital Turnover	0.66	2.59	-1.92	11.004***
Profit Margin (Profit & Loss)	4.21	6.62	-2.40	5.572***
Profit Margin (if positive)	6.00	7.82	-1.82	3.338***
Number of firms	1,240	2,425		
Number of profitable firms	1,702	1,048		

Table 2b. Comparison of the under-subscribed and over-subscribed privatization offer

Summary statistics for key published information in the privatization call and the set of explanatory variables by the degree of offer subscription. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. Table shows *z*-test for differences in the median value of covariates.

Variable	Under-subscription	Over-subscription	Z-Test Value
Share capital (million ROL)	4,612	1,691	19.949***
Sales (million ROL)	1,858	1,085	6.735***
Net Income (million ROL)	17	34	6.980***
Profit (million ROL)	63	58	0.275
Share capital Turnover	0.48	0.81	18.871***
Profit Margin (Profit & Loss)	1.09	3.02	11.002***
Profit Margin (if positive)	3.15	4.13	5.655***
Number of firms	1,240	2,425	
Number of profitable firms	1,702	1,048	

Table 3a. The link between private ownership and company performance in the case of over-subscribed privatization offers

The table presents the results from the regressions of allocation index in the case of overs-subscribed privatization offers using three measures for the explained variable (1) *AI* is the allocation index computed based on the available data about the number of shares allocated for the certificate of ownership of 975,000 ROL; (2) *AI_available* is constructed by adding up to *AI* the value of allocation index computed with accurate information about the number of allocated shares on the certificate of ownership of 1,000,000 ROL, when *AI* is missing, (3) *AI_total* is the allocation index comprising besides the value of *AI_available* those obtained by assigning randomly the number of allocated shares to one of the two certificates of ownership. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. P-values are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels.

	All firms			Profitable firms		
	AI (1)	AI_available (2)	AI_total (3)	AI (4)	AI_available (5)	AI_total (6)
Firm Size	-0.571*** (0.000)	-0.550*** (0.000)	-0.583*** (0.000)	-0.598*** (0.000)	-0.570*** (0.000)	-0.541*** (0.000)
Capital Turnover	0.238*** (0.000)	0.239*** (0.000)	0.233*** (0.000)	0.237*** (0.000)	0.239*** (0.000)	0.228*** (0.000)
Profit Margin	0.094*** (0.000)	0.093*** (0.000)	0.100*** (0.000)	0.097*** (0.000)	0.096*** (0.000)	0.098*** (0.000)
Industry Effects	YES	YES	YES	YES	YES	YES
Regional Effects	YES	YES	YES	YES	YES	YES
Constant	10.352*** (0.000)	10.029*** (0.000)	10.915*** (0.000)	10.574*** (0.000)	10.153*** (0.000)	9.902*** (0.000)
N	953	961	1024	831	839	886
R2	0.48	0.47	0.39	0.48	0.48	0.47
R2_adj	0.43	0.43	0.35	0.43	0.43	0.42
F-stat	10.91	10.96	8.42	9.68	9.72	9.96

Table 3b. The link between private ownership and company performance in the case of over-subscribed privatization offers (without agriculture)

The table presents the results from the regressions of allocation index in the case of oversubscribed privatization offers for all industrial sectors but agriculture using three measures for the explained variable (1) *AI* is the allocation index computed based on the available data about the number of shares allocated for the certificate of ownership of 975,000 ROL; (2) *AI_available* is constructed by adding up to *AI* the value of allocation index computed with accurate information about the number of allocated shares on the certificate of ownership of 1,000,000 ROL, when *AI* is missing, (3) *AI_total* is the allocation index comprising besides the value of *AI_available* those obtained by assigning randomly the number of allocated shares to one of the two certificates of ownership. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. P-values are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels.

	All firms			Profitable firms		
	AI (1)	AI_available (2)	AI_total (3)	AI (4)	AI_available (5)	AI_total (6)
Firm Size	-0.616*** (0.000)	-0.590*** (0.000)	-0.636*** (0.000)	-0.649*** (0.000)	-0.616*** (0.000)	-0.586*** (0.000)
Capital Turnover	0.236*** (0.000)	0.238*** (0.000)	0.231*** (0.000)	0.235*** (0.000)	0.237*** (0.000)	0.225*** (0.000)
Profit Margin	0.095*** (0.000)	0.094*** (0.000)	0.101*** (0.000)	0.098*** (0.000)	0.097*** (0.000)	0.099*** (0.000)
Industry Effects	YES	YES	YES	YES	YES	YES
Regional Effects	YES	YES	YES	YES	YES	YES
Constant	10.899*** (0.000)	10.447*** (0.000)	11.261*** (0.000)	11.444*** (0.000)	10.906*** (0.000)	10.428*** (0.000)
N	808	816	850	718	726	754
R2	0.48	0.47	0.39	0.48	0.48	0.47
R2_adj	0.42	0.42	0.34	0.42	0.42	0.42
F-stat	9.26	9.31	6.99	8.35	8.39	8.46

Table 4. The link between private ownership and company performance in the case of under-subscribed privatization offers

The table presents the results from the regressions of the size of MPP ownership in the case of under-subscribed offers. *Firm Size* is the natural logarithm of Share Capital. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. P-values are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels.

	MPP ownership			
	All firms	Profitable firms	All firms (without agriculture)	Profitable firms (without agriculture)
Firm Size	-2.864*** (0.000)	-3.135*** (0.000)	-2.316*** (0.000)	-2.732*** (0.000)
Capital Turnover	2.165*** (0.000)	1.696*** (0.000)	2.336*** (0.000)	1.876*** (0.000)
Profit Margin	0.195*** (0.000)	0.127*** (0.000)	0.205*** (0.000)	0.137*** (0.000)
Industry Effects	YES	YES	YES	YES
Regional Effects	YES	YES	YES	YES
Constant	67.120*** (0.000)	72.178*** (0.000)	0.225*** (0.000)	59.751*** (0.000)
No. obs.	2424	1702	2113	1527
R2	0.18	0.19	0.18	0.18
R2_adj	0.16	0.16	0.15	0.14
F-stat	7.37	5.40	6.24	4.62

Table 5a. The link between private ownership and company performance under the assumption of equitization of the extra-demand for shares of privatized companies

The table presents the results from the regressions of the private ownership under the assumption that the over-subscription would have triggered the issue of new shares. Equitized_PPM is equal to $\frac{MPP\ stake * Allocation\ index}{(Allocation\ index - 1) * MPP\ stake + 100} * 100$, where the allocation index is one of the four following measure (1) *AI* is the allocation index computed based on the available data about the number of shares allocated for the certificate of ownership of 975,000 ROL; (2) *AI_available* is constructed by adding up to *AI* the value of allocation index computed with accurate information about the number of allocated shares on the certificate of ownership of 1,000,000 ROL, when *AI* is missing; (3) *AI_total* is the allocation index comprising besides the value of *AI_available* those obtained by assigning randomly the number of allocated shares to one of the two certificates of ownership. *AI Firm Size* is the natural logarithm of Share Capital and (4) 1 in the case of under-subscribed offers. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. P-values calculated are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels.

	All firms			Profitable firms		
	AI (1)	AI_available (2)	AI_total (3)	AI (4)	AI_available (5)	AI_total (6)
Firm Size	-7.178*** (0.000)	-7.118*** (0.000)	-7.230*** (0.000)	-7.376*** (0.000)	-7.296*** (0.000)	-7.376*** (0.000)
Capital Turnover	0.470*** (0.000)	0.479*** (0.000)	0.462*** (0.000)	0.391*** (0.000)	0.400*** (0.000)	0.384*** (0.000)
Profit Margin	0.242*** (0.000)	0.242*** (0.000)	0.242*** (0.000)	0.157*** (0.000)	0.159*** (0.000)	0.157*** (0.000)
Industry Effects	YES	YES	YES	YES	YES	YES
Regional Effects	YES	YES	YES	YES	YES	YES
Constant	146.352*** (0.000)	145.977*** (0.000)	149.128*** (0.000)	152.613*** (0.000)	151.520*** (0.000)	154.179*** (0.000)
N	3,347	3,382	3,442	2,531	2,539	2,584
R2	0.33	0.33	0.34	0.35	0.34	0.36
R2_adj	0.31	0.31	0.32	0.33	0.33	0.34
F-stat	21.82	21.66	23.04	17.71	17.52	18.68

Table 5b. The link between private ownership and company performance under the assumption of equitization of the extra-demand for shares of privatized companies (without agriculture)

The table presents the results from the regressions of the private ownership under the assumption that the over-subscription would have triggered the issue of new shares. The samples include the companies from all industrial sectors, but agriculture. Equitized MPP is equal to $\frac{MPP\ stake * Allocation\ index}{(Allocation\ index - 1) * MPP\ stake + 100} * 100$, where the allocation index is one of the three following measure (1) *AI* is the allocation index computed based on the available data about the number of shares allocated for the certificate of ownership of 975,000 ROL; (2) *AI_available* is constructed by adding up to *AI* the value of allocation index computed with accurate information about the number of allocated shares on the certificate of ownership of 1,000,000 ROL, when *AI* is missing; (3) *AI_total* is the allocation index comprising besides the value of *AI_available* those obtained by assigning randomly the number of allocated shares to one of the two certificates of ownership. *AI Firm Size* is the natural logarithm of Share Capital and (4) 1 in the case of under-subscribed offers. The *Capital Turnover* is the ratio between Sales and Share Capital. The *Profit Margin* is the ratio of Net Income to Sales. P-values are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels.

	All firms			Profitable firms		
	AI	AI_available	AI_total	AI	AI_available	AI_total
	(1)	(2)	(3)	(4)	(5)	(6)
Firm Size	-7.193*** (0.000)	-7.122*** (0.000)	-7.220*** (0.000)	-7.379*** (0.000)	-7.287*** (0.000)	-7.356*** (0.000)
Capital Turnover	0.442*** (0.000)	0.451*** (0.000)	0.436*** (0.000)	0.373*** (0.000)	0.383*** (0.000)	0.369*** (0.000)
Profit Margin	0.244*** (0.000)	0.246*** (0.000)	0.246*** (0.000)	0.166*** (0.000)	0.168*** (0.000)	0.168*** (0.000)
Industry Effects	YES	YES	YES	YES	YES	YES
Regional Effects	YES	YES	YES	YES	YES	YES
Constant	143.137*** (0.000)	142.079*** (0.000)	143.977*** (0.000)	146.920*** (0.000)	145.566*** (0.000)	146.804*** (0.000)
N	2,918	2,926	2,959	2,243	2,251	2,278
R2	0.35	0.35	0.36	0.36	0.36	0.37
R2_adj	0.33	0.33	0.34	0.34	0.34	0.35
F-stat	20.84	20.67	21.91	16.75	16.57	17.57