

Determinants of Foreign Ownership in Newly Privatized Companies in Transition Economies

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Abstract

We investigate determinants of foreign ownership in newly privatized firms. We analyze data on privatized Czech firms to address two related general questions. First, what characteristics distinguish transition firms that attract a foreign investor? Second, how do firm-specific characteristics influence the size of the foreign equity stake? Our results suggest that foreign investors i) seek safe, profitable firms in which they can exert unchallenged influence on corporate governance and then ii) structure their equity stakes to mitigate agency costs and political risk.

Keywords: privatization, ownership structure, foreign investment, block holders

JEL classification: G15, G32

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1. Introduction

Foreign investors face considerable risks that may discourage investment in transitional economies. Such risks include potential political instability, inefficient legal systems, inadequate protection of shareholder rights, and self-dealing or “tunneling” by controlling shareholders (LaPorta, Lopez-de-Silanes, Shleifer, and Vishny, 1997, LaPorta, Lopez-de-Silanes, and Shleifer, 1999, Pistor, Raiser, Gelfer, 2000). On the other hand, foreign investors have much to contribute to transitional economies. They can provide capital and managerial expertise in situations where both are likely to be in short supply and monitor managers (Shleifer and Vishny, 1997). As a consequence, foreign investment in transitional economies can improve corporate governance and enhance efficiency.

This study documents empirically that foreign investment in transitional economies is related to both the benefits of foreign investor monitoring and risks associated with political instability or imperfect legal systems. Specifically, we analyze ownership structures of newly privatized Czech companies. In 1992, voucher privatization in the Czech Republic shifted ownership of nearly one thousand state owned enterprises to private investors. While the Czech Republic presented an unprecedented and intriguing opportunity for foreign investors, risks also seemed very high. Foremost, the transition from a state-controlled economy to a free-market system created considerable macroeconomic and political uncertainty for foreign investors. Foreign investors also faced political risks inherent in the implementation of the privatization process itself. Finally, foreign investors in Czech firms would face potential conflicts with self-interested incumbent managers.

Perhaps due to these risks, foreign participation in Czech privatization was not substantial. Specifically, foreign investors held equity stakes in only 41 enterprises out of 988 subject to “Wave

1” of voucher privatization, averaging only 1.6% of all privatized shares. Limited involvement of foreign investors in transitional economies in the 1990s was not peculiar to the Czech Republic. Table 1 shows that foreign direct investment was also relatively small in Hungary and Poland, the two other leading Central European economies. Nevertheless, foreign investment was material for the 41 firms that attracted foreign investors, and the mean (median) percentage of shares held by foreign investors in these firms was 39.2% (36.0%).¹

Our contribution is to investigate empirically the determinants of foreign investor behavior. We identify firm-specific variables hypothesized to affect observed behavior of foreign investors and then address two related questions. First, what factors distinguish Czech firms with foreign investors from those without such investors? Second, what factors explain the magnitude of the foreign equity stake for those firms with such investors? We find that the likelihood of foreign ownership increases when firms are more profitable, are in industries with low variance of profitability, and do not have shares reserved for Czech insiders. Conditional on foreign equity ownership, we find that the foreign investor’s equity stake decreases with profitability, increases with the level of indebtedness, increases with the variability of industry profitability, and decreases when there is a high degree of tangible and potentially expropriable assets in place. Overall, our results suggest that foreign investors i) seek profitable firms in which they can exert unchallenged influence on corporate governance and ii) structure their equity stakes to mitigate agency costs and political risk.

¹ Foreign investor participation also increased share demand in voucher auctions and eventual share prices (Hingorani, Lehn, and Makhija, 1997).

The next section provides a brief review of the Czech privatization experience. Our sample and data are described in Section 3. Section 4 develops and tests hypotheses on the behavior of foreign investors in Czech privatization. Concluding remarks are in Section 5.

2. Voucher privatization and foreign investment in the Czech Republic

Czechoslovakia's "Velvet Revolution" of November 1989 led to a series of events characterizing the transition from a Communist, state-controlled system to a free-market democracy.² Table 2 provides a timetable of these events, including the implementation of the voucher privatization scheme in 1992. Hingorani, Lehn, and Makhija (1997) and Svejnar and Singer (1994) provide detailed discussions of these events and the mechanics of the voucher privatization; interested readers should consult these excellent references. For our purposes, the most important aspect of the transition process is the timing of various phases of the large-scale privatization program that culminated in voucher auctions that concluded in late 1992.

By January 1992, interested parties, including foreigners, had submitted privatization proposals concerning 2,210 firms eligible for so-called Wave 1 voucher privatization to the Czech Ministry of Privatization. Of the 10,949 submitted plans, 39.7% were from outside investors, 24.9% from management of eligible firms, and the balance from regional committees, municipalities, original owners, plant-level managers, consulting firms, government ministries, and trade unions. The most common method proposed for privatization was direct asset sales (44.6%), followed by voucher privatization (23.0%), and then auction or tender (18.5%). By April 1992 the Ministry of

² The former Czechoslovakia split into the Czech Republic and Slovakia in January 1993. Because the policies and procedures regarding privatization of Slovak firms differed from Czech firms, we restrict our analysis to the latter.

Privatization had selected among submitted plans and approved 988 Czech firms for voucher privatization, accounting for 44.7% of all approved plans. From May to December 1992, shares for these 988 firms were subject to five rounds of voucher-point bidding in which 92.8% of all available shares were allocated.³

The foreign equity claims that we investigate were established prior to or simultaneous with approval of the voucher privatization proposals. These equity positions and stakes by other block holders (Czech insiders, restitution claimants, and government) were authorized by the government ministry directly responsible for the management of each particular state enterprise and subject to approval by the Ministry of Finance. In some cases, the foreign stake was a component of the approved privatization proposal for a given state enterprise.⁴

The risks to potential foreign investors in Czech firms during the pre-voucher period were extremely high. First, there was increasing political momentum for voucher privatization during this time, but the program's eventual success and whether a given firm would participate were both uncertain. Consequently, foreign investors faced a situation in which Czech government dominated corporate governance, at least temporarily. Second, the quality of firm-level information at this time was also low, as accounting systems were in transition from Communist methods, which were largely concerned with measurement of production, to measures that would reflect the value of transactions. Perhaps most importantly, there was a high potential for managerial agency costs among newly privatized Czech firms. These firms were still controlled by incumbent managers who,

³ Hingorani, Lehn, and Makhija (1997) provide a focused investigation of voucher share demand as a function of firm characteristics.

⁴ We are not able to distinguish foreign equity stakes initiated on an ad hoc basis before January 1992 (and hence "grandfathered" in) from foreign stakes approved after January 1992 as part of the proposal process per se.

under the communist regime, had “learned to consider shirking and illicit appropriation of state property their God- (Party-) given right” (Frydman and Rapaczynski, 1994, p. 145). Until institutions of free market capitalism could be implemented to assist investors in corporate governance activities, the characterization of former communist systems by Sachs (1992, p. 43) seemed likely to prevail: “The collapse of the old system has been followed by a mix of aimlessness, political rent-seeking, asset-stripping, and corruption.”

Given these conditions, we hypothesize that foreign investors carefully selected among potential Czech target firms and, having chosen a firm as a foreign investment vehicle, also carefully structured their equity stakes. The following section describes data on observable firm characteristics that may have influenced these decisions.

3. Data

We utilize the database exploited by Hingorani, Lehn, and Makhija (1997) in their study of share demand and valuation in the Czech Republic’s voucher privatization. Specifically, the data are derived from a series of publications entitled *Privatizace Kuponova* published by the Center for Voucher Privatization of the Czech Ministry of Finance. The data, available for 988 firms subject to Wave 1 voucher privatization, include information on pre-voucher ownership structure, rudimentary financial statements, and other firm characteristics. A disadvantage of the financial statement information on Czech firms is that it may not represent the true financial status of these firms due to vestigial distortions of the Communist accounting system. However, this information was generally available to potential investors during the privatization process. Hence, our tests assume that the financial data are correlated with actual firm characteristics that influence foreign investor behavior.

If this assumption is violated, the power of our tests may be weakened but we do not anticipate perverse biases in our statistical inferences.

3.1. Pre-voucher ownership structure.

Table 3 summarizes the pre-voucher ownership structure for the 988 Czech firms eligible for the first wave of voucher privatization. As shown in panel A, on average 84.4% of available shares were available for voucher privatization, with 15.6% reserved for pre-voucher claimants. On average, only 1.6% of available shares were reserved for foreign investors. This compares with 3.8% set aside for direct sales to Czech investors, 0.4% set aside for restitution claimants, 6.9% temporarily reserved by the government, 0.2% held permanently by the government, 1.5% set aside for future sales via financial institutions, and 1.2% reserved for municipalities. However, the quartile statistics clearly indicate that the overwhelming majority of firms had no reserved pre-voucher shares for each category.

Panel B of Table 3 shows the distribution of ownership for the 41 firms with a foreign investor. Foreign claims averaged 39.2% of all shares for these firms, ranging from a minimum of 5% to a maximum of 75%. Panel B also provides the distribution of equity stakes reserved for Czech investors via direct sales for the 90 firms with such stakes. This comparison suggests that foreign and Czech block holders alike successfully acquired a substantial block of shares in only a small number of companies.

{this would be a good place to compare with data on US block holdings as per the referee's suggestion}

3.2. Firm-specific characteristics.

Table 4 provides summary statistics for key variables for the 41 Czech firms for which a foreign investor equity stake was reserved and the 947 firms for which no foreign equity stakes were reserved. While average firm size (measured as total assets, revenues, or employees) is indistinguishable for the two samples, a Wilcoxon rank-sum test indicates that the firms with foreign investors tend to have greater assets and revenues than those without foreign investors. There are no significant differences with respect to debt-to-assets ratio, bank debt-to-assets ratio, or variance of industry return on assets (ROA). Profitability, measured either as return on equity or revenue per employee, appears to be significantly higher for the firms with foreign investors. In sum, the univariate comparisons in Table 4 suggest that Czech firms with foreign investors tend to be larger and more profitable than other firms. In the next section, we develop and test hypotheses on the relations between firm characteristics and ownership structure.

4. Determinants of foreign investor behavior during Czech privatization

Czech privatization presents an intriguing opportunity to study the behavior of foreign investors. First, foreign investors in the former Czechoslovakia faced high risks if target firms were not carefully selected and equity investments were not carefully structured. Second, the former Czechoslovakia presented myriad risks to potential foreign investors in the transitional period. The macroeconomic and political risks were similar across a wide range of potential target firms. Microeconomic risks, though, especially the risks associated with delegating substantial control over invested funds to self-interested incumbent management, likely varied across the sample of potential targets. Consequently, while our study is limited to a relatively small number of foreign investments

made in the Czech Republic during the transitional period, our inferences are not likely to be confounded by multiple macroeconomic environments, political or institutional settings, or time periods.

In the following sections we investigate two questions. First, we infer the target-firm preferences of foreign investors from a logit model of the likelihood of a foreign investment in a voucher eligible Czech firm. Then, among firms with a foreign investor, we perform a regression of the foreign equity stake on firm-specific characteristics.

4.1. Characteristics of target firms

Table 5 presents the results of a logit regression of the likelihood of a foreign investor holding a pre-voucher equity stake in one of the 988 Czech firms subject to Wave 1 of voucher privatization. Specifically, we estimate the following logit relation using maximum likelihood techniques:

$$\ln\{\text{Pr}(\text{foreign investment in firm } i)/[1-\text{Pr}(\text{foreign investment in firm } i)]\} = \alpha_0 + \sum_j \alpha_j X_{j,i} + \varepsilon_i \quad (1)$$

where each $X_{j,i}$ represents firm-specific characteristic j of firm i among the 988 potential target firms. The coefficients for dummy variables in Table 5 are set to one when a given firm-specific characteristic is above median and zero otherwise. The firm-specific characteristics we measure are listed and described below.

Profitability. More profitable companies may not have a strong need for external monitoring by (foreign) block holders (Shleifer and Vishny, 1997). Thus, they should be associated with lower

foreign ownership. On the other hand, these firms are also likely not to suffer from strong agency problems, they tend to be safer, and are less likely to go bankrupt. As a result, a company's shareholder wealth is less likely to be expropriated due to imperfect legal system (LaPorta, Lopez-de-Silanes, Shleifer, and Vishny, 1997). Thus, more profitable firms may also be associated with a greater foreign ownership.

Capital structure. We measure a firm's indebtedness using both debt/assets and bank debt/assets. We hypothesize that foreign investors are averse to taking stakes in highly indebted firms.

Intra-industry ROA variance. A high intra-industry variance in profitability (ROA) suggest that the industry itself may be volatile, and the firms may be more prone to financial distress and losses to shareholders. If the legal system (including bankruptcy laws) in transitional economies is imperfect, firms with greater profit volatility should be associated with lower ownership by foreigners.

Firm size. We measure firm size by total assets and by number of employees. The expertise and capital of foreign investors are likely to better utilized at large firms rather than small firms.

Czech inside ownership. The coefficient for insider holding is expected to be negative. High inside ownership may provide a company's pre-transitional management the incentives and opportunities to expropriate outside shareholders (Frydman and Rapaczynski, 1994). Alternatively, inside and outside (foreign) block holdings may be substitute-monitoring mechanisms (Agrawal and Knoeber, 1996). Under either hypothesis, high insider ownership should be associated with lower likelihood of observing foreign investment.

Tangible assets. We also include a dummy variable set to one when the target firm is located in an industry characterized by highly tangible assets, i.e., agriculture, mining, heavy manufacturing, and utilities. We hypothesize that foreign investors will be attracted to firms with tangible assets that

are more difficult to be squandered by bad management. Alternatively, tangible assets may be more subject to government expropriation.

Prague district. Finally, we include a dummy variable set to one when the firm is located in the Prague district, the country's most developed region with the best infrastructure. We hypothesize that such firms are perceived as safer and more attractive to foreign investors.

The results from our estimates of equation (1) are reported in Table 5. The estimates suggest that high profitability, measured either as return on equity or revenue per employee, significantly increases the likelihood of foreign investment in a Czech firm. In the specification in column (1), for example, the coefficients on $ROE > median$ and $Rev/employee > median$ are 1.14 ($t=2.98$) and 1.52 ($t=3.45$), respectively. With all other variables below their respective medians as a base case, above median ROE increases the model-implied probability of foreign investment by 3.9% from 1.9% to 5.8%. Similarly, above median Rev/employee increases the implied probability from 1.9% to 8.3%. Similar coefficients, significance tests, and implied probabilities associated with profitability are reported across the permutations reported in columns (2), (3), and (4). Table 5 also indicates that intra-industry variance in profitability (ROA) significantly decreases the likelihood of foreign investment. In the specification in column (1), the coefficient on intra-industry variance in $ROA > median$ is -1.06 ($t=-2.98$). This coefficient implies a decrease of 1.3% in the implied probability of foreign investment from the base case. Similar results hold across the other specifications. Finally, when Czech insiders take a stake in the firm the likelihood of foreign investment declines. In column (1), the coefficient on the Czech insider dummy variable is -1.89 ($t=-1.80$), an implied change in probability of -1.6% from the base case. Other variables (e.g., firm

size, leverage, high asset tangibility, location near Prague) do not have a statistically significant impact on the likelihood of foreign investment.

In sum, the results in Table 5 indicate that foreign investors disproportionately sought Czech firms with high profitability, safer firms in industries characterized by low variance of profitability, and firms in which there were no Czech inside block holders. Consequently, we infer that foreign investors sought Czech firms with high, reliable profits over which they could exercise unchallenged influence on corporate governance.

4.2. Determinants of the magnitude of foreign equity stakes

Given that a foreign investor seeks investment in a given firm, what factors determine the size of the resultant equity stake? Factors that attract a foreign investor may nevertheless be inversely related with the optimal ownership stake of that investor. For example, foreign investors may be less likely to invest in Czech firms with high potential for managerial agency costs. However, conditional upon investment in a given firm, a foreign investor may increase the proportion of equity controlled as potential for conflicts with management increase. Specifically, a larger equity stake helps ensure the right and opportunity to exercise control over management. To investigate the relation between firm characteristics and foreign equity stakes, we estimate versions of the following equation via ordinary least squares using data on the 41 Czech firms with a foreign investor:

$$\log(\% \text{ foreign equity stake}) = \beta_0 + \sum \beta_j X_{j,i} + \mu_i \quad (2)$$

where each $X_{j,i}$ represents firm-specific characteristic j of firm i among the 41 Czech firms targeted by foreign investors. The results from this regression are reported in Table 6.

As reported in Table 6, firm profitability is negatively related to the size of the foreign investor's equity stake. Specifically, the coefficients on $ROE > \text{median}$ and $Rev/employee > \text{median}$ are consistently negative and significant in most specifications. In other words, more profitable firms tend to have low foreign equity stakes. This result supports the role of (foreign) monitoring for optimal corporate governance (Shleifer and Vishny, 1997). Specifically, if foreign investors enter companies in transition economies they tend to put their capital primarily in less profitable firms where the value of their monitoring is the highest. The coefficients on $debt/assets$ and $bank\ debt/assets$ are consistently positive, but statistically significant only in the case of $debt/assets$. If these firms face higher risks of financial distress due to higher debt, a more concentrated equity stake might be desired to provide incentives for restructuring and to guard against managerial opportunism in the event of distress. Supportive of this inference, firms in riskier industries (intra-industry ROA variance $> \text{median}$) also had higher equity stakes, although this relation is not consistently or highly statistically significant. Firm size (assets or number of employees) is not related to the size of the foreign equity stake, nor is whether the firm is located in the Prague district. However, firms in industries characterized by highly tangible assets had significantly less foreign ownership than other firms. We offer two explanations for this seemingly robust result. First, in the event of a reversal of economic reform and expropriation of foreign investments, tangible assets would be those most likely to be seized due to the ease of their identification and because the loss of intrinsic value in the event of state takeover would be the lowest. Consequently, low foreign equity stakes in enterprises with highly tangible assets can be viewed as defensive posturing by foreign

investors wary of political risk. Second, given that these firms are in industries characterized by a higher degree of tangible assets in place, the likelihood of managerial misuse or outright theft of assets would be lower. In such instances, the corporate governance benefits of a concentrated equity stake are likely to be low. In contrast, in firms without tangible assets (e.g., service sector firms), managerial agency costs are likely to be higher and hence benefits from control via ownership are likely to be high, motivating a larger equity stake by an interested foreign investor.

In sum, the results in Table 6 suggest that when foreign investors acquired an equity stake in a Czech firm, the size of that equity stake depended on several firm-specific variables. In particular, the equity stake was lower when profitability was high or when a firm was in an industry characterized by tangible assets in place, but increased when a firm had above median outstanding debt or belonged to an industry characterized by variable profits. These relations are consistent with foreign investors carefully structuring their equity stakes to mitigate managerial agency costs and political risks.

5. Conclusions

Foreign investors can provide much needed capital and managerial expertise to newly privatized firms, but little empirical evidence exists on the motivations, risks, and rewards to foreign investors in privatization. We contribute to this gap in extant research by examining foreign equity investment in firms privatized via Wave 1 of Czech voucher privatization in 1992. Risks to foreign investors were high during this time period, and foreign investment was marginal in the grand scheme of Czech voucher privatization. However, foreign investors held equity stakes averaging 39.2% of all shares

in 41 enterprises, indicating that foreign investors were likely to significantly influence the management, performance, and valuation of these firms.

Our results suggest that the likelihood of foreign investment in a transition economy firm increases when it has high and reliable profits and when Czech insiders do not control large blocks of its shares. Among firms with foreign investors, we find that the size of the foreigner's equity stake decreases with profitability, increases with indebtedness, increases with variability of profits, and decreases when the firm has tangible assets. In sum, the evidence suggests that foreign investors in transition economies seek safer, profitable firms over which they can exert unchallenged influence on corporate governance. These investors also structure their equity stakes to address managerial agency costs and political risk in a manner consistent with the monitoring role frequently assigned to equity block holders.

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Table 1

Evolution of Foreign Direct Ownership in the Czech Republic, Poland, and Hungary

The evolution of foreign direct ownership inflows into the three leading Central European economies. The data were gathered from *Economic Survey of Europe 1999* published by United Nations Economic Commission for Europe and from Kaminski (1998).

Panel A: Foreign Direct Investment Annual Inflows (Million Dollars)

Country	Popul. (mil.)	Year						
		1990*	1991*	1992*	1993	1994	1995	1996
Czech Republic	10	132	513	1,004	654	869	2,562	1,428
Hungary	10	311	1,459	1,471	2,339	1,146	4,453	2,275
Poland	39	10	117	284	580	542	1,132	2,768

Panel B: Foreign Direct Investment Cumulative Inflows as a Percentage of GDP

Country	Popul. (mil.)	Year						
		1990*	1991*	1992*	1993	1994	1995	1996
Czech Republic	10	0.38	2.48	5.86	7.97	10.41	16.15	19.10
Hungary	10	0.98	5.55	9.71	16.01	18.87	29.40	33.98
Poland	39	0.16	0.56	1.36	3.37	5.39	8.48	12.06

* The Czech Republic split from Slovakia in 1993. The pre-1993 figures for the Czech Republic refer to investment inflows into the Czech part of former Czechoslovakia.

Table 2

Events leading to voucher privatization of Czech firms in Wave 1

Description of political and economic events perceived to be crucial for the implementation of voucher privatization of Czech firms.

Date	Event
November 1989	Velvet Revolution
September 1990	Reform Proposal
October 1990	Act on Small Privatization
November 1990	Restitution Law
February 1991	Act on Large Scale Privatization
September 1991	Voucher Privatization By-Law
January 1992	Deadline for Privatization Plan Submission
April 1992	Completion of Approval of Privatization Plans
May 1992 to December 1992	Voucher Privatization
April 1993	Stock Trading Begins

Table 3

Share Ownership Structure of Czech Privatized Firms

The distribution of share ownership is reported for the sample of 988 Czech firms eligible for voucher privatization in "Wave 1" (1992). The data are gathered from a series of publications entitled *Privatizace Kuponova* published by the Center of Voucher Privatization of the Czech Ministry of Finance

		Mean	Std. Dev.	Minimum	Quartile 1	Median	Quartile 3	Maximum
Panel A: All 988 Czech firms								
FOREIGN	foreign	1.6	8.7	0.0	0.0	0.0	0.0	75.0
INSIDER	direct domestic sales	3.8	13.5	0.0	0.0	0.0	0.0	84.0
RESTITUENT	restitution	0.4	2.6	0.0	0.0	0.0	0.0	58.0
TGOVT	temporary government	6.9	13.9	0.0	0.0	0.0	5.0	84.0
PGOVT	permanent government	0.2	2.7	0.0	0.0	0.0	0.0	45.0
BANK	future sales through financial institutions	1.5	6.9	0.0	0.0	0.0	0.0	72.0
MUNI	municipality	1.2	3.8	0.0	0.0	0.0	0.0	67.0
VOUCHER	reserved for voucher scheme	84.41	na	na	na	na	na	na
Panel B: Firms with either foreign ownership or direct domestic sales to Czech insiders								
FOREIGN	foreign ownership (N=41)	39.2	18.8	5.0	25.0	36.0	51.0	75.0
INSIDER	direct domestic sales (N=90)	41.2	21.3	1.0	25.0	40.0	61.0	84.0

Table 4

Financial Characteristics of Czech Firms Eligible for Voucher Privatization

Summary statistics for financial characteristics describing 41 Czech firms with foreign equity investors and 947 Czech firms for which no foreign equity stake was reserved. The data are gathered from a series of publications entitled Privatizace Kuponova published by the Center of Voucher Privatization of the Czech Ministry of Finance.

Firm-specific characteristic	Firms with foreign investors			Firms without foreign investors			Tests for differences in	
	Mean	Median	Std. Dev.	Mean	Median	Std. Dev.	Mean (t-test)	Median (rank sum test)
Revenues (\$ millions)	23.3	7.9	43.5	18.7	5.6	76.9	0.38	2.09**
Assets (\$ millions)	23.0	10.2	31.1	32.4	6.8	254.5	-0.02	1.70*
Employees	855	477	1,393	918	424	1,893	-0.21	0.15
Pretax return on equity (ROE)	29.7%	19.1%	27.5%	19.5%	10.7%	44.5%	1.46	3.84***
Revenue per employee (\$)	28,366	18,661	28,816	19,345	11,261	26,091	2.16**	3.93***
Liabilities to assets	31.4%	31.4%	24.9%	34.7%	32.8%	21.3%	-0.33	-0.58
Bank debt to assets	14.0%	12.4%	12.1%	21.9%	14.3%	188.7%	-0.27	-0.85
Intra-industry ROA variance	190.8%	77.0%	245.9%	151.1%	108.3%	206.4%	1.20	-0.05

***Indicates statistical significance at the 0.01 level.

**Indicates statistical significance at the 0.05 level.

*Indicates statistical significance at the 0.10 level.

Table 5

Logit Analysis of Foreign Participation in Privatization of Czech Firms

This table reports estimations of a logit equation of foreign participation in Czech privatization for the sample of 988 Czech firms eligible for voucher privatization in "Wave 1" (1992). The equation estimated by maximum likelihood is the following:

$$\ln\{Pr(\text{foreign participation})/[1 - Pr(\text{foreign participation})]\} = \text{Intercept} + B_j x \text{ Explanatory variable} .$$

T-statistics are in parentheses below the estimated coefficients. The percentages reported below the t-statistics represent the hypothetical independent impact of each variable on the probability of foreign participation in privatization of a particular Czech

Explanatory variables	(1)	(2)	(3)	(4)
Intercept	-3.92 (-7.09)*** 1.9%	-3.88 (-7.00)*** 2.0%	-3.89 (-7.10)*** 2.0%	-3.84 (-7.00)*** 2.1%
ROE above median	1.14 (2.98)*** 3.9%	1.14 (2.98)*** 4.0%	1.07 (2.83)*** 3.6%	1.07 (2.81)*** 3.8%
Revenue per employee above median	1.52 (3.45)*** 6.4%	1.56 (3.56)*** 6.9%	1.64 (3.89)*** 7.5%	1.70 (3.99)*** 8.4%
Debt/assets above median	-0.32 (-0.93) -0.5%	-	-0.28 (-0.83) -0.5%	-
Bank debt/assets above median	-	-0.53 (-1.49) -0.8%	-	-0.49 (-1.41) -0.8%
Intra-industry ROA variance above median	-1.06 (-2.98)*** -1.3%	-0.98 (-2.72)*** -1.3%	-1.05 (-2.96)*** -1.3%	-0.97 (-2.70)*** -1.3%
Total assets above median	0.34 (0.93) 0.8%	0.37 (1.02) 0.9%	-	-
Number of employees above median	-	-	0.28 (0.82) 0.6%	0.31 (0.89) 0.7%
Already a Czech insider equity stake	-1.89 (-1.80)* -1.6%	-1.94 (-1.84)* -1.7%	-1.86 (-1.77)* -1.7%	-1.90 (-1.81)* -1.8%
Tangible asset industry dummy variable	-0.50 (-1.15) -0.8%	-0.51 (-1.17) -0.8%	-0.55 (-1.23) -0.8%	-0.57 (-1.25) -0.9%
Firm located in Prague district	0.17 (0.37) 0.4%	0.07 (0.15) 0.1%	0.13 (0.29) 0.3%	0.04 (0.08) 0.1%

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6

Regression Analysis of Determinants of Foreign Ownership Stakes in Newly Privatized Czech Firms

This table reports results of regression analysis of foreign ownership stake on firm-specific characteristics of privatized Czech firms. The sample comprises the 41 Czech firms privatized with the participation of a foreign investor. The dependent variable is log(% foreign equity stake). T-statistics are in parentheses below the estimated coefficients.

Explanatory variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Intercept	4.14 (15.14)***	4.20 (15.31)***	4.15 (15.77)***	4.22 (15.73)***	3.96 (13.90)***	4.05 (15.14)***	3.84 (15.09)***	3.95 (16.52)***
ROE above median	-0.33 (-1.52)	-0.36 (-1.63)	-0.31 (-1.46)	-0.36 (-1.64)*	-0.40 (-1.90)*	-0.47 (-2.11)**	-0.36 (-1.62)	-0.43 (-1.87)*
Revenue per employee above median	-0.45 (-2.01)**	-0.41 (-1.83)*	-0.49 (-2.49)**	-0.41 (-2.15)**	-	-	-	-
Debt/assets above median	0.01 (2.02)**	-	0.01 (1.89)*	-	0.33 (2.28)**	-	0.29 (1.86)*	-
Bank debt/assets above median	-	0.01 (1.42)	-	0.01 (1.39)	-	0.22 (1.26)	-	0.20 (1.12)
Intra-industry ROA variance above median	0.27 (1.53)	0.23 (1.31)	0.25 (1.44)	0.23 (1.30)	0.28 (1.78)*	0.27 (1.67)*	0.29 (1.76)*	0.27 (1.68)*
Total assets above median	-0.05 (-0.27)	0.01 (0.07)	-	-	-0.17 (-1.05)	-0.12 (-0.71)	-	-
Number of employees above median	-	-	-0.08 (-0.46)	-0.04 (-0.20)	-	-	-0.03 (-0.14)	0.00 (0.00)
Tangible asset industry dummy variable	-0.43 (-2.57)**	-0.41 (-2.43)**	-0.40 (-2.09)**	-0.40 (-1.94)*	-0.42 (-2.61)**	-0.43 (-2.74)***	-0.41 (-2.17)**	-0.42 (-2.49)**
Firm located in Prague district	0.14 (0.56)	0.12 (0.52)	0.18 (0.20)	0.14 (0.57)	0.06 (0.29)	0.10 (0.45)	0.06 (0.28)	0.09 (0.70)
Adjusted R ²	13.1%	8.1%	13.4%	8.2%	11.8%	6.9%	9.8%	6.0%

***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

