RENT EXTRACTION BY LARGE SHAREHOLDERS: EVIDENCE USING DIVIDEND POLICY IN THE CZECH REPUBLIC

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Rent Extraction by Large Shareholders: Evidence Using Dividend Policy in the Czech Republic*

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Abstract

Using cross-sectional analysis of corporate dividend policy we show that large shareholders extract rents from firms and expropriate minority shareholders in the weak corporate governance environment of an emerging economy. By comparing dividends paid across varying corporate ownership structures—concentration, type, and domicile of ownership—we quantify these effects and reveal that they are substantial. We find that the target payout ratio for firms with majority ownership is low but that the presence of a significant minority shareholder increases the target payout ratio and hence precludes a majority owner from extracting rent. In contrast to other studies from developed markets, our unique dataset from the Czech Republic for the period 1996-2003 permits us to take account of the endogeneity of ownership.

Keywords: Rent extraction; Large shareholders; Corporate governance; Dividend policy
JEL classification: D21; G32; G35

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Abstrakt

Provedením průřezové analýzy dividendové politiky firem demonstrujeme, že v prostředí rozvíjející se ekonomiky s ne příliš vyspělým mechanismem řízení firem získávají dominantní vlastníci ekonomickou rentu a okrádají minoritní vlastníky. Porovnáním vyplácených dividend podle jednotlivých vlastnických struktur (koncentrace, domicil a typ vlastnictví) kvantifikujeme tyto efekty a poukazujeme na to, že jsou značné. Dokumentujeme, že cílový divi- dendový výplatní poměr pro firmy s dominantním vlastníkem je nízký a přítomnost silného minoritního vlastníka zvyšuje výplatní poměr a zamezuje největšímu vlastníku v získávání ekonomické renty. Na rozdíl od ostatních studií z rozvinutých ekonomik nám náš unikátní soubor dat z České republiky za období 1996 až 2003 umožňuje vyřešit problém s endogenitou vlastnictví.

1 Introduction

Theoretical papers suggest that large shareholders have a dual impact on firms. On the one hand, significant owners have a strong incentive to monitor management to ensure that a firm's value is maximized, while on the other hand, their behaviour is motivated by the possibility to extract rents and enjoy the private benefits of control.[1] Hence, as argued in Shleifer and Vishny (1997), the overall effect of large shareholders on firms is ambiguous and has to be tested empirically.

In this paper we provide evidence that large shareholders extract rents from firms and expropriate minority shareholders, by showing that some corporate ownership patterns are consistently associated with higher/lower target dividend payout ratios and different levels of dividend smoothing in the cross-section. Moreover, by comparing dividends paid across various ownership structures we quantify the rent extraction associated with the presence of large shareholders and show that it is substantial. We consider several levels of ownership concentration, several types of the single largest owner, and investigate the difference between domestic and foreign owners.

We find that presence of a significant minority shareholder prevents majority owners from extracting rent by increasing the target payout ratio. This finding is much stronger for domestic owners than for foreigners. Our results are consistent with the hypothesis that strong minority owners play a crucial role in dividend policy, especially in the weak corporate governance environment of an emerging economy.

We use data from the Czech Republic for the period 1996-2003. This dataset

[1] Shleifer and Vishny (1986) were the first to formally investigate the role of large investors in firms, and Shleifer and Vishny (1997) provide a systematic survey of costs and benefits associated with the presence of large shareholders in firms. More recently, Bolton and von Thadden (1998) model the trade-off between costs and benefits of concentrated versus dispersed ownership and Burkart, Gromb, and Panunzi (2000) show how large shareholders and the private benefits they enjoy influence takeovers.

allows us, first, to account for the endogeneity of ownership and, second, to separate the effect of ownership from a broader institutional corporate governance framework. The unique modern economic history of the Czech Republic helps to explain the ownership endogeneity problem, as the initial ownership structure of companies was set exogenously by government bureaucrats during privatization in 1991-1994. The dataset we use in this study includes detailed variables from the privatization process as well as variables capturing pre-market firm-level conditions, which we employ as instruments for ownership. After privatization, ownership rights were fully honoured which helped early corporate development,[2] but the evolution of institutional structures was considerably slower; corporate governance was virtually nonexistent, and corporate law was only weakly enforced. As a result, corporate governance mechanisms which are present in developed economies and which play a key role in the relationship between corporate insiders and outsiders, including dividend policy, were missing.[3] These conditions forced shareholders to act based on fundamental rights derived from ownership only, and hence the environment of the Czech Republic fits closely our model's assumptions of large shareholders' behaviour. In this way, privatization and the fact that corporate law and governance developed from scratch in the Czech Republic help focus our analysis on the effect of ownership only.

This paper is the first empirical study of dividends from a transition country

[2]Using data from transition countries Johnson, McMillan, and Woodruff (2002) find that property rights are the most important determinant of investment by entrepreneurs. Weak property rights discourage firms from reinvesting their profits, even when bank loans are available.

[3]In their international study Laporta, Lopez-de-Silanes, Shleifer, and Vishny (2000) offer evidence that countries with laws protecting the rights of minority shareholders are associated with higher dividend payout ratios and show that companies pay out a smaller proportion of earnings in those countries where laws are more relaxed about overinvestment and empire building. Other economic institutions are important determinants of dividend policy as well. Dewenter and Warther (1998) compare dividend policies of U.S. and Japanese corporations and link them to institutional differences in the structure of corporate ownership. Japanese firms face fewer agency conflicts and information asymmetries than do U.S. firms. Consistent with the agency theory of dividends, Japanese firms experience smaller stock price reactions to dividend omissions and initiations, they are less reluctant to omit and cut dividends, and their dividends are more responsive to earnings changes.

in Central and Eastern Europe. Since many CEE countries underwent a similarly quick transition from a state-directed to a market economy, our findings based on data from the Czech Republic may to a large extent be valid for them as well.

The structure of the paper is as follows: In the next section we survey the literature; in section 3 we provide an institutional outline and explain in detail how private ownership developed in the Czech Republic over the 1990s; in section 4 we define ownership variables and describe our model; section 5 contains a description of our data and summary statistics; in section 6 we present our results; section 7 contains some robustness checks; section 8 summarizes the paper and concludes.

2 Literature

The existing empirical evidence on rent extraction by large shareholders deals with developed economies only and gives mixed results. Demsetz and Lehn (1985) show that private benefits of control affect ownership structure in the U.S. and Zingales (1994) argues that expropriation by large shareholders is significant in Italy. On the contrary, Bergström and Rydqvist (1990) and Barclay and Holderness (1989, 1992) do not find evidence of substantial expropriation in Sweden or the United States, respectively. In the paper closest to our own, Gugler and Yurtoglu (2003) suggest that this problem is present in Germany. The authors show that announcements in dividend change provide new information about conflicts between a controlling owner and small outside shareholders in Germany, and document how small shareholders use dividends to limit rent extraction by controlling owners.[4] Faccio, Lang, and Young (2001) find evidence of systematic expropriation of the outside shareholders in Western Europe and East Asia at the base of extensive corporate pyramids. They show that corporations in Europe pay significantly higher dividends

[4]Similarly, Gugler (2003) estimates the effect of ownership on dividend policy using data from Austria. He finds that ownership and control structure of a firm are significant determinants of its dividend policy.

than in Asia and that in Europe other large shareholders contain the controlling shareholder's expropriation of minority shareholders whereas in Asia they collude in that expropriation.

Our paper is novel since by working in the Czech transition environment we can fully account for ownership endogeneity and focus on fundamental rights derived from ownership. We also benefit from a large sample that covers a majority of the country's economic activity.

Our work is also linked to a rich empirical literature on corporate dividend policy. According to free cash flow theory[5] dividends are a control mechanism used by shareholders to divert free funds, which managers have power over within corporations, away from them. The shareholders' goal is to prevent managers from perk consumption, empire building/overinvestment, or management entrenchment[6]. In support of the free cash flow theory Lang and Litzenberger (1989) find that the market reacts favourably to dividend announcements made by firms with characteristics suggesting that they might otherwise overinvest their funds. Brook, Charlton, and Hendershott (1998) show that firms poised to experience large, permanent cash flow increases after four years of flat cash flow tend to boost their dividends before cash flow jumps, but are hesitant to adjust them afterwards.

The competing argument to free cash flow is based on the idea that management uses dividend policy to communicate to investors the level and growth of income or future prospects of the company because ordinary accounting reports are insufficient or inadequate to convey this information.[7] In their test of signalling hypothesis versus other agency models Bernheim and Wantz (1995) find support for signalling theory. Similarly, Offer and Siegel (1987) show that equity analysts

[5]First mentioned by Easterbrook (1984), reinvented by Jensen (1986), and modelled in a dynamic setting in Zwiebel (1996).

[6]Shleifer and Vishny (1989) model management entrenchment as one possible driving force behind inefficient investments undertaken by managers with free cash flows at hand.

[7]This literature was started by Bhattacharya (1979) and Miller and Rock (1985), and was extended by John and Williams (1985) and Bernheim (1991).

revise their earnings forecasts following the announcement of an unexpected dividend change. Also, in their event study of stock price reactions to dividend change announcements Amihud and Murgia (1997) find some dividend-signalling patterns in Germany. On the other hand, DeAngelo, DeAngelo, and Skinner (1996) argue that dividend changes lag behind earnings changes and conclude that managers do not signal their negative information with dividends. An even stronger argument appears in a study by Benartzi, Michaely, and Thaler (1997). They find no evidence that changes in dividends carry information about future earnings changes.

Both signalling and free cash flow theory were developed for firms with dispersed ownership structures and hence with managerial control. Similar to other continental European countries, the ownership of Czech firms is rather concentrated in the period we analyse.[8] For a firm with concentrated ownership, the free cash flow and signalling rationale for paying dividends still applies but, in this case, dividends are used to solve the agency issues and/or the asymmetry of information between a dominant shareholder who colludes with management (appoints the management) and remaining shareholders. Therefore, corporate dividend policy in a firm with concentrated ownership is predominantly determined by how the conflict among the firm's shareholders about distribution of profits (benefits) is resolved. Legally, all shareholders have the same cash flow rights in the Czech Republic. Paying dividends follows this principle as cash reaches all shareholders proportionally, but a dominant shareholder exerting effort to seek private benefits associated with ownership does not. In other words, in contrast to the case of dispersed ownership where the main corporate governance issue is to solve moral hazard between management and shareholders, good governance in concentrated ownership structures predominantly means equal treatment (per unit of stake in the firm) of all shareholders.

[8]High ownership concentration is present in most Continental European countries. See La Porta, Lopez-de-Silanes, and Shleifer (1999) for a description of prevailing ownership structures in Europe. Additional relevant descriptions are in Gugler (2003) for Austria, Gugler and Yurtoglu (2003) for Germany, and Kočenda (1999) for the Czech Republic.

From the minority shareholders' point of view, dividend payments alleviate the free cash flow problem or serve as a signal.

3 Institutional environment

3.1 Privatization

Since the ownership structure of companies is a key explanatory variable in our study we describe in detail how these structures developed. Since 1989 the Czech Republic has undergone overwhelming economic changes that have resulted in the quick introduction of a modern market economy. At the beginning of the transition process, almost all productive assets were state-owned, the separation of ownership and control did not exist, there was no modern corporate law and financial markets, and corporate governance structures were only about to start evolving.

The ownership structure of most Czech companies was set during the mass privatization of medium and large enterprises in the first half of the 1990s.[9] The majority of shares of these companies were offered through the voucher scheme to the general public. All citizens 18 years and over could buy, for a tiny nominal fee, a package of vouchers worth 1,000 points. With these points they could bid for the shares on offer or they could place (part of) their points in investment privatization funds, which could then bid for shares. After bidding was completed, points were exchanged for shares and secondary market trading started at the Prague Stock Exchange.[10] A large number of investment privatization funds emerged on a volun-

[9]This section is based on Gupta, Ham, and Švejnar (2001) and Hanousek, Kočenda, and Švejnar (2004). The Czech privatization process has been described in detail in Švejnar and Singer (1994), Kotrba (1995), and Coffee (1996).

[10]Before privatization, firms were transformed into joint stock companies. After incorporatization the firms' current management had to submit privatization proposals and other individuals and institutions submitted competing proposals. The privatization proposal was a business plan, which determined the equity share offered in the voucher scheme to the public and the stake that remained in state hands in the form of temporary or permanent holdings. The Ministry of Privatization picked and approved the winning proposal. If a direct domestic or foreign investor had been identified who was willing to buy (part of) the firm, the required stake in the firm was

tary basis. Although funds were started by various sponsors (domestic and foreign banks, corporations, or individuals), most funds were sponsored by domestic banks, with several banks starting more than one fund. Funds ended up with about 70 % of all points. Bank-sponsored funds acquired most of the points, with the ten largest bank-sponsored funds holding 67 % of all points acquired by all funds (or about 44 % of all points initially bought by individuals). Control of the largest privatization funds by majority state-owned banks was an unexpected outcome for the government and had a major impact on the emerging corporate governance structure in the middle of the 1990s.[11]

The privatization process was designed to find private owners of firms very quickly rather than to look for optimal ownership structures. The decision-making of the Ministry of Privatization was rapid and rule-based, and the initial ownership structures emerging from privatization in 1994 can be considered exogenous with respect to future performance, capital structures, and dividend policies of firms. The suboptimality of the first ownership structures was confirmed by the rapid reallocation of shares across new owners in 1995-1996.[12] The 1995-1996 ownership changes were massive, unregulated, and frequently unobservable to outsiders. Investors—especially privatization funds—engaged in direct swaps of large blocks of shares and off-market share trading was common. The first ownership patterns that were consistent with market economy principles emerged in 1996 and hence we chose this year as the beginning of our analysis.

In 2003, the last year of our analysis, the Czech Republic was characterized by private ownership, competitive product markets with unregulated prices, business

sold to the investor and the rest was offered in the voucher scheme. The level of managerial and employee ownership was low. In the first wave, only a limited number of firms ended up with managerial or employee ownership; in the second wave, more firms did, but the ownership stakes were low. Also, only very limited restructuring happened prior to privatization.

[11]See Kočenda (1999) for a detailed description of how chains of ownership linked banks, investment privatization funds, and industrial companies.

[12]Cull, Matesová, and Shirley (2001) document how quickly post-privatization dispersed ownership structure became increasingly concentrated in 1995-1996.

law to a large extent compliant with EU rules, a private banking sector, stock market, and an economy with links to all major developed countries in the world. In May 2004 the country was integrated into the EU.

3.2 Legal framework

A new corporate law which reflected market economy principles was introduced in 1993. Since lawmakers were well behind the economic activity, Czech law was incomplete and kept changing literally every year.[13] As a result, only very fundamental and robust ownership rights were effectively enforced. High legal uncertainty and weak/slow law enforcement[14] suggest that, in the period we analyse, shareholders acted based on fundamental rights derived from ownership. More subtle rights, e.g., rights protecting minority shareholders, were either nonexistent or very poorly enforced. The ownership structures that were evolving in this environment reflected its specific conditions, and large shareholding was quite naturally the most important control device. Only highly concentrated owners are able to control managers effectively and, on the other hand, because of the underdeveloped legal system and financial market, dispersed ownership structures cannot enjoy benefits from greater market liquidity and better risk diversification.[15] Overall, Czech corporate ownership structures are very different from those of large publicly-traded firms from

[13]To illustrate the situation we describe the evolution of the income tax law in detail. The modern tax system implemented from 1993 was completely novel for most of the citizenry as well as for the public administration. Regulatory institutions and enforcement procedures developed gradually and the tax law was amended many times. During 1993–2002, there were 43 amendments —approximately one modification every quarter. Not only did the income tax law change substantially in character, it also became extensive. The first version of the law contained fewer than 14 thousands words, whereas the one in 2002 was composed of nearly 57 thousand words. Income tax law modifications were typically introduced to correct previous mistakes or to launch new policies, though sometimes they emerged in reaction to lobbying. Even tax advisors complain that the law is too difficult for them to follow, so that the ordinary public has little chance of grasping it.

[14]To settle business disputes at court takes a lot of time: for example, lawsuits related to purchase agreements took on average 452, 594, and 655 days to settle at court in 1998, 1999, and 2000 respectively (from statistics of Ministry of Justice of the Czech Republic).

[15]See the survey by Shleifer and Vishny (1997).

developed countries for which there exists a vast majority of dividend empirical research.

3.3 Taxes

Taxation is one of the key determinants of corporate dividend policy and the different treatment of various types of owners might explain varying dividend policies across ownership structures.[16] We argue that this cannot be the case in the Czech Republic since the marginal tax rate on cash dividends is the same for all types of shareholders and stock repurchases are not used at all. Czech companies distribute dividends from after-tax profits. In the period of our analysis the same dividend tax treatment applied to individuals and corporations. In the case of individuals, income from dividends was taxed at the source separately from all other income using the flat tax rate.[17] The same treatment and rate applied to corporations (including financial institutions). If the receiver was foreign the taxation of dividends was governed by the treaty between the Czech Republic and the country of the receiver. These treaties prevented double taxation of dividends and existed with all major developed countries.[18] Overall, tax considerations or tax clientele effects cannot drive cross-sectional differences in dividend policies.

During 1996-2003 individuals were exempted from the capital gains tax if they held shares for at least 6 months. On the other hand, corporations paid standard income tax on capital gains; the corporate income tax rate was on average close to 30 percent and decreased gradually. Pension, mutual, and investment funds had a preferential lower income tax rate. The described taxation applied to capital gains realized by trading on the stock market, whereas share repurchases were taxed in

[16] See Allen, Bernardo, and Welch (2000) and Dhaliwal, Erickson, and Trezevant (1998), for example.

[17] In 1996-1998 the income dividend tax rate was 25 percent and from 1999 it was lowered to 15 percent.

[18] Foreign owners in our sample are mainly from the EU and we have very few foreign owners incorporated in offshore centres or low-income-tax countries.

the same way as cash dividends independent of shareholder type. As expected, we do not observe any share repurchases in the period of our analysis in the Czech Republic.

4 Model

4.1 Ownership structures

Our data allows us to track ownership in line with how Czech corporate law assigns control rights to different ownership levels. We distinguish three ownership categories: majority ownership (more than 50 percent of shares)[19], blocking minority ownership (more than 33.3 but not more than 50 percent of shares), and legal minority ownership (at least 10 but not more than 33.3 percent of shares).[20] A majority owner has the right to select management and a supervisory board, to decide whether the company distributes profits as dividends or reinvests them, and to adopt almost all decisions at general shareholders' meetings. Blocking minority ownership gives the right to block some decisions at general shareholders' meetings, mainly those related to implementing major changes in business activities and changing the firm's capital structure.[21] Finally, legal minority ownership can be considered a form of dispersed ownership since its direct impact on business decisions is limited. On the other hand, the corporate law entitles minority shareholders to call a general shareholders' meeting to decide on issues put on the

[19]We define the majority as holding more than 50 percent of shares or alternatively as holding more than 66.6 percent of shares.

[20]Czech law does not require reporting of stakes of less than 10 percent. This does not restrict our analysis since by having data on all owners with 10 percent and more we are able to estimate the effect of the most relevant degrees of concentration and dispersion of ownership, ranging from a single owner having majority ownership, to no single owner having legal minority ownership.

[21]A blocking minority owner may block a decision to change the articles of incorporation, liquidate the company, issue priority or convertible bonds, issue equity, and increase or decrease equity capital in some other way.

meeting's agenda by a minority shareholder.[22] The ability to identify owners according to these categories is a key to understanding corporate control in the Czech Republic.

Based on these ownership levels we define the following concentration of ownership dummy variables: Majority: The company is controlled by a single majority owner and the next largest owner holds less than 10 percent of equity. Monitored majority: The majority owner is checked by the presence of at least one significant minority owner (either blocking minority or legal minority owner). Minority: The largest owner is only a blocking minority owner. Dispersed: All shareholders have less than 10 percent of equity. In addition to concentration we are able to identify types of owners: industrial firm, private individual, financial institution, and state. Domicile of the owners is either Czech or foreign.[23]

4.2 Hypotheses

The motives of owners regarding the distribution of profits might vary across ownership stake sizes. Majority owners may maximize shareholder value[24] but they can also loot firms at the expense of small shareholders.[25] After controlling for capital structure and investment opportunities, shareholder value maximization is associated with high dividend payouts. In contrast, if the majority shareholder's goal is to loot the firm, dividends are paid less often and the target payout ratio is

[22]There were some cases in which minority shareholders obstructed a company's operations by delaying implementation of stronger shareholders' decisions through lengthy court proceedings.

[23]Type and nationality ownership structure is identified by the type and nationality of the single largest owner (SLO).

[24]Majority owners are expected to have access to more information about the firm and to be able to use more efficient control mechanisms, most importantly a credible threat to dismiss management. In the context of the Czech Republic it was documented that a firm's value and profitability increase with ownership concentration. See Hanousek, Kočenda, and Švejnar (2004); Claessens (1997); Claessens and Djankov (1999); or Claessens, Djankov, and Pohl (1997). This contrasts with a finding by Demsetz and Lehn (1985) from the U.S., that no significant relationship between ownership concentration and profit rates exists.

[25]In the Czech Republic, this behaviour was extensively documented by Cull, Matesová, and Shirley (2001).

low.

These predictions are altered if the behaviour of the majority owner is monitored by the presence of a significant minority shareholder. Bargaining between majority and powerful minority shareholder(s) induces the majority shareholder to pay dividends and not to misappropriate profits.[26] Hence we expect the monitored majority ownership structure to be associated with a higher probability to pay dividends and with a higher target payout ratio relative to the majority ownership structure. This pattern is difficult to explain by an alternative story. For example, there is neither theory nor empirical evidence arguing that the size of ownership stake is systematically linked to varying rates of time preference or different evaluation of investment opportunities.

Firms with dispersed ownership structures might not suffer from misappropriating efforts of the majority shareholder but dispersed owners might be weak in exercising their power against management. On the other hand, since in dispersed ownership private benefits of control are diluted among large number of shareholders, dividend payments are the only effective way to disseminate profits and we expect these firms to have a high target payout ratio. We also expect some dividend smoothing as free cash flow theory predicts for cases when asymmetric information is high.

For many reasons we expect foreign owners to behave differently from Czech owners. Foreign owners have better business, managerial, and corporate governance expertise than do Czech owners. On the other hand, foreign owners are less familiar with local corporate, employment, and other laws relevant to the op-

[26]This result is documented by Gugler and Yurtoglu (2003) for Germany. They show that dividend change announcements provide new information about the conflict between a controlling owner and small outside shareholders. "Majority-controlled and unchecked" firms have the smallest target payout ratio, "majority-controlled and checked" firms have the largest target payout ratio, and minority-controlled firms lie in between. This implies that minority shareholders with large stakes press successfully for dividends to be paid out, consistent with the rent extraction hypothesis.

erations of the firms they own, and they have to overcome some additional, e.g., language or cultural, barriers. Therefore, agency conflicts and asymmetric information between foreign owners and management/other domestic owners are different than those between management and Czech owners. With better business know-how and knowledge of technology, foreign investors can assess the profitability of firms[27] and collect these profits as dividends to prevent managers from misappropriating them.[28] Due to ability to tap more developed capital markets foreign owners have easier access to external finance sources relative to Czech owners. At the same time, we expect foreign owners to loot firms less than would Czech owners since foreign owners have a bigger reputation at stake and are subject to more stringent corporate governance (discipline imposed by more developed capital markets) in their home countries. Also, foreign owners in our sample are predominantly industrial firms and financial institutions, while we have many individuals and state institutions among Czech owners as well. Overall, we expect firms with foreign ownership to have a higher target payout ratio and to pay dividends more often relative to Czech owners and we provide key results for ownership concentration separately for domestic and foreign owners.

In our sample majority owners from the financial sector are banks, bank-sponsored funds, and insurance companies. Banks are usually described in the literature as good monitors, and a combination of equity ownership and debt claims can reduce the shareholder-debtholder conflict. In the Czech Republic, banks seem to serve an especially positive role in corporate governance since the profitability and value of

[27]In the context of the Czech Republic, this argument is supported by Claessens and Djankov (1999) or Hanousek, Kočenda, and Švejnar (2004), who show that foreign ownership is associated with improved performance.

[28]Hines (1996) finds that U.S. corporations pay dividends out of their foreign profits at roughly three times the rate they do out of their domestic profits. In a related paper, Desai, Foley, and Hines (2002) analyze dividend remittances by foreign affiliates of U.S. multinational firms. The fact that parent firms are willing to incur tax penalties by simultaneously investing funds while receiving dividends from foreign affiliates allows Desai, Foley, and Hines to argue that payout policies are largely driven by the need to control managers of foreign affiliates by diverting funds.

firms under bank ownership is high.[29] Despite increasing profitability, however, the effect on dividend policy has to be qualified by the fact that paying high dividends could endanger banks' loans. After controlling for this effect we expect financial institutions with large shareholding to impose financial discipline and aim at high dividend payout ratios. We expect no looting from banks as they are subject to much stricter regulation and care more about their reputation than do industrial firms and individuals. We also expect low dividend smoothing since information asymmetry in the case of bank ownership is small.

Finally, the most common owners among state-controlled firms are municipalities and especially the National Property Fund.[30] This suggests that dividends paid within this category will be determined by the political process without aiming for a specific target payout ratio or the level of dividend smoothing.

4.3 Estimation

Our specification of dividend payoffs builds upon the seminal model by Lintner (1956):[31]

$$D_{i,t} = \beta_i + \alpha_i \tau_i \pi_{i,t} + (1 - \alpha_i) D_{i,t-1} + \varepsilon_{i,t}, \tag{1}$$

where $D_{i,t}$ is dividend per share company i pays in year t, $\pi_{i,t}$ denotes earnings per share company i reports in year t, τ_i is the target payout ratio of company i, and $\epsilon_{i,t}$ is the error term. Parameters α_i and $1 - \alpha_i$ correspond to the weight placed on current earnings and lag dividends, respectively. In order to test our hypothesis that dividend payments vary with ownership in our sample we augment

[29] See Claessens and Djankov (1999) and Claessens, Djankov, and Pohl (1997).

[30] The National Property Fund manages shareholdings of the Czech state and sells these ownership stakes over time by direct sales or auctions mainly to foreign investors.

[31] As noted by Benartzi, Michaely, and Thaler (1997): "... the conclusion we draw from [our] analysis is that Lintner's model of dividends remains the best description of the dividend setting process available."

specification (1) by ownership:

$$D_{i,t} = \sum_{j} \left[\beta_j + \alpha_j \tau_j \pi_{i,t} + (1 - \alpha_j) D_{i,t-1}\right] OWN\,(j)_{i,t} + \zeta_{i,t}, \tag{2}$$

where $OWN\,(j)_{i,t}$ is a dummy variable equal to 1 if company i belongs to ownership structure j in year t and is zero otherwise. With respect to chosen ownership structure $OWN\,(j)_{i,t}$, parameter τ_j of model (2) reflects the target payout ratio of ownership structure j, and parameters α_j and $1 - \alpha_j$ correspond to the weight placed on current earnings and lag dividends, respectively. Ownership structure as entered in (2) can be easily specified to account for majority/monitored majority/minority/dispersed concentration level as well as its interaction with domicile and type of owner.

A direct application of Lintner's model suffers on several fronts in an emerging market environment. First, we do not observe a majority of firms paying dividends (less than ten percent of our sample) and hence a direct application of Lintner's model leads to biased results due to sample selection (see Heckman, 1979). Second, due to weak market supervision and regulation enforcement we have to address the problem of missing financial data for firms that do not pay dividends (in the case of the Czech Republic it reduces the original data panel to less than half of a fully defined data point). Third, we study dividend payments shortly after privatization, when ownership is potentially endogenous with respect to corporate performance (e.g., state versus private, domestic versus foreign). Since profit influences dividends we therefore expect a bi-directional link between ownership structure and the decision to pay dividends.

To address sample selection biases (missing data and a relatively low frequency of observed dividends) and ownership endogeneity we model dividend payments as a two stage process. In the first stage, firms decide whether a dividend will be paid or not, while in the second stage the size of a dividend payment is decided.

Technically, this approach is a Heckit regression, in which we model separately the decision to pay dividends as a 0-1 variable (the first stage) and, in the second stage, we estimate specification (2) for those firms paying dividends. Based on a thorough discussion provided by Angrist and Krueger (2001) we use a linear probability model instead of probit in the first stage. The linear probability model allows us to instrument ownership and provides consistent estimates under standard assumptions, while probit regression with plugged predicted values of ownership "do not generate consistent estimates unless the nonlinear model happens to be exactly right, a result which makes the dangers of misspecification high" (ibid). Also, the linear probability model can be corrected for sample selection. We redo the first stage using probit as a robustness check.

Besides its easy implementation, each estimation stage sheds light on the dividend decision process: 1) linear probability regression (2SLS/IV) used as the first step provides a clear-cut decision if the company pays dividends in a given year; 2) the ordinary least square method, which we run on a subset of companies that decided to pay dividends, estimates what influences the size of dividends in a Lintner-type specification augmented by various ownership structures. Formally, the whole estimation logistics is described in the next section.

4.3.1 Two stage process for dividend payout

STAGE 1: We estimate the decision to pay dividends (0-1 variable) as a linear probability regression model:

$$\mathbf{I}[D_{i,t} > 0] = \sum_j p(j) \cdot OWN\,(j)_{i,t} + CONTROLS_{i,t} + \\ + EFFICIENCY_{i,t} + t \cdot TAX_{96-98} + d \cdot DIV_{i,t-1} + \lambda_1 \cdot M1_{i,t} + \eta_{i,t}, \quad (3)$$

where $OWN\,(j)_{i,t}$ is a dummy variable equal to 1 if company i belongs to ownership structure j in year t and coefficient $p(j)$ is the probability with which the ownership structure j pays dividends. As controls ($CONTROLS_{i,t}$) we use financial variables: total assets, total liabilities to total assets, bank loans to total liabilities, cash holdings to total assets, and the growth rate of average sales in the industry the firm is part of, excluding the firm itself. After controlling for capital structure and investment opportunities, the only variables that might drive the decision to pay dividends from outside the shareholders' perspective are efficiency measures: profit (or total sales) to total assets and total sales to total labour costs. We include these variables in model (3) as $EFFICIENCY_{i,t}$. To account for a change in dividend taxation in the period of our analysis we include a dummy variable TAX_{96-98} which is equal to 1 for the time period with a higher dividend income tax rate (1996-1998). We also include dummy variable $DIV_{i,t-1}$ that is equal to 1 if the firm paid dividends in the last year. We estimate model (3) using the instrumental variable approach (the set of instruments for ownership variables is described and discussed in detail in the next subsection).

Variable $M1_{i,t}$ in (3) stands for an inverse Mills ratio which we use to address the issue of missing financial data. Mills ratio comes from the following probit regression (which we run as a "0 stage") with missing financial data in our sample as a binary response:

$$\mathbf{I}[MissF] = f(const, TNS_i, NSVP_i, MissF\_91/93_i, AP_i, IPF_i, II_i) + \vartheta_{i,t}, \quad (4)$$

where TNS_i denotes the original total number of shares[32] in the voucher privatization scheme (in 1992); $NSVP_i$ denotes the number of shares offered under the voucher privatization scheme; $MissF\_91/93_i$ stands for a set of 0/1 indicators of

[32]This is equal to the book value (or subscribed capital), since original shares were issued in the nominal value of 1,000 CZK per share.

missing financial data (profit, sales, debt, and the number of employees) prior to privatization (in 1991-1993); AP_i is the average price for which the shares were sold in the voucher scheme; IPF_i and II_i denote total holdings (in percent) of the investment privatization funds after the voucher scheme (here we consider also disaggregation to the five largest owners) and individual investors, respectively.

STAGE 2: We estimate the decision about the size of dividends paid on a subset of firms paying dividends (i.e., $D_{i,t} > 0$). The final specification we use is an extension of (2):

$$D_{i,t} = \sum_j \left[\beta_j + \alpha_j \tau_j \pi_{i,t} + (1-\alpha_j) D_{i,t-1}\right] OWN\,(j)_{i,t} + \\ + CONTROLS_{i,t} + \lambda_2 \cdot M2_{i,t} + \nu_{i,t}. \quad (5)$$

We follow the established dividend literature, e.g., Fama and French (2001), and use the following control variables ($CONTROLS_{i,t}$) to isolate corporate dividend policy from firms' capital budgeting and borrowing decisions: Firm Size (Total assets, $TA_{i,t}$; we expect a positive relationship), Leverage (Total liabilities as a fraction of total assets, $\frac{TL}{TA}_{i,t}$; we expect a negative relationship), Bank Power (Bank loans as a fraction of total liabilities, $\frac{BL}{TL}_{i,t}$; we expect a negative relationship but this effect might interact with the aggregate leverage measure), Cash Holdings (Cash as a fraction of total assets, $\frac{CH}{TA}_{i,t}$; we expect a positive relationship), and Investment Opportunities (Growth rate between the current year and the following year of average sales in the industry the firm is part of, excluding the firm itself, $grSA_{i,\frac{t+1}{t}}$; we expect a negative relationship).[33] We also include dummy variables

[33]Accounting variables: Earnings, total assets, total liabilities, bank loans, cash holdings, and sales come from audited accounting statements as published by companies in their filings to the Prague Stock Exchange. We use consolidated statements if available. All accounting statements are based on Czech accounting law and standards. Cash is defined as the sum of two items in Czech accounting statements: "Cash in hand" and "Cash in transit". Sales are named as "Sales of own production, services, and goods bought for resale" in the Czech accounting statements. We include Bank Power to control for the possibility that a commercial bank is a shareholder and

for every year. Since less than ten percent of firms in our sample pay dividends, we add the inverse Mills ratio, $M2_{i,t}$, computed from regression (3) to remove the sample selection bias.

While estimating (5) we test for ownership endogeneity by employing a Hausman-type test for specification. In contrast to the first stage, ownership endogeneity is rejected in all second stage specifications and hence we employ simple OLS regression.

4.3.2 Instruments used for endogeneity of ownership in dividend payment process

As instruments for ownership variables we use pre-privatization data coming from detailed information on all proposed privatization projects that were submitted to the government before privatization, and data related to voucher privatization (voucher privatization bids) available at the Ministry of Finance. We have available all existing pre-privatization financial data, together with the ownership structure specified in the winning privatization proposal. Despite the fact that all our IVs are strictly pre-determined through time, we employ the Sargan test of overidentifying restrictions and use only a subset of variables that do not interfere with the formal test at the 10% significance level or stricter.[34]

The full set of available instruments consists of a set of regional (REG_i) and industrial (IND_i) dummies; basic accounting variables (sales, profit, and debt) from 1991-1993 (FIN_i); TNS_i, the total number of shares (the share of each company was set at the same nominal value before large-scale privatization); the set of variables collected from the database of privatization projects: NP_i, which refers to the number of privatization projects submitted to the government in 1991; $VPOWN_i$,

a debtholder at the same time. This is quite common in our sample.

[34]Some of the pre-determined variables do not pass the test of being strictly exogenous and hence we do not use them in certain equations. For example, percentage of the firm's shares to be sold to foreign owners (as proposed in a winning project) typically does not pass the Sargan test.

which stands for the ownership structure proposed by the government in 1991 in the winning privatization project—expressed in percentage intended for certain ownership types (state, municipalities, foreign and domestic owners, intermediaries, etc.); and the information coming from the voucher privatization scheme: AP_i, the average price per share of a company in the voucher privatization scheme (this reflects the demand for a particular firm in the privatization process). In addition, since we have a relatively unique dataset on privatization outcomes, we also have information on the proportion of company shares allocated to investment privatization funds IPF_i (in the estimation we consider five additional variables containing the holdings of the five largest investment funds) and individual investors II_i, respectively, during large-scale privatization in 1992-1994.[35]

5 Data and Summary Statistics

Our analysis is based on data from 1996 to 2003 on the complete population of 1,664 medium and large firms privatized in 1991-1994 and consequently traded on the Prague Stock Exchange, which constituted most of the country's economic activity in the late 1990s. Financial and ownership data come from the private database ASPEKT.[36] Data for the privatization period come from the Ministry of Privatization of the Czech Republic. To estimate dividend equations we use data from 1996-2003 (post-privatization market economy period). We use data from 1991-1994 (privatization period) as instrumental variables that allow us to control for the endogeneity of ownership.

Companies with dispersed ownership seem to be big, not profitable, and dividend-

[35]The effects of variables such as the firm's total number of shares and shares allocated to the institutional and individual investors may be nonlinear, so we use a Taylor series expansion of the third order to obtain a specification that can take into account potential nonlinearities.

[36]ASPEKT collets data mainly from the Prague Stock Exchange and the Czech Statistical Office. This database is the Czech source for AMADEUS, a pan-European database containing financial statements data.

paying. The most effective firms are those with monitored majority ownership, but they seem to pay the lowest dividends among the concentration structures we consider. Majority controlled firms are the smallest and seem to pay the largest dividends (see Table 1). Czech controlled companies seem to be on average smaller, more leveraged, and seem to pay lower dividends relative to companies controlled by foreigners. Czech controlled firms are also not profitable (see Table 2). State-controlled companies are on average the largest and, surprisingly, seem to pay the highest dividends among all ownership types; they are profitable and less levered than firms from other control groups, but have relatively low sales relative to assets. Companies controlled by individuals are on average small and have low profitability, yet still seem to pay some dividends. Companies controlled by financial institutions seem to be just profitable, have the highest leverage, and pay very low dividends. Companies controlled by industrial firms seem to pay no dividends at all and to have the highest sales relative to staff costs (see Table 3).

The total number of dividends paid is evenly spread over the whole period we analyse (see Table 4). In the category Foreign and Financial we observe just a few dividend payments. In the category Czech (or Foreign) and Industrial, SLOs seem to be well spread across many industries. We observe very few dividends paid by firms in which SLO is an individual (Czech or Foreign).

6 Results

Table 5 reports estimates from the stage one regression describing the decision to pay dividends for the entire sample of 1,664 firms over the period 1996-2003, and Table 6 reports estimates from the stage two regression describing the conditional decision about the size of dividends paid over the same period. All regressions contain the full set of ownership structure dummies; the residual group of firms not assigned to any ownership category is denoted as "Other". We present three

specifications which differ based on how we cut the sample according to ownership: domicile, concentration combined with domicile, and type.

The Czech largest owner has a positive but small effect on the probability to pay a dividend, 0.11 significant at the 1% level (column "Domicile" in Table 5). If the largest owner is foreign, the probability to pay a dividend is positive and the effect is very large: 0.35 significant at the 1% level. In line with this, the target dividend payout ratio (column "Domicile" in Table 6) for foreign-owned firms of 0.46 (significant at the 1% level) is substantially higher than Czech-owned firms at 0.12 (significant at the 5% level). These results are consistent with the hypothesis that foreigners use dividends to distribute profits more often and aim at a higher target payout ratio than Czechs (the difference in the target payout ratios is significant at the 1% level).

The main results are reported in the column "Concentration" in Tables 5 and 6. The probability that a firm with a Czech majority owner pays a dividend is 0.09 (significant at the 5% level). If the Czech majority owner is accompanied by a significant minority shareholder the probability increases to 0.16 (significant at the 1% level). The same pattern holds for foreigners. The probability that a firm with a foreign majority owner pays a dividend of 0.26 (significant at the 1% level) is a lot lower than the same probability if the majority owner is accompanied by a significant minority shareholder 0.58 (significant at the 1% level). The associated target payout ratios for these ownership structures ("Concentration" column in Table 6) are as follows: positive but not significant for the Czech majority ownership structure; 0.82 (significant at the 1% level) for the Czech monitored majority ownership structure; 0.61 (significant at the 1% level) for the foreign majority ownership structure; and 0.86 (significant at the 1% level) for the foreign monitored majority ownership structure. The difference in target payout ratios for Czech majority controlled and Czech monitored majority controlled firms is significant at the 10%

level, but the same test of difference of target payout ratios for firms with a foreign largest owner is significant only at the 34% level. This set of results supports our hypothesis that significant minority shareholders limit rent extraction by increasing the probability that a dividend is paid and increasing the target payout ratio. This holds both for Czech as well as for foreign largest owners after controlling for firm size, performance, investment opportunities, leverage, and bank influence on the firm. Rent extraction and dilution of minority shareholders seems to be associated predominantly with Czech owners.

Ownership by financial institutions (column "Type" in Table 6) is associated with a high target payout ratio of 0.54 (significant at the 1% level) and no dividend smoothing since the weight put on current earnings is 1.0 (significant at the 1% level). In line with predictions of the free cash flow theory this result confirms that financial institutions act as sophisticated monitors that do not rely on dividend smoothing as a controlling mechanism and collect about half of the profits as dividends every year. If the largest owner is a financial institution, the effect on the probability to pay dividends depends on the domicile (column "Type" in Table 5). A Czech financial institution has a positive effect on the probability to pay dividends (coefficient 0.24 significant at the 1% level). In contrast, the coefficient associated with a foreign financial institution is 1.22 (significant at the 1% level).

If the largest owner is an industrial firm the target payout ratio is 0.56 (significant at the 1% level) and we observe significant dividend smoothing; the weight associated with current earnings is 0.47 (significant at the 1% level). Industrial owners smooth dividends considerably more than do owners from the financial sector; the difference in weights placed on current earnings is significant at the 1% level. Ownership by private individuals has no effect on the probability to pay dividends (coefficient 0.06 is not significant) and the target payout ratio is not significantly different from zero either. This seems to suggest that private individuals as largest

owners do not pay dividends and extract rents instead. The state as an owner is associated with a positive probability that dividends are paid, 0.26 (significant at the 1% level) but decisions about dividend payments do not seem to be consistent with Lintner's model, as neither the weight coefficient nor the target payout ratio coefficient are significant. We believe this is because dividends are paid according to the fiscal needs of the government or municipalities with no aim to establish a target payout ratio.

In Tables 5 and 6, the ownership category "Dispersed or Unknown" contains firms of two types that we cannot distinguish: Firms with dispersed ownership without legal obligation to disclose their owners, and firms that do not report their ownership structure. This makes interpretation of the results difficult since, e.g., firms with both Czech and foreign ownership might have reasons not to disclose their ownership structures. For the "Dispersed or Unknown" ownership structure the probability to pay dividends is on average 0.18 (significant at the 1% level in all specifications) and the target payout ratio is large, on average 0.94 across all three specifications (significant at the 1% level). This suggests that dividends are used to distribute profits if there is no large shareholder with a strong incentive to extract rents or to dilute, but our data do not allow us to draw any strong conclusion.

The coefficients in front of the control variables have similar signs as found in the previous literature in both regressions: Firm size has a positive and significant effect on the probability to pay dividends and seems to increase the target payout ratio. Leverage and the strength of bank presence has a small negative effect on the probability of paying dividends and a strong negative effect on the size of dividends. Investment opportunities on the industry level have a negative effect both on the probability to pay dividends and on the target payout ratio. The large positive effect of dividend history (on average 0.59, significant at the 1% level in all specifications) supports the use of Lintner's model. The decrease of

dividend income tax positively contributes to the probability to pay dividends. Finally, earnings-per-total assets and sales to staff costs measures of efficiency have a positive and weakly significant effect on the probability to pay dividends.

7 Robustness Checks

7.1 Variables definition

The use of different earnings measures in equations (3) and (5): operating profit before income tax, profit including/excluding extraordinary items, or after tax profit has no impact on results reported in Tables 5 and 6.

We use total sales instead of total assets as a measure of a firm's size, bank loans as a fraction of total assets instead of total liabilities as a fraction of total assets as an alternative measure of leverage, and cash holdings including or excluding marketable securities[37]. These changes in control variables have again no impact on our results in Tables 5 and 6.

7.2 Investment opportunities

As alternative measures of investment opportunities we use the growth rate of total assets, earnings, or value added in the industry the firm is part of (excluding the firm itself). We tried growth rates both between the current year and the following year, and between the previous year and the current year. In all these specifications the results are unchanged.

Finally, we use the firm-level growth rate of total assets (or total sales) in combination with industry dummy variables instead of various industry-level growth rates. Tables 7 and 8 have the same structure as Tables 5 and 6, respectively,

[37]We add the item "Cash and investments" to the cash variable used in the main specification. In Czech accounting statements this item includes short-term investments in very liquid financial assets.

and report results from these regressions. The coefficients in front of ownership variables remain to a large extent unchanged and confirm corporate dividend behaviour found in the main specification: Firms with a dominant majority owner pay dividends less often and their target payout ratio is small. In contrast, firms with a majority owner and at least one strong minority owner pay dividends more often and the target payout ratio is large.

7.3 Decision to pay dividends

We estimate the stage 1 decision to pay dividends using a probit regression:

$$\mathbf{I}[D_{i,t} > 0] = g\Big(const, OWN\,(j)_{i,t}\,, CONTROLS_{i,t}, \\ EFFICIENCY_{i,t}, TAX_{96-98}, DIV_{i,t-1}) + \xi_{i,t}, \quad (6)$$

where variables on the right hand side are the same as in (3). To account for the endogeneity of ownership we estimate predictions of ownership variables $OWN\,(j)_{i,t}$ from a reduced form equation and plug them into the decision to pay dividends equation (6). Since $\Pr(\widehat{ownership} = j)$ converge to $\Pr(ownership = j)$, by inserting the predicted values of the ownership variables into (6) we obtain consistent estimates of average partial effects. Formally, we run the following probit regression:

$$OWN(j)_{i,t} = h\,(INSTRUMETS_{i,t}) + \varsigma_{i,t}, \quad (7)$$

with the same instrumental variables as in the main specification (3). Predicting ownership dummy variables is difficult since in some ownership groups we have a small number of observations and thus to receive feasible estimates we have to broaden the ownership categories. We employ this estimation approach as it is used in the literature and we are aware of all problems described in Blundel and Smith (1994). Also, correcting for sample selection bias—important in our sample—is not

possible in this case.

Table 9 has the same structure as Table 5 and reports results from regression (6). The results are broadly consistent with the one from the linear probability model: in the probit case Czech majority owners decrease the probability of paying dividends (marginal effect -0.03, significant at the 1% level) whereas foreign majority owners increase the probability of paying dividends (marginal effect 0.02, significant at the 10% level). The results for concentration are not significant. This is because the lack of observations prevents us from combining concentration with domicile and therefore the effects of Czech and foreign ownership are mixed. Financial institutions have a positive effect on the probability of dividend payments (consistent with the results in Table 5) while industrial firms have a negative effect. Results for individuals and the state are not significant in this specification.

8 Conclusion

The key agency costs in firms with concentrated ownership shift from the traditional owner-manager conflict to the dominant shareholder's incentive to consume private benefits at the expense of other minority shareholders. The question whether this rent extraction takes place, how significant is it, and whether minority shareholders are able to monitor large shareholders in order to preclude such consumption is answered in this paper.

We find that corporate dividend policy in an emerging market economy depends on concentration and domicile of ownership. Firms with a dominant majority owner pay dividends less often and their target payout ratio is small. In contrast, firms with a majority owner and at least one strong minority owner pay dividends more often and the target payout ratio is large. We interpret these results as evidence that dominant owners extract rents from firms and that strong minority shareholders can prevent this behaviour. This dividend pattern holds both for domestic and

foreign largest owners though domestic owners do enjoy significantly higher rents. The results are robust to alternative definition of key ownership variables, the way we measure firms' investment opportunities and efficiency, and use of an alternative estimation technique.

We expect similar results to hold in countries with a comparable institutional framework, i.e., where fundamental ownership rights are honoured but capital markets and corporate governance mechanisms are underdeveloped.

9 References

Allen, F., Bernardo, A., Welch, I., 2000, "A Theory of Dividends Based on Tax Clienteles," *Journal of Finance*, Vol. 55, No. 6, pp. 2499-2536

Amemiya, T., 1985, Advanced Econometrics, Cambridge, Harvard University Press

Amihud, Y., Murgia, M., 1997, "Dividend, Taxes, and Signaling: Evidence from Germany," *Journal of Finance*, Vol. 52, No. 1, pp. 397-408

Angrist, J.D. and A.B. Krueger, 2001, "Instrumental variables and the search for identification: From supply and demand to natural experiments," *Journal of Economic Perspectives*, Vol. 15, No. 4, pp. 69-85.

Barclay, M., Holderness, C., 1989, "Private Benefits from Control of Public Corporations," *Journal of Financial Economics*, Vol. 25, pp. 371-395

Barclay, M., Holderness, C., 1992, "The Law and Large-block Trades," *Journal of Law and Economics*, Vol. 35, pp. 265-294

Benartzi, S., Michaely, R., Thaler, 1997, "Do Changes in Dividends Signal the Future or the Past?" *Journal of Finance*, Vol. 52, No. 3, pp. 1007-1034

Bergström, C., Rydqvist, K., 1990, "Ownership of Equity in Dual-class Firms," *Journal of Banking and Finance*, Vol. 14, pp. 255-269

Bernheim, D., 1991, "Tax Policy and the Dividend Puzzle," *Rand Journal of Economics*, Vol. 22, pp. 455-476

Bernheim, D., Wantz, A., 1995, "A Tax-Based Test of Dividend Signaling Hypothesis," *American Economic Review*, Vol. 85, No. 3, pp. 532-551

Bhattacharya, S., 1979, "Imperfect Information, Dividend Policy, and 'The Bird in the Hand' Fallacy," *Bell Journal of Economics*, Vol. 10, pp. 259-270

Blundel, R., Smith, R., 1994, "Coherency and estimation in simultaneous models with censored or qualitative dependent variables," *Journal of Econometrics*, Vol. 64, pp. 355-373

Bolton, P., von Thadden, E. L., 1998, "Blocks, Liquidity, and Corporate Control," *Journal of Finance*, Vol. 53, No. 1, pp. 1-25

Brook, Y., Charlton, W., Hendershott, R., 1998, "Do Firms Use Dividends to Signal Large Future Cash Flow Increases?" *Financial Management*, Vol. 27, pp. 46-57

Burkart, M., Gromb, D., Panunzi, F., 2000, "Agency Conflicts in Public and Negotiated Transfers of Corporate Control," *Journal of Finance*, Vol. 55, No. 2, pp. 647-677

Claessens, S., 1997, "Corporate Governance and Equity Prices: Evidence from the Czech Republic," *Journal of Finance*, Vol. 52, No. 4, pp. 1641-1658

Claessens, S., Djankov, S., 1999, "Ownership Concentration and Corporate Performance in the Czech Republic," *Journal of Comparative Economics*, Vol. 27, pp. 498-513

Claessens, S., Djankov, S., Pohl, G., 1997, "Ownership and Corporate Governance," *Policy Research Working Paper No. 1737*, World Bank

Coffee, J., 1996, Institutional Investors in Transitional Economies: Lessons from the Czech Experience. In: Frydman, R., Gray, C., and Rapaczynski, A. (eds.): Corporate governance in Central Europe and Russia. Volume 1. Banks, funds, and foreign investors. Budapest, Central European University Press 1996, pp. 111-186

Cull, R., Matesová, J., Shirley, M., 2001, "Ownership Structure and the Temptation to Loot," *Policy Research Working Paper No. 2568*, World Bank

DeAngelo, H., DeAngelo, L., Skinner, D., 2004, "Are dividends disappearing? Dividend concentration and the consolidation or earnings," *Journal of Financial Economics*, Vol. 72, pp. 425-456

DeAngelo, H., DeAngelo, L., Stulz, R., 2004, "Dividend Policy, Agency Costs, and Earned Equity," *NBER Working Paper No. 10599*

Demsetz, H., Lehn, K., 1985, "The Structure of Corporate Ownership: Causes and Consequences," *Journal of Political Economy*, Vol. 93, No. 6

Desai, M., Foley, F., Hines, R., 2002, "Dividend Policy Inside the Firm," *NBER Working Paper No. 8698*

Dewenter, K., Warther, V., 1998, "Dividends, Asymmetric Information, and Agency Conflicts: Evidence from a Comparison of the Dividend Policies of Japanese and U.S. Firms," *Journal of Finance*, Vol. 53, No. 3, pp. 879-904

Dhaliwal, D., Erickson, M., Trezevant, R., 1998, "A Test of the Theory of Tax Clienteles for dividend Policies," *University of Arizona Working Paper*

Easterbrook, F., 1984, "Two Agency-Cost Explanations of Dividends," *American Economic Review*, Vol. 74, No. 4, pp. 650-659

Faccio, M., Lang, L., Young, L., 2001, "Dividends and Expropriation" *American Economic Review*, Vol. 91, No. 1, pp. 54-78

Fama, E., French, K., 2001, "Disappearing dividends: Changing characteristics or lower propensity to pay?" *Journal of Financial Economics*, 60, pp. 3-43

Feldstein, M., Green, J., 1983, "Why Do Companies Pay Dividends?, American Economic Review," *American Economic Association*, Vol. 73, No. 1, pages 17-30

Gugler, K., 2003, "Corporate Governance, Dividend Payout Policy, and the Interrelation Between Dividends, R&D, and Capital Investment," *Journal of Banking and Finance*, Vol. 27, pp. 1297-1321

Gugler, K., Yurtoglu, B., 2003, "Corporate Governance and Dividend Pay-out Policy in Germany," *European Economic Review*, Vol. 47, pp. 731-758

Gupta, N., Ham, J., Švejnar, J., 2001, "Priorities and Sequencing in Privatization: Theory and Evidence from the Czech Republic," *The William Davidson Institute Working Paper No. 323*

Hanousek, J., Kočenda, E., Švejnar, J., 2004, "Ownership, Control and Corporate Performance after Large-Scale Privatization," *The William Davidson Institute Working Paper No. 652*

Hausman, J., 1978, "Specification Tests in Econometrics," *Econometrica*, Vol. 46, No. 6, pp. 1251-1271

Heckman, J., 1979, "Sample selection bias as a specification error," *Econometrica*, Vol. 47, pp. 153-161

Hines, J., 1996, "Dividends and Profits: Some Unsubtle Foreign Influences," *Journal of Finance*, Vol. 51, No. 2, pp. 661-689

Jensen, M., 1986, "Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, in The Market for Corporate Control Papers and Proceedings of the Ninety-Eighth Annual Meeting of the American Economic Association," *American Economic Review*, Vol. 76, No. 2, pp. 323-329

John, K., Williams, J., 1985, "Dividends, dilution, and taxes: A Signaling Equilibrium," *Journal of Finance*, Vol. 40, pp. 1053-1070

Johnson, S., McMillan, J., Woodruff, C., 2002, "Property Rights and Finance," *American Economic Review*, Vol. 92, No. 5, pp. 1335-1356

Kočenda, E., 1999, "Residual State Property in the Czech Republic," *Eastern European Economics*, Vol. 37, No. 5, pp. 6-35

Kotrba, J., 1995, Privatization Process in the Czech Republic: Players and Winners, pp. 159-198, In Švejnar, J., The Czech Republic and economic transition in Easter Europe, San Diego, London and Toronto: Harcourt Brace, Academic Press

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000, "Agency Problems and Dividend Policies around the World," *Journal of Finance*, Vol. LV, No. 1, pp. 1-33

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., 1999, "Corporate Ownership around the World," *Journal of Finance*, Vol. 54, No. 2, pp. 471-517

Lang, L., Litzenberger, R., 1989, "Dividend Announcement: Cash Flow Signaling vs. Free Cash Flow Hypothesis?" *Journal of Financial Economics*, Vol. 24, pp. 181-191

Lintner, J., 1956, "Distribution of Incomes of Corporations Among Dividends, Retained Earnings, and Taxes," *American Economic Review, Papers and Proceedings of the Sixty-eight Annual Meeting of the American Economic Association*, Vol. 46, No. 2, pp. 97-113

Miller, M., Rock, K., 1985, "Dividends Policy under Asymmetric Information," *Journal of Finance*, Vol. 40, pp. 1031-1051

Miller, M., Scholes, M., 1978, "Dividend and Taxes," *Journal of Financial Economics*, Vol. 6, pp. 333-364

Offer, A., Siegel, D., 1987, "Corporate Financial Policy, Information, and Market Expectations: An Empirical Investigation of Dividends," *Journal of Finance*, Vol. 42, No. 4, pp. 889-911

Shleifer, A., Vishny, R., 1986, "Large Shareholders and Corporate Control," *Journal of Political Economy*, Vol. 94, pp. 461-488

Shleifer, A., Vishny, R., 1989, "Management Entrenchment: The Case of Manager-Specific Investments," *Journal of Financial Economics*, Vol. 25, pp. 123-139

Shleifer, A., Vishny, R., 1997, "A survey of corporate governance," *Journal of Finance*, Vol. 52, No. 2, pp. 737-783

Švejnar, J., Singer, M., 1994, "Using Vouchers to privatize an Economy: The Czech and Slovak Case," *Economics of Transition 2*, pp. 43-64

Wooldridge, Jeffrey M., 2002, Econometric Analysis of Cross Section and Panel Data. MIT Press, Cambridge, Massachusetts

Zingales, L.,1994, "The Value of the Voting Right: A Study of the Milan Stock Exchange Experience," *Review of Financial Studies*, Vol. 7, pp. 125-148

Zwiebel, J., 1996, "Dynamic Capital Structure under Managerial Entrenchment," *American Economic Review*, Vol. 86, No. 5, pp. 1197-1215

TABLE 1
Descriptive Statistics According to **Concentration**

		Mean	Std	NOB
Total Assets	Majority	1.009	7.935	1,775
(mil. CZK)	Monitored Majority	1.431	8.167	2,235
	Dispersed	1.920	9.037	1,866
Dividend / Profit	Majority	0.040	0.681	1,775
	Monitored Majority	0.026	0.291	2,235
	Dispersed	0.032	0.158	1,866
Profit / Total Assets	Majority	0.019	0.156	1,719
	Monitored Majority	0.042	0.242	2,204
	Dispersed	-0.005	0.120	1,853
Liabilities / Total Assets	Majority	0.398	0.283	1,719
	Monitored Majority	0.626	0.358	2,204
	Dispersed	0.347	0.238	1,853
Sales / Total Assets	Majority	0.935	0.781	1,719
	Monitored Majority	1.441	0.874	2,204
	Dispersed	0.799	0.580	1,853
Sales / Staff Costs	Majority	8.003	37.294	1,719
	Monitored Majority	15.915	38.511	2,204
	Dispersed	6.310	7.718	1,853

Note: The sample consists of 1,664 firms over the period 1996-2003. These firms are all medium and large companies privatized in the Czech Republic by 1994. NOB is the number of firm-years observations in a given category. Variables Profit/Total Assets, Liabilities/Total Assets, Sales/Total Assets, and Sales/Staff Costs are weighted by Total Assets. Only firms with liabilities less than twice the size of total assets are included.

TABLE 2
Descriptive Statistics According to **Domicile**

		Mean	Std	NOB
Total Assets	Czech	1.044	7.399	5,786
(mil. CZK)	Foreign	1.803	7.571	844
Dividend / Profit	Czech	0.012	1.252	5,786
	Foreign	0.068	0.273	844
Profit / Total Assets	Czech	-0.009	0.286	5,688
	Foreign	0.051	0.153	827
Liabilities / Total Assets	Czech	0.479	0.350	5,688
	Foreign	0.434	0.338	827
Sales / Total Assets	Czech	1.103	0.903	5,688
	Foreign	0.954	0.654	827
Sales / Staff Costs	Czech	11.420	46.776	5,688
	Foreign	9.624	19.125	827

Note: The sample consists of 1,664 firms over the period 1996-2003. These firms are all medium and large companies privatized in the Czech Republic by 1994. NOB is the number of firm-years observations in a given category. Variables Profit/Total Assets, Liabilities/Total Assets, Sales/Total Assets, and Sales/Staff Costs are weighted by Total Assets. Only firms with liabilities less than twice the size of total assets are included.

TABLE 3
Descriptive Statistics According to **Type**

		Mean	Std	NOB
Total Assets	State	6.998	25.537	435
(mil. CZK)	Individual	0.222	0.441	1,035
	Industrial	0.838	3.692	4,656
	Financial	0.764	2.241	498
Dividend / Profit	State	0.129	1.387	435
	Individual	0.052	1.318	1,035
	Industrial	0.002	1.181	4,656
	Financial	0.011	0.106	498
Profit / Total Assets	State	0.029	0.073	429
	Individual	0.009	0.103	1,021
	Industrial	0.038	0.107	4,563
	Financial	0.002	0.099	496
Liabilities / Total Assets	State	0.389	0.195	429
	Individual	0.459	0.227	1,021
	Industrial	0.467	0.256	4,563
	Financial	0.490	0.247	496
Sales / Total Assets	State	0.427	0.327	429
	Individual	0.875	0.634	1,021
	Industrial	0.791	0.588	4,563
	Financial	0.724	0.489	496
Sales / Staff Costs	State	9.048	5.876	429
	Individual	8.238	18.766	1,021
	Industrial	10.857	28.553	4,563
	Financial	6.616	5.541	496

Note: The sample consists of 1,664 firms over the period 1996-2003. These firms are all medium and large companies privatized in the Czech Republic by 1994. NOB is the number of firm-years observations in a given category. Variables Profit/Total Assets, Liabilities/Total Assets, Sales/Total Assets, and Sales/Staff Costs are weighted by Total Assets. Only firms with liabilities less than twice the size of total assets are included.

TABLE 4
Number of dividend-paying companies

Year	NOB
1996	71
1997	86
1998	75
1999	61
2000	63
2001	58
2002	54
Total	**468**

Note: The sample consists of 1,664 firms over the period 1996-2003. These firms are all medium and large companies privatized in the Czech Republic by 1994. NOB is the number of firm-years observations. Only firms with liabilities less than twice the size of total assets are included.

TABLE 5

Stage 1: Decision to pay dividends

Dependent variable: 0/1 indicating whether dividends are paid or not

	Domicile	Concentration	Type
	Coefficient	Coefficient	Coefficient
Czech	0.110 *** (0.033)		
Foreign	0.352 *** (0.051)		
Czech Majority		0.095 ** (0.050)	
Czech Monitored Majority		0.161 *** (0.048)	
Czech Minority		0.064 (0.044)	
Foreing Majority		0.261 *** (0.075)	
Foreign Monitored Majority		0.578 *** (0.211)	
Foreign Minority		0.427 *** (0.144)	
Czech Financial			0.236 *** (0.070)
Foreign Financial			1.223 *** (0.415)
Industrial			0.145 *** (0.038)
Individual			0.063 (0.065)
State			0.257 *** (0.048)
Dispersed or Unknown	0.172 *** (0.036)	0.175 *** (0.04)	0.185 *** (0.04)
Other		0.119 *** (0.037)	0.061 (1.091)
Total Assets	0.002 *** (0.001)	0.002 *** (0.001)	0.001 * (0.001)
Total Liabilities / Total Assets	-0.009 (0.011)	-0.006 (0.012)	0.007 (0.013)
Bank Loans / Total Liabilities	-0.006 (0.025)	-0.015 (0.026)	-0.029 (0.031)
Cash / Total Assets	-0.024 (0.105)	-0.083 (0.124)	-0.041 (0.124)
Investment Opportunities	-0.040 * (0.022)	-0.051 ** (0.024)	-0.044 * (0.025)
Dividend 1 Year Before Dummy	0.592 *** (0.022)	0.590 *** (0.023)	0.585 *** (0.023)
Tax Dummy (1996-1998)	-0.014 (0.010)	-0.019 * (0.011)	-0.027 *** (0.011)
Earnings / Total Assets	0.042 * (0.022)	0.045 * (0.026)	0.069 ** (0.033)
Sales / Total Assets	-0.003 (0.004)	-0.001 (0.005)	-0.001 (0.005)
Sales / Staff Costs	0.102 * (0.062)	0.107 * (0.066)	0.111 (0.071)
Mills (Sample selection)	-0.083 *** (0.024)	-0.077 *** (0.023)	-0.091 *** (0.028)
Number of Observations	5,437	5,437	5,437
Test overidentif. (p-value)	1.16 (.160)	1.05 (.366)	1.10 (.268)
Adjusted R^2	0.42	0.39	0.37

Note: The sample consists of 1,664 firms over the period 1996-2003 for a total of 5,437 firm-years observations. These firms are all medium and large companies privatized in the Czech Republic by 1994. The dependent variable in all regressions is zero-one variable; one if a firm pays a dividend in a given year and zero otherwise. All estimates are 2SLS/IV estimates with White heteroskedasticity-consistent standard errors reported in parentheses under the coefficient estimates. We use data from 1991-1994 (privatization period) as instrumental variables that allow us to control for the endogeneity of ownership. The last but one row reports the results of the Sargan test of the overidentifying restrictions. All regression equations contain the full set of ownership structure dummies and the residual group of firms not assigned to any category is denoted as "Other". Detailed description of ownership variables and control together with instrumental variables is in section 4.1. and 4.2., respectively.
*, **, *** denotes a significant at the 10%, 5%, and 1% level, respectively.

TABLE 6

Stage 2: Conditional dividends payments

Dependent variable: Dividend paid in year t by company i

	Domicile		Concentration		Type	
	Alpha	Tau	Alpha	Tau	Alpha	Tau
Czech	0.490 *** (0.027)	0.125 ** (0.062)				
Foreign	0.600 *** (0.105)	0.464 *** (0.093)				
Czech Majority			0.473 *** (0.031)	0.134 (0.319)		
Czech Monitored Majority			0.451 *** (0.139)	0.823 *** (0.236)		
Czech Minority			0.801 *** (0.075)	0.138 * (0.085)		
Foreing Majority			0.715 *** (0.106)	0.607 *** (0.065)		
Foreign Monitored Majority			0.853 ** (0.380)	0.858 *** (0.258)		
Financial					0.998 *** (0.101)	0.540 *** (0.083)
Industrial					0.471 *** (0.029)	0.563 *** (0.089)
Individual					0.112 (1.570)	-0.081 (1.713)
State					0.128 (0.592)	0.498 (2.279)
Dispersed or Unknown	0.748 *** (0.127)	0.966 *** (0.121)	0.711 *** (0.12)	0.925 *** (0.11)	0.704 *** (0.124)	0.925 *** (0.117)
Other			-0.303 (0.408)	-0.201 (0.319)		
Total Assets	0.392 (0.455)		0.456 (0.042)		0.438 (0.454)	
Total Liabilities / Total Assets	-89.1 ** (44.9)		-76.8 ** (40.6)		-95.8 ** (44.8)	
Bank Loans / Total Liabilities	9.30 (15.90)		8.97 (14.88)		7.97 (15.74)	
Cash / Total Assets	-1651 (1388)		-1603 (1497)		-2113 (1352)	
Investment Opportunities	-29.4 (61.8)		-70.9 (57.4)		-36.1 (61.0)	
Mills (Sample selection)	35.8 *** (12.3)		48.7 *** (11.9)		48.5 *** (12.7)	
Year Dummies	YES		YES		YES	
Number of Observations	468		468		468	
Hausman test (p-value)	0.66		0.26		0.71	
Adjusted R^2	0.60		0.66		0.61	

Note: The sample consists of 1,664 firms over the period 1996-2003 for a total of 468 firm-years observations with a positive dividend payment. These firms are all medium and large companies privatized in the Czech Republic by 1994. The dependent variable in all regressions is the dividend paid in year t by company i. Coefficient Alpha represents dividend smoothing and Tau is a target dividend payout ratio in the Lintner's (1956) model. All estimates are OLS estimates with standard errors reported in parentheses under the coefficient estimates. For each specifications we perform Hausman endogeneity test and according to results we treat ownership as exogenous. All regression equations contain the full set of ownership structure dummies and the residual group of firms not assigned to any category is denoted as "Other". Detailed description of ownership variables and control together with instrumental variables is in section 4.1. and 4.2., respectively.

*, **, *** denotes a significant at the 10%, 5%, and 1% level, respectively.

TABLE 7

Stage 1: Decision to pay dividends

Dependent variable: 0/1 indicating whether dividends are paid or not

	Domicile	Concentration	Type
	Coefficient	Coefficient	Coefficient
Czech	0.120 ***		
	(0.028)		
Foreign	0.386 ***		
	(0.057)		
Czech Majority		0.100 **	
		(0.047)	
Czech Monitored Majority		0.224 ***	
		(0.048)	
Czech Minority		0.062	
		(0.044)	
Foreing Majority		0.357 ***	
		(0.086)	
Foreign Monitored Majority		0.454 ***	
		(0.176)	
Foreign Minority		0.401 ***	
		(0.153)	
Czech Financial			0.290 ***
			(0.069)
Foreign Financial			0.845 **
			(0.339)
Industrial			0.157 ***
			(0.028)
Individual			0.013
			(0.045)
State			0.265 ***
			(0.044)
Dispersed or Unknown	0.181 ***	0.188 ***	0.187 ***
	(0.041)	(0.04)	(0.04)
Other		0.120 ***	0.480
		(0.035)	(0.863)
Total Assets	0.002 ***	0.002 **	0.001 *
	(0.001)	(0.001)	(0.001)
Total Liabilities / Total Assets	0.003	0.003	0.008 *
	(0.003)	(0.004)	(0.004)
Bank Loans / Total Liabilities	0.015	0.003	-0.013
	(0.210)	(0.022)	(0.025)
Cash / Total Assets	-0.002	-0.066	-0.017
	(0.080)	(0.113)	(0.072)
Investment Opportunities (Firm-level)	0.004	0.474	0.315
	(0.200)	(0.313)	(0.403)
Dividend 1 Year Before Dummy	0.515 ***	0.510 ***	0.517 ***
	(0.022)	(0.023)	(0.023)
Tax Dummy (1996-1998)	-0.012	-0.015	-0.030 ***
	(0.010)	(0.012)	(0.011)
Earnings / Total Assets	0.003	0.004	0.008 *
	(0.003)	(0.004)	(0.005)
Sales / Total Assets	-0.005	-0.005	0.003
	(0.004)	(0.005)	(0.005)
Sales / Staff Costs	0.054 *	0.060 *	0.054
	(0.031)	(0.033)	(0.034)
Mills (Sample selection)	0.031 ***	0.035 ***	0.024 ***
	(0.005)	(0.006)	(0.005)
Industry Dummies	YES	YES	YES
Number of Observations	6,188	6,188	6,188
Test overidentif. (p-value)	1.20 (.139)	0.94 (.598)	1.24 (.104)
Adjusted R^2	0.38	0.32	0.37

Note: The sample consists of 1,664 firms over the period 1996-2003 for a total of 6,188 firm-years observations. These firms are all medium and large companies privatized in the Czech Republic by 1994. The dependent variable in all regressions is zero-one variable; one if a firm pays a dividend in a given year and zero otherwise. All estimates are 2SLS/IV estimates with White heteroskedasticity-consistent standard errors reported in parentheses under the coefficient estimates. We use data from 1991-1994 (privatization period) as instrumental variables that allow us to control for the endogeneity of ownership. The last but one row reports the results of the Sargan test of the overidentifying restrictions. All regression equations contain the full set of ownership structure dummies and the residual group of firms not assigned to any category is denoted as "Other". Detailed description of ownership variables and control together with instrumental variables is in section 4.1., 4.2., and 7.2., respectively.

*, **, *** denotes a significant at the 10%, 5%, and 1% level, respectively.

TABLE 8

Stage 2: Conditional dividends payments

Dependent variable: Dividend paid in year t by company i

	Domicile		Concentration		Type	
	Alpha	Tau	Alpha	Tau	Alpha	Tau
Czech	0.486 ***	0.044				
	(0.028)	(0.072)				
Foreign	0.588 ***	0.366 ***				
	(0.105)	(0.112)				
Czech Majority			0.442 ***	-0.232		
			(0.032)	(0.369)		
Czech Monitored Majority			0.481 ***	0.776 ***		
			(0.153)	(0.226)		
Czech Minority			0.810 ***	0.127		
			(0.076)	(0.088)		
Foreing Majority			0.682 ***	0.532 ***		
			(0.105)	(0.079)		
Foreign Monitored Majority			0.890 **	0.858 ***		
			(0.383)	(0.248)		
Financial					1.016 ***	0.538 ***
					(0.100)	(0.084)
Industrial					0.453 ***	0.470 ***
					(0.030)	(0.109)
Individual					-0.227	0.144
					(1.627)	(0.930)
State					-0.251	-0.001
					(0.610)	(0.168)
Dispersed or Unknown	0.780 ***	0.908 ***	0.723 ***	0.879 ***	0.705 ***	0.902 ***
	(0.134)	(0.118)	(0.13)	(0.11)	(0.131)	(0.124)
Other			-0.443	0.002		
			(0.438)	(0.085)		
Total Assets	0.426		0.553		0.517	
	(0.475)		(0.442)		(0.468)	
Total Liabilities / Total Assets	-110.3 **		-109.5 ***		-121.8 ***	
	(47.7)		(42.5)		(47.4)	
Bank Loans / Total Liabilities	8.05		10.13		8.08	
	(16.54)		(15.62)		(16.31)	
Cash / Total Assets	-1751		-1863		-2152 *	
	(1368)		(1501)		(1325)	
Investment Opportunities (Firm-level)	111.9 **		165.9 ***		156.7 ***	
	(46.8)		(45.1)		(46.9)	
Mills (Sample selection)	37.1 ***		49.4 ***		50.9 ***	
	(12.4)		(12.2)		(12.8)	
Year Dummies	YES		YES		YES	
Industry Dummies	YES		YES		YES	
Number of Observations	467		467		467	
Hausman test (p-value)	0.97		0.98		0.32	
Adjusted R^2	0.62		0.66		0.63	

Note: The sample consists of 1,664 firms over the period 1996-2003 for a total of 467 firm-years observations with a positive dividend payment. These firms are all medium and large companies privatized in the Czech Republic by 1994. The dependent variable in all regressions is the dividend paid in year t by company i. Coefficient Alpha represents dividend smoothing and Tau is a target dividend payout ratio in the Lintner's (1956) model. All estimates are OLS estimates with standard errors reported in parentheses under the coefficient estimates. For each specifications we perform Hausman endogeneity test and according to results we treat ownership as exogenous. All regression equations contain the full set of ownership structure dummies and the residual group of firms not assigned to any category is denoted as "Other". Detailed description of ownership variables and control together with instrumental variables is in section 4.1., 4.2., and 7.2., respectively.
*, **, *** denotes a significant at the 10%, 5%, and 1% level, respectively.

TABLE 9

Stage 1: Decision to pay dividends - PROBIT

Dependent variable: 0/1 indicating whether dividends are paid or not

	Domicile		Concentration		Type	
	Coefficient	Marginal	Coefficient	Marginal	Coefficient	Marginal
Czech	-0.32 *** (0.10)	-0.03				
Foreign	0.28 * (0.17)	0.02				
Majority			-0.11 (0.33)	-0.01		
Monitored Majority			-0.65 (0.59)	-0.05		
Minority			-0.23 ** (0.12)	-0.02		
Financial					0.37 * (0.21)	0.03
Industrial					-0.23 *** (0.07)	-0.02
Individual					-0.65 (0.46)	-0.05
State					-0.06 (0.18)	-0.01
Dispersed or Unknown			0.33 *** (0.10)	0.03		
Constant	-1.57 *** (0.13)	-0.13	-1.84 *** (0.11)	-0.15	-1.73 *** (0.11)	-0.14
Total Assets	0.01 *** (0.00)	0.00	0.01 *** (0.00)	0.00	0.01 *** (0.00)	0.00
Total Liabilities / Total Assets	-0.05 (0.16)	0.00	-0.08 (0.16)	-0.01	-0.05 (0.16)	0.00
Bank Loans / Total Liabilities	-0.06 (0.08)	0.00	-0.06 (0.08)	0.00	-0.05 (0.08)	0.00
Cash / Total Assets	-9.68 * (5.97)	-0.79	-9.09 (5.85)	-0.74	-10.35 * (5.89)	-0.85
Investment Opportunities	-0.64 ** (0.29)	-0.05	-0.65 ** (0.29)	-0.05	-0.65 ** (0.29)	-0.05
Dividend 1 Year Before Dummy	2.15 *** (0.07)	0.17	2.14 *** (0.07)	0.17	2.16 *** (0.07)	0.18
Tax Dummy (1996-1998)	-0.22 *** (0.08)	-0.02	-0.23 *** (0.08)	-0.02	-0.22 *** (0.08)	-0.02
Earnings / Total Assets	3.85 *** (0.41)	0.31	3.97 *** (0.41)	0.32	4.07 *** (0.41)	0.33
Sales / Total Assets	-0.11 * (0.06)	-0.01	-0.11 * (0.06)	-0.01	-0.12 ** (0.06)	-0.01
Sales / Staff Costs	0.68 (0.51)	0.06	0.67 (0.51)	0.05	0.64 (0.50)	0.05
Number of Observations	5,437		5,437		5,437	
Log Likelihood	-838.48		-839.36		-840.27	
Standardized R^2	0.31		0.31		0.31	

Note: The sample consists of 1,664 firms over the period 1996-2003 for a total of 5,437 firm-years observations. These firms are all medium and large companies privatized in the Czech Republic by 1994. The dependent variable in all regressions is zero-one variable; one if a firm pays a dividend in a given year and zero otherwise. All estimates are probit estimates. Ownership variables are predicted by estimating probit regressions using data from 1991-1994 (privatization period) to control for the endogeneity of ownership. Standard errors are reported in parentheses under the coefficient estimates. Ceteris paribus marginal effects are reported in the column Marginal. Detailed description of ownership variables and control together with instrumental variables is in section 4.1. and 4.2., respectively.

*, **, *** denotes a significant at the 10%, 5%, and 1% level, respectively.

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