Whence the Privatized Firm Dividend Premium?

Abhinav Goyal
(agoyal@liv.ac.uk)
University of Liverpool

Shrikant P. Jategaonkar
(sjatega@siue.edu)
Southern Illinois University Edwardsville

William L. Megginson
(wmegginson@ou.edu)
University of Oklahoma
King Fahd University of Petroleum and Minerals

Cal B. Muckley
(cal.muckley@ucd.ie)
University College Dublin

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Abstract

We find that the major determinants of the dividend payout premium of firms in civil law countries after privatization are improved firm operating performance and a prevalence of agency costs which are mitigated by higher pay-outs. We examine up to 74,562 firm-years (up to 336 privatized and 5,625 non-privatized firms) across 26 countries. The privatized firm payout premium is substantive in civil law countries and is inversely related to the proportion of closely held shares. It also increases with firm efficiency and growth opportunities. Our main findings do not materially differ in respect to the international variation over time in the dividend tax penalty or across the state of economic development in the country of firm privatization. We therefore provide an economic rationale for the higher pay-outs of privatized firms.

JEL Classification: G35, L33, L25
Keywords: Dividends, dividend tax penalty, pay-out policy, privatization, agency costs

Please address correspondence to:

William L. Megginson
Price College of Business
307 West Brooks, 205A Adams Hall
The University of Oklahoma
Norman, OK 73019-4005
Tel: (405) 325-2058; Fax: (405) 325-7688
e-mail: wmegginson@ou.edu

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Whence the Privatized Firm Dividend Premium?

1. Introduction

We undertake a comprehensive analysis of dividend pay-outs by up to 336 privatized and 5,625 non-privatized firms from 26 countries and highlight an interesting and important question: Why do newly privatized firms increase dividends? Previous studies examining the change in firm characteristics around privatizations document a significant increase in dividends by newly privatized firms (Megginson, Nash, and van Randenborgh, 1994, Boubakri and Cosset, 1998, among others).[1] The objective of this study is to better understand the economic motivations behind privatized firms' tendency to pay a dividend premium at privatization.[2]

A pre- and post-privatization analysis strongly indicates that privatized firms tend to significantly increase dividend pay outs. In our sample, we find that 78.2% of firms increase their dividends during the three years after the privatization. We find a significant increase in the dividend-to-earnings ratio during the post-privatization period. Also, the high dividend pay outs by privatized firms is evident relative to non-privatized firms. The difference in the amount of dividends paid by privatized and non-privatized firms is, in fact, startling. In 2005, von Eije and Megginson (2008) find that, while the average cash dividend payment by 4,070 non-privatized firms was €21 million, the average cash dividend payment by 83 privatized firms was €308 million, and pay-outs were significantly higher for privatized companies. However, the question regarding the privatized firms' motives behind paying such high dividends is still unanswered in the literature. We attempt to fill this gap by asking (i) why privatized firms pay a dividend premium and (ii) what factors allow them to do so? To find answers to these questions, we empirically analyze the change in dividend pay-outs for privatized firms around the time of privatization and also compare them to a sample of non-privatized firms. In line with the Miller-Modigliani (1961) pay-out irrelevance proposition, we account for operating performances and test whether variables associated with a privatized firm's incomplete contracting possibilities, financial life-cycles, information asymmetries or taxes are of foremost importance in explicating its dividend pay outs.

[1] In our sample, the non-privatized firms are firms that have never been controlled by the government. Privatized firms, on the other hand, are government controlled entities that sell shares or assets in full or partially to non-government entities. Our sample consists of only the first instances of privatizations and not the subsequent privatizations.

[2] Although we do not expect a share repurchase pay-out premium on part of privatized firms as these firms issue shares as an integral part of the privatization process, we test for it. We repeat the analysis for an aggregate sample of 327 repurchasing firms. In the full sample of firms, there is no evident repurchase premium once well-known pay-out determinants are accounted for. Only a very small number of firms from Mexico and Russia, occasionally, account for a significant amount of repurchases. Therefore, we find no evidence of a repurchase premium by privatized firms.

Changes in the firm's objective function during privatization can induce uncertainty in the investor's mind about the firm's future direction.[3] While privatization is expected to bring efficiency, it also means higher capital market scrutiny, harsher product market competition, and the possibility of new agency conflicts between stakeholders. The free cash flows theory (Jensen 1986) would imply that if privatized firms have higher free cash flows they could use dividends for disbursement to avoid the over-investment problem. Similarly, Easterbrook (1984) suggests that dividends can be used as a potential solution to agency conflicts as it subjects the managers to market scrutiny while raising external funds. One hypothesis is that shareholders of firms that have high potential agency conflicts may demand higher pay outs in the form of dividends; in the process minimizing the discretionary cash under the management's control (Pinkowitz, Stulz and Williamson, 2006 and Harford, Mansi and Maxwell, 2008). Alternatively, managers of the newly privatized firms may pre-emptively use dividends to alleviate the shareholder concerns and mitigate the agency costs.[4] Therefore, the agency theory suggests that firms with high agency costs pay higher dividends.

We empirically test various implications of agency theory to examine whether privatized firms pay higher dividends to mitigate agency costs. First, we examine how the level of firm's ownership concentration can have an effect on its dividend policy (Chay and Suh, 2009). While the conflict between the management and firm's shareholders implies that a low proportion of ownership by insiders results in higher agency conflicts, the conflict between the controlling and minority shareholders suggests the opposite. Minority shareholders will demand higher dividends if they are concerned that the controlling shareholders might extract rents through other means such as salaries and perks (Chay and Suh 2009). The substitution (outcome) hypothesis put forth by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) predicts that these concerns will be exacerbated (alleviated) in civil law (common law) countries as they offer lower (higher) protection to minority shareholders. Second, we therefore test whether the dividend policy of privatized firms differs across the civil and common law countries.

Our findings support the predictions of agency theory. Specifically, as we find privatized firm pay outs decline with an increase in ownership concentration (a proxy for the fastidious monitoring of management by shareholders), we show evidence consistent with the prevalence of agency costs influencing pay outs (Chay and Suh, 2009 and Aggarwal, Erel, Ferreria and Matos, 2011). Our strongest

[3] While a state-owned enterprise (SOE) may pursue objectives conflicting with profit maximization, privatization leads to a significant change in the firm's ownership structure, which in turn may lead to a change in the firm's objective function (Jones, Megginson, Nash and Netter, 1999). For instance, after privatization, firms are more likely to focus on profit maximization (D'Souza, Megginson, and Nash, 2005).

[4] Under this scenario, managers are using dividends for signalling. However, it is not a traditional signal about the changes in future earnings (Bhattacharya, 1979, Miller and Rock, 1985, and John and Williams, 1985). Instead, managers are paying dividends to signal their willingness and attempts to mitigate the agency conflicts.

finding, however, is that as pay-outs by privatized firms (in non-regulated industry sectors), relative to non-privatized firms, are highest in civil law countries, so our results provide economic support for the 'substitution model' of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000). Once we account for well-known determinants of dividend pay-out, we show no distinct dividend privatized firm pay-out premium in common law countries. In contrast, the findings of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000), in a large international sample of firms, suggests the importance of their 'outcome model'. Our results highlight the distinctiveness of privatized firms' pay-outs.

Alternatively, the life-cycle theory of dividends suggests that there is a trade-off between the costs and advantages of retention of internally generated capital and firms tend to initiate dividends after reaching a certain maturity level.[5] DeAngelo, DeAngelo, and Stulz (2006) show that firms with high proportions of earned capital as a proportion of total equity are more likely to pay dividends. We test whether the privatized firms are in a phase of financial life cycle that makes them better candidates for distributing retained earnings to shareholders. By comparing the retained earnings to total equity (RETE) for the privatized and non-privatized firms, we show that the higher dividends by privatized firms are not accounted for by the life-cycle theory. In our sample, we find that while non-privatized firms have a higher median RETE, privatized firms pay higher dividends. In a similar vein, the maturity hypothesis suggests that as the firm moves from the growth phase to a more mature phase of its financial life-cycle, the firm's investment opportunity set starts to contract and it experiences a reduction in growth and capital expenditures (Grullon, Michaely, and Swaminathan, 2002). We test these predictions by examining the change in total assets and growth opportunities of the privatized firms. Our findings do not support the life-cycle theory or the maturity hypothesis in respect to explicating the privatized firm dividend premium. We not only find a significant increase in the total assets after privatization but also a significant growth in the earnings, sales, and market-to-book ratio. Furthermore, our findings show a strong positive link between the privatized firms' dividend premium and the growth in sales, earnings, and firm efficiency following privatization.

There is a paucity of studies examining the actual determinants of the payout policy of privatized firms or explaining why exactly these firms increase dividends. This study contributes to the literature by empirically examining exactly which factors influence the dividend policy of privatized firms. To the best of our knowledge, we are the first to explicitly show that the higher dividend pay-out of post-privatization firms is principally associated with improved operating performance and firm efficiency combined with

[5] It is noteworthy that there is an important theoretical linkage between the financial life-cycle phase of a firm, agency costs and dividends. The opportunity to over-invest and fritter away free cash flows is heightened as the firm transits to a mature phase of its financial life-cycle and as management concurrently seeks to maximise assets under management (Jensen, 1986 and Grullon, Michaely and Swaminathan, 2002). Dividend pay out at this financial life-cycle phase transition can act as a mechanism to mitigate agency costs.

the `substitution model' of the agency costs hypothesis, and is off-set by the higher level of closely held shares in privatized firms relative to non-privatized firms. We test the robustness of our findings by (i) scaling the pay-out relative to net income; (ii) selecting non-privatized firms using a one-to-one matching methodology with regard to privatized firms; (iii) accounting for the dividend tax penalty; and (iv) examining sub-samples based on the level of economic development of the firm's domestic country. We find substantively similar findings across these tests.

Our paper proceeds as follows: Section 2 contains a brief review of the literature. Our sample selection process, variable definitions, and summary statistics are discussed in Section 3. Empirical results are in Section 4, while Section 5 concludes.

2. Literature review

2.1 Payout policy

Since Miller and Modigliani's (1961) irrelevance proposition of dividends, theories based on agency conflict, a firm's financial life-cycle stage, information asymmetry and relative taxation on dividends and among others, have been put forth and empirically tested by researchers.[6] It is important to note that these theories are not mutually exclusive and may co-exist with different extents of influence in different settings.[7]

2.1.1. Agency costs theory

The agency costs theory suggests that the costs associated with prospective agency conflicts can affect the payout policy of the firm. If shareholders can minimize the free cash flows that management controls, for instance by a limited disciplinary action, it becomes more difficult for management to pursue negative net present value investments (Jensen and Meckling, 1976, Easterbrook, 1984, and Jensen, 1986). In this way, the free cash flow hypothesis implies that firms disburse cash to shareholders to mitigate the potential over-investment by management and to increase share price, for example, to reduce the cost of raising capital in the market. This relation between payout and investment policies is a clear infringement of an assumption of the Miller and Modigliani's (1961) irrelevance proposition of dividends.

The evidence on agency theory is mixed with respect to the importance of its influence on pay outs. While Lang and Litzenberger (1989) and Grullon, Michaely, and Swaminathan (2002) find evidence supporting the predictions of the Jensen and Meckling (1976) and Jensen (1986) free cash flows theory, more recently, Chay and Suh (2009) do not find support for the agency theory of pay out, when

[6] See Allen and Michaely (2003) for a detailed summary of the theoretical and empirical literature on payout policy.

[7] In our estimation of the privatized firm dividend payout premium we nevertheless do not account for the catering theory of dividend payout determination (Baker and Wurgler, 2004), since catering incentives have been shown to lose their significance when accounting for life-cycle and risk variables (DeAngelo, DeAngelo, and Stulz, 2006, Denis and Osobov, 2008, von Eije and Megginson, 2008).

accounting for cash flow uncertainty. Another aspect of agency costs theory is to examine the effect of shareholders' rights on the firm's payout policy. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000) compare the strength of corporate governance mechanisms across 33 countries and test its effect on dividend policies in these countries. They conclude that firms in common law countries are more likely to pay dividends than those in civil law countries because the common law system provides a better investor protection and stronger corporate governance. Taking these points together, with respect to the agency theory of pay outs, it is clear that dividends in themselves can be good news as they can serve to allay agency costs which might otherwise serve to fritter away a firm's free cash flows.

An alternative to altering firm pay-outs and a possibly more effective mechanism for limiting free cash flows is to increase the level of debt (Jensen, 1986). This is especially the case when an increase in leverage can act as a substitute for an expensive decrease in dividends to finance an improved investment opportunity set. Another mechanism for the mitigation of management-shareholder agency costs is the extent of closely held shares. Greater proportions of closely held shares, especially in large firms, can act as a monitoring mechanism and can also substitute for firm pay-outs (Chay and Suh, 2009 and Aggarwal, Erel, Ferreria and Matos, 2011). Finally, with respect to the free cash flow hypotheses, it is expected to find a positive relation between a privatized firm's cash holding and pay-out (Pinkowitz, Stulz and Williamson, 2006 and Harford, Mansi and Maxwell, 2008**).** A higher cash holding is consistent with a greater scope to fritter away free cash flows which is offset by higher pay outs.

2.1.2. Life-cycle theory

The theory that has received the strongest empirical support recently is the life-cycle theory of dividends. DeAngelo, DeAngelo, and Stulz (2006) argue that there is a trade-off between the costs and advantages of retention of internally generated capital, which evolves with respect to the financial life cycle of the firm. Using the earned/contributed capital mix, they measure the extent to which the firm is self-financing or reliant on external capital. DeAngelo, DeAngelo, and Stulz (2006) suggest that higher levels of retained earnings to total equity indicate that the firm has become a better candidate to initiate dividends and show that a large fraction of such firms actually pay dividends.[8] Using a sample of worldwide firm-level data, Denis and Osobov (2008), Chay and Suh (2009) and Brockman and Unlu (2011) report findings that further corroborate the life-cycle theory. They find that the earned/contributed capital mix is an important determinant of payout policy in many countries. However, Chay and Suh (2009) also test the effect of cash flows uncertainty, proxied by stock return volatility, on dividends by

[8] However, in a recent paper, Banyi and Kahle (2014), provide a criticism of the earned to contributed capital mix as a life-cycle proxy variable for firms listed in the United States.

using worldwide firm-level data.[9] Consistent with the predictions, they find a strong predominant negative impact of cash flow uncertainty, independent of retained earnings to total equity, on the amount of dividends as well as the probability of paying dividends across countries. Finally, Brockman and Unlu (2011) show a firm's disclosure environment plays a significant role in dividend pay-outs through its effect on agency costs. They confirm an agency-cost inclusive life-cycle theory of dividends.

2.1.3. Traditional Signalling theory

The traditional signalling theory, which is based on information asymmetry, implies that managers use payout policy to convey information regarding the future earnings changes of the firm. The associated signalling models by Bhattacharya (1979), Miller and Rock (1985) and John and Williams (1985) therefore imply that higher dividend pay-outs can indicate confidence on the part of firm management in the firm's future earnings improvements to the market.[10] In line with findings in Von Eije and Megginson (2008), we show that firm transparency improves as firms increase the frequency of earnings reporting immediately following privatizations. Hence, newly privatized firms are unlikely to need to use dividends to signal future changes in earnings as there is a marked improvement in the available information regarding the firms' expected earnings following privatization. Indeed, the signalling theory, which is based on information asymmetry, has faced some challenges when put to empirical tests.

The traditional signalling theory is not a likely explanation for the dividend payout premium associated with privatized firms for five main reasons informed by previous findings in the literature. First, the relation between dividend changes and subsequent earnings changes is generally the opposite of what the theory predicts (Watts, 1973, Healy and Palepu, 1988 and Grullon, Michaely, Benartzi and Thaler, 2005). When empirically tested, the dividend changes are found typically to be negatively associated with subsequent earnings changes. Second, cross-sectional studies indicate that large profitable firms with the least evident information asymmetries pay the vast majority of dividends and are more likely to pay dividends (DeAngelo, DeAngelo and Skinner, 2004 and von Eije and Megginson, 2008). Third, in their survey paper, Brav, Graham, Harvey and Michaely (2005) report that majority of CFOs do not use dividends as a signaling mechanism. Fourth, there is a significant price drift after a dividend initiation which is difficult to reconcile with the assumption of rationality in the information asymmetry based signalling models (Michaely, Thaler and Womack, 1995 and Grullon, Michaely and Swaminathan,

[9]Lintner's (1956) survey study indicates that managers view stability of earnings as an important factor in dividend decisions. More recently, Brav, Graham, Harvey, and Michaely (2005) also find that two-thirds of the CFOs of dividend-paying firms consider stability of future cash flows as a significant determinant of dividend policy.

[10] Bhattacharya's (1979) model takes the cost of share issuance as the cost of the signal. Miller and Rock's (1985) model assumes that the signalling cost is the positive net present value of investment forgone and John and Williams (1985) present a model in which taxes are the dissipative cost.

2002). Finally, we elect not to use the information asymmetry based signalling model due to a long-standing theoretical rationale. The cited information asymmetry based signalling models (except John and Williams, 1985 which allows a distinction based on tax rates) assume that dividends and repurchases are perfect substitutes. There is, however, considerable empirical evidence of important distinctions in the information content of different pay-out channels in respect to firm risks (von Eije, Goyal and Muckley, 2014).

2.2 Privatization and Payouts

During the 1980s and 1990s, extremely large companies in the European Union (EU) were privatized. As a result, the literature on privatization has been rapidly growing over the last three decades.[11] A series of papers have examined the effect of privatization on various firm characteristics and performance measures. For instance, Megginson, Nash, and van Randenborgh (1994) compare the pre- and post-privatization financial and operating performance of 61 companies from 18 countries during the period 1961 to 1990, and report a strong performance improvement and increase in capital spending in the privatized firms. They also find that, after being privatized, firms significantly lower their debt and increase their dividends. Using a sample of 21 developing countries, Boubakri and Cosset (1998) also examine the change in financial and operating performance of 79 privatized firms during the period 1980 to 1992, using accounting performance measures adjusted and unadjusted for market effects, and they find results similar to those reported by Megginson, Nash, and van Randenborgh (1994). D'Souza and Megginson (1999) examine a sample of 85 privatizations in 28 industrialized countries during 1990 through 1996 and report similar results of post privatization performance improvements. They also find that firms in the non-competitive industries exhibit significantly greater increases in dividend pay-outs, firm efficiency, profitability, and output and larger reductions in leverage. Boubakri, Cosset and Guedhami (2005) and D'Souza, Megginson and Nash (2005) corroborate the earlier findings but also their findings suggest that the implications of privatization in developing markets are influenced by macroeconomic reforms, financial and trade liberalization, and corporate governance and thus that `privatization in developing countries indeed obeys particular constraints and has a dynamic of its own'.

The fact that privatized firms pay significantly higher dividends after privatizations and relative to their non-privatized counterparts is well established in the literature. However, it is still unclear why these firms pay such high dividends and which factors influence this difference in the payout policies. We test whether the difference between dividend pay outs stems principally from differences in agency

[11]See the survey articles by Megginson and Netter (2001) and Estrin, Hanousek, Kočenda, and Svejnar (2009) for a detailed review of the literature on privatization.

conflict, information asymmetry, and relative taxation levels on dividends or a firm's financial life-cycle stage between the two groups.

3. Data and variable descriptions

Our dataset includes a total of 5,961 listed firms (74,562 firm-years) out of which 336 are privatized firms (4,419 firm-years). The sample consists of firms listed on exchanges (and headquartered) in 26 countries globally. The data is primarily obtained from Worldscope but also from Datastream and the World Bank's Privatization Transactions. Our sample commences in 1990 and extends to 2011.[12] We apply sample restrictions consistent with prior studies. Consistent with recent literature on international corporate pay out determination (e.g. von Eije and Megginson, 2008, Denis and Ososbov, 2008, Chay and Suh, 2009 and Brockman and Unlu, 2009), we exclude foreign firms, American Depository Receipts (ADRs) and firms with negative dividends and sales. We also exclude utility and financial firms.

We define privatization, consistent with Worldscope, as a government or government controlled entity that sells shares or assets for the first time to a non-government entity. This definition of privatization includes both direct and indirect sales of up to a 100% stake to an identifiable buyer and floatation of stock on a stock exchange. Non-privatized firms are firms that have never been controlled by the government. We source a unique identifier for the privatized firms and their year of privatization in the merger and acquisitions section of Worldscope. Due to data availability constraints, we have the year of privatization for 302 firms out of the 336 privatized firms that we examine. When we study the pay-out determination 3-years pre- and post-privatization, our dataset is constrained to a sub-sample of up to 100 privatized firms for which we have data available for all the necessary variables.

In Appendix 1, we provide a detailed description of the variables we use in our study. PVT is a dummy variable that indicates a privatized company. Our variable for cash dividends (DIV) is the total real amount distributed as cash dividends by the firm in 1990 US dollars. Consistent with prior literature on corporate pay out, we adopt several firm-specific characteristics to estimate the determination of firm pay-outs. In line with Fama and French (2001) and Dennis and Osobov (2008) we use the market capitalization (MV) and annual percentile ranking based on market capitalization (SIZE) as a proxy to measure firm size. Next, in order to study firm-level profitability we use earnings before interest and after tax to total assets; ER (von Eije and Megginson, 2008) and net income; NI (Brockman and Unlu, 2009). We use retained earnings to total equity; RETE (DeAngelo, DeAngelo, and Stulz, 2006) and firm-level

[12] The coverage of firm-specific data outside the United States prior to 1990 is limited (Denis and Osobov, 2008).

cash holding; CASH (Aggarwal, Erel, Ferreira, and Matos, 2011) as a proxy for firm financial life cycle phase and firm liquidity.

Following Chay and Suh (2009) we use the fraction of common stock owned by insiders; CLOSE as a proxy variable for agency conflicts and change in ownership concentration pre- and post-privatization. To control for the income risk of the firm, we include the standard deviation of last three years' net income scaled by each year-specific total assets; NI_Risk (von Eije and Megginson 2008). As a proxy for the firm's growth opportunities, we construct an annualized real change in total assets (G_TA) and market-to-book value (MTBV) of the firm (Fama and French, 2001 and Denis and Osobov, 2008) and an annualized real change in sales; G_Sales (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 2000). Following Brockman and Unlu (2009), we control for the firm-level leverage (LR), which can allay prospective agency costs of free cash flows due to associated monitoring by the lending institution (Jensen, 1986). We use the frequency of financial reporting (ERF) as a proxy for firm transparency (von Eije and Megginson, 2008). Following Megginson, Nash, and van Randenborgh (1994) and Boubakri and Cosset (1998), we incorporate sales to employees (Sales_Emp) and total employment (Emp) as a parameter to test the firm-level efficiency. Finally to account for investor rights, we follow La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) and include a dummy variable (COM=1) for common law countries in our sample. We also include a time trend variable (YEAR) to account for a deterministic time trend in payout amounts.

The country-specific consumer price indices are used to deflate the nominal firm-specific accounting and financial data into real 1990 US$. We use US$ as a common currency numeraire by converting the local currency unit values into US$ using the year-end conversion rate. To adjust for the extreme outliers, we winsorize variables defined as ratios, namely earnings ratio (ER), retained earnings to total equity (RETE), cash holding (CASH), ownership concentration (CLOSE), income risk (NI_Risk), growth in total assets (G_ TA), market-to-book value (MTBV), growth in sales (G_Sales), leverage ratio (LR) and sales- to-employee ratio (Sales_Emp) at the top and lower 1% of their respective distributions (Aggarwal, Erel, Ferreira, and Matos, 2011).

The sample distribution of privatized firms across 26 countries is reported in Panel A of Appendix 2. The dataset contains privatizations from Argentina, Chile, India and Malaysia (2 privatized firms each), Mexico and Norway (3 privatized firms each), Australia, China, Greece and New Zealand (5 privatized firms), Netherlands and Portugal (6 privatized firms each), Austria and Peru (7 privatized firms each), Finland (8 privatized firms), Turkey (9 privatized firms), Spain (11 privatized firms), Sweden (12 privatized firms), Italy (13 privatized firms), Poland (18 privatized firms), Brazil (15 privatized firms), Germany (23 privatized firms each), Russia (22 privatized firms), France (39 privatized firms), Canada

(55 privatized firms), and the U.K. (51 privatized firms). The average dividends paid in each country are also reported.

Panel B of Appendix 2 shows that out of the total 336 privatized firms in the sample, 87 firms are from the emerging markets (developing countries) and the other 249 firms are from developed countries. This disaggregation of our set of privatized firms across developing and developed markets is motivated by the distinctive implications of privatization in developing markets (Boubakri, Cosset and Guedhami, 2004 and D'Souza, Megginson and Nash, 1999). In our sample of privatized firms, while the average dividend for firms in the developed countries is $149.91 million, the average for the firms in the developing countries is about $111.97 million. Panel C reports the number of privatized firms and the average dividends by industry in our sample.

4. Empirical findings

4.1 Pre- and post-privatization

We initially focus on just privatized firms and report the variables used in the study pre- and post-privatization. Figure 1 shows the change in certain firm characteristics related to growth opportunities (MTBV, G_TA and G_Sales), profitability (ER) and dividends (DIV and DIV_EBIAT) for -3 to +3 years relative to the privatization year.[13] Table 1 reports the mean and median for all the firm characteristics during the 3-years pre- and post-privatization, and whether differences are significant. As shown in figure 1, along with an increase in dividends, we find an increase in profitability (ER) and growth opportunities (G_TA and G_Sales) post privatization and we find no decline in the market to book value (MTBV). The proportion for dividend payout (DIV) reported in table 1, shows that 78.2% of our sample firms increase dividends after privatization.[14] Along with increases in payout (DIV, DIV_EBIAT, and DIV_NI), a large proportion of firms exhibit a significant increase in the profitability (ER)[15], asset growth (G_TA), sales growth (G_Sales), and firm efficiency (Sales_Emp).

****** Insert Figure 1 about here ******

As expected, we find a significant decrease in ownership concentration (CLOSE) after privatization. While the average ownership concentration is 100% before privatization, it decreases to

[13] We use up to 100 privatized firms in our sample to construct figure 1. The exact number of firms for each year varies depending upon the data availability.

[14]We follow previous studies such as Boubakri and Cosset (1998), D'Souza and Megginson (1999), Boubakri, Cosset, and Guedhami (2005) and D'Souza, Megginson, and Nash (2005) and apply stricter restrictions to calculate the numbers reported in Table 1. We require the firms to have at least two years of consecutive data during both pre- and post-privatization periods. The findings in Table 1 are therefore for a constrained data set of between 69 and 100 privatized firms which satisfy the data requirements. These firms were privatized between 1992 and 2009.

[15] EBIAT, NI, and Sales also increase post privatization though the results are not reported here

49.67% during the 3-years after the privatization. We find an increase in the firm risk (NI_Risk) after privatization. On one hand, this post privatization increase in the standard deviation of net income could reflect the high uncertainty during firm's transition from SOE to a privatized firm. On the other hand, it could be a consequence of the rapid growth in earnings exhibited by the newly privatized firms. As reported in Table 1, unlike in previous studies (Meginnson, Nash, and van Randenborgh, 1994, Boubakri and Cosset, 1998, D'Souza and Megginson, 1999) we find no significant change in leverage (LR) following privatization, which is indicative of no new monitoring by lending institutions after firm privatization. We do find a significant increase in financial reporting frequency (ERF) from before privatization (2.11) to after privatization (2.94), which is consistent with a reduction in the information asymmetry and uncertainty in the investor's mind regarding the firm's future direction.[16] Overall, the comparison between variables during pre- and post-privatization periods unsurprisingly indicates that privatization is associated with increases in the amount of cash dividends (DIV, DIV_EBIAT, DIV_NI), firm efficiency (Sales_Emp), firm size (MV, SIZE), firm transparency (ERF), growth (G_TA, G_Sales), income risk (NI_Risk), profitability (ER) and retained earnings (RETE) and a decrease in ownership concentration (CLOSE).

****** Insert Table 1 about here ******

We extend our analysis by partitioning the sample of 100 privatized firms into subsamples based on the level of development in the country to compare the performance changes for these firms during the 3 years pre- and post-privatization. Findings for the subsamples are reported in Table 2.

****** Insert Table 2 about here ******

A comparison between privatized firms in emerging versus developed countries, reported in Panels A and B, reveals certain interesting findings. We study up to 27 emerging market privatizations and 73 developing market privatizations. While the pay-out (DIV) increases in both groups, the proportion of firms that increase dividends is larger in the developed countries (82.3%) as compared to the emerging countries (68%). Moreover, the increase in scaled pay-out (DIV_EBIAT) is only significant in the developed countries. Nevertheless, we find an increase in the earnings (ER) and firm efficiency (Sales_Emp), net income risk (NI_Risk), the earnings reporting frequency (ERF), and a decline in ownership concentration (CLOSE) in both groups. The retained earnings (RETE) and the level of cash holdings (CASH) do not significantly change in both groups. The market to book (MTBV), market value (MV) and firm size (SIZE)increases only for the firms in the developed countries and there is a significant decline in firm leverage ratios (LR) after privatization only in developed countries. Interestingly, post-privatization emerging market firms show strong sales growth (G_Sales) but developed country privatized

[16] Alternatively, the increase in ERF could be a result of higher scrutiny by the capital markets and consequently investors' expectations for all publicly traded companies to report earnings frequently.

firms do not. Overall, despite evidence of distinctive behaviour about privatization across developing and emerging markets, we find that the post-privatization increase in dividends (DIV) is accompanied by an improvement in the firm's earnings (ER) and firm operating efficiency (Sales_Emp) and a decrease in ownership concentration regardless of how the sample is arranged into categories of privatized firms

4.2 Comparison between privatized and non-privatized firms

Table 3 reports summary statistics for the dependent and control variables used in the study for the privatized and non-privatized firms. It is not surprising that the mean and median for the unscaled dividend variable (DIV) show that the privatized firms pay much larger dividends than non-privatized firms.[17] While the median (average) dividend pay-out by privatized firms in our sample is $3.94 ($128.02) million, the median (average) pay out by firms that have never been state owned is only $1.25 ($33.61) million.[18] The median dividend paid by privatized firms is more than3 times ($3.94 / $1.25) that of the median dividend by the non-privatized firms. Some of the difference between dividend pay-outs by these two groups can be explained by the differences in their sizes. Comparing the market value of equity (MV) and annual percentile size ranking (SIZE) for the two groups, it is evident that privatized firms tend to be significantly larger in size. Therefore, we also analyze the dividend pay-outs adjusted for profitability (DIV_EBIAT, DIV_NI). Again we find that the median DIV_EBIAT and DIV_NI are significantly higher for the privatized firms, which suggests that the privatized firms pay out a

[17] In Appendix 3, we report the proportion of dividend payers year-by-year in the groups of privatized and non-privatized firms. Among the privatized firms, the proportion of dividend payers is as low as 59% in 2003, 2004, 2005 and as high as 88% in 1990. The corresponding numbers for the non-privatized firms are 52% in 2005 and 88% in 1990. Consistent with Fama and French (2001), there is a decline in the proportion of dividend payers over time. The decline in the proportion of dividend payers over time has been slightly greater for the non-privatized firms. Over our sample period, 71% of the privatized firms have been dividend payers. As compared to the non-privatized firms, overall, a greater proportion of privatized firms pay dividends. The mean cash dividends paid by privatized firms are significantly higher than those by non-privatized firms in each year of our sample. There is an evident upward trend in the mean dividends paid by privatized firms from 1990 through 2011. The average dividends paid by non-privatized firms have also increased over time, but at a much slower pace. While the average annual dividend by non-privatized firms is $67.38 million in year 2011, the average amount distributed by a privatized firm in the same year is $276.32 million. Similarly, over the whole sample period, the mean dividend for privatized firms is $128.02 million as compared to $33.61 million for non-privatized firms.[17] Additionally, to show the substantial increase in dividends for privatized firms over time we can compare the dividends for two groups in 1990 and in 2011. In 1990, privatized firm dividends are 1.83 times (39.22/21.43) higher than for non-privatized firms. The same ratio in 2011 is 4.17 times (305.47/73.34). There is a similar increase in the medians of these ratios of privatized to non-privatized firms' dividend pay outs (from 2.46 times in 1990 to 7.4 times in 2011). Appendix 3 also reports the annual medians. Each year, the median dividends paid by privatized firms are significantly greater than those paid by non-privatized firms. Comparing the two groups clearly indicates that the privatized firms not only pay significantly higher dividends than the non-privatized firms, but also a larger proportion of privatized firms tend to pay dividends.

[18] von Eije and Megginson (2008) also compare the unscaled dividends in their paper (page 357) where they examine the impact of privatization on dividend payments and they show substantively similar results for firms in the European Union.

significantly higher proportion of their earnings as cash dividends.[19] To study what can influence this difference in pay outs across the two groups, we next compare various firm characteristics and the factors that are known to affect dividend policy.

****** Insert Table 3 about here ******

First, we examine the profitability across the two groups and find that the mean and median of the earnings ratio (ER) for the privatized firms are significantly higher.[20] This is an interesting finding as it suggests that dividends paid by privatized firms are high not only because they pay out a higher proportion of earnings (median DIV_NI and DIV_EBIAT), but also because the firms are significantly more profitable. In addition, we compare the level of firm efficiency across the privatized and non-privatized firms. Following Megginson, Nash, and van Randenborgh (1994) and Boubakri and Cosset (1998), we incorporate sales-to-employees (Sales_Emp) and total employment (Emp) as a parameter to test the firm-level efficiency. We find the sales-to-employees (Sales_Emp) and total employment (Emp.) to be higher for privatized firms. This is our first, albeit tentative, evidence of an association between the dividends and firm profitability and efficiency of privatized firms.

Next, we use the retained earnings to total equity (RETE) ratio to proxy for liquidity and to test the effect of the life-cycle theory of dividends. The life-cycle theory of dividends (DeAngelo, DeAngelo, and Stulz, 2006) predicts that firms with higher proportions of earned equity in their total equity should pay higher dividends. Using a sample of firms from six developed countries, Denis and Osobov (2008) show that dividend payers exhibit a higher retained earnings to total equity (RETE) ratio as compared to non-dividend payers. We compare the retained earnings ratio of privatized versus non- privatized firms from 26 countries and find that while the mean retained earnings ratio is insignificantly higher for the privatized firms, the median is actually significantly higher for non-privatized firms. Therefore, the higher dividend pay-out by privatized firms does not support the life-cycle theory predictions. These univariate findings for the retained earnings ratio cannot explain why the privatized firms tend to pay higher dividends. Further, we use growth in total assets (G_TA), market-to-book ratio (MTBV), and growth in sales (G_Sales) to estimate firm growth opportunities. We find no significant difference in G_TA across privatized and non-privatized firms. However, both the median MTBV and G_Sales are significantly higher for the privatized firms. The life-cycle theory and the maturity hypothesis predict that firms with lower growth opportunities are more likely to pay dividends. Contrary to these predictions, we find that the privatized firms not only pay higher dividends, but also typically have higher growth opportunities.

[19] We acknowledge that the means for the scaled dividend variables are similar across the two groups. However, given the differences in the samples sizes and the presence of outliers, we think that comparing the medians is a better approach.

[20] We also find that Earnings before interest and after tax (EBIAT), net income (NI) and Sales are also significantly higher for privatized firms (not reported here).

Following the agency costs theory of dividend determination, if new leverage is considered to increase the external monitoring of the firm, it reduces the need to distribute cash flows to shareholders as dividends (Jensen, 1986). As a result, we can expect, that the leverage channel can be used as a substitute for or work in conjunction with higher dividends. We find that privatized firms tend to have higher leverage. The higher leverage ratio for privatized firms could be because government owned firms usually exhibit higher debt levels (though, of course, we have excluded utilities and firms in regulated industries often associated with higher leverage from our sample). The non-privatized firms in our sample have never been controlled by government and hence are likely to exhibit lower debt ratios and also tend to pay higher dividends. It is interesting to note, however, that we do not find a reduction in leverage of firms in the three-year period after privatization.

The variable CLOSE estimates the ownership concentration of a firm. We find that the ownership in privatized firms is more concentrated as compared to the non-privatized firms. Specifically, we find the average ownership concentration for privatized and non-privatized firms to be 68.7% and 45.8%, respectively. This is not unexpected as the privatized firms have been controlled by government in the past and the ownership gets dispersed overtime after the firm has been privatized (Boubakri, Cossett, and Guedhami, 2005). On the contrary, the non-privatized firms in our sample have never been controlled by the government and hence exhibit lower ownership concentration. Chay and Suh (2009) predict a negative relation between ownership concentration and dividends. Similarly, Megginson, Nash, and van Randenborgh (1994) suggest that if the firm's ownership is dispersed among small investors, none of whom have sufficient incentives to monitor; shareholders are likely to demand higher dividends to reduce agency costs. By that logic, the group with lower ownership concentration (non-privatized firms in our sample) would be expected to pay higher dividends, if agency costs across groups are comparable. However, Chay and Suh (2009) also clarify that one can argue that the higher concentration of ownership by insiders is a sign of management entrenchment and higher agency problems. The privatized firms are, hence, more likely to pay higher dividends. The difference in ownership concentration across the two groups can explain why privatized firms pay higher dividends.

Finally, we examine the income risk (NI_Risk) and the frequency of financial reporting (ERF) of our sample firms. We find no significant difference in the medians for these two variables across the two groups. While the average reporting frequency is slightly higher for privatized firms (2.77) as compared to the non-privatized firms (2.62), the average income risk is higher for non-privatized firms. Given these findings, it is unlikely that either of these firm characteristics can explain the difference in the dividends. Therefore, the overall univariate comparison between the privatized and non-privatized firms indicates that the higher dividend pay outs by privatized firms can be a function of their significantly better profitability (ER), efficiency (Sales_Emp and Emp), and investment opportunities (G_Sales). At the same

time, higher dividend pay outs can also be explained as a mechanism to offset higher prospective agency costs which can inversely vary with closely held shares (CLOSE) and firm leverage (LR).

4.3 Multivariate analysis of the impact of privatization

In this section, we test, using panel regressions and difference-in-differences tests, for the relative importance of firm financial and operating performance, agency costs, the firm financial life-cycle phase and a dividend tax penalty to account for the privatized firm dividend payout premium.

To examine the impact of privatization on the dividend policy, we simultaneously study the determination of dividends in both privatized and non-privatized firms. We use random effect panel regression models to regress the natural log of dividend payout (von Eije and Megginson, 2008) on a wide set of determinants of dividend policy established in the literature. We use a dummy (PVT) variable to identify privatized firms. This also enables us to empirically test, using a difference-in-differences parametric regression methodology (Ashenfelter and Card, 1985), whether interactions between the privatization dummy and other variables significantly impact the dividend policy of our sample firms. The findings are reported in Table 4. In Model I, we test the impact of privatization on the cash dividends paid by the firms in our sample. Consistent with the univariate findings reported in earlier tables, we find a significant positive relation between privatization and dividend pay-outs. The coefficient of 0.655 suggests that, compared to non-privatized firms, privatized firms pay 65.5% higher dividends. This confirms that privatization has a first order effect on the dividend policy.

In Model II, reported in Table 4, we add the variables that proxy for different factors that have been shown in the literature to have an impact on a firm's dividend policy. We also add a single interaction term (PVT*COM), in order to identify in the coefficient on the privatized firm dummy variable (PVT), the privatized firm dividend premium in civil law countries. We find a positive relation between dividends and firm size (SIZE) and cash holdings (CASH), which is consistent with the notion that larger firms with higher cash holdings pay more dividends. The life-cycle theory of dividends suggests that firms with higher proportion of retained earnings in their total equity are more likely to pay dividends and therefore predicts a positive coefficient on RETE. However, for our sample, we find a significant negative (albeit small) relation between retained earnings to total equity (RETE) and dividends. The coefficient (-0.001) on RETE suggests that the firms in our sample do not pay dividends because they have reached a certain stage in their life-cycle in which they are more likely to distribute excess cash flows to shareholders. The negative coefficient (-0.003) for ownership concentration (CLOSE) suggests that more closely held firms pay lower dividends. This negative relation is consistent with the notion that a low proportion of ownership by insiders results in higher agency conflicts and therefore firms with lower ownership concentration pay higher dividends. While we find a positive

relation between the income risk and dividends, the coefficient (-0.021) for market to book (MTBV) suggests a negative relation between growth opportunities and dividends.

Following von Eije and Megginson (2008), we use the frequency of financial reporting (ERF) as a proxy for firm transparency. Increased frequency of financial reporting should increase transparency and hence reduce the information asymmetry for the firm, and thereby increase investors` capacity to monitor the firm. Wood (2001) suggests that improvement in reporting and corporate governance would make investors less focused on dividends. Consistent with these predictions, we find a significant negative relation between dividends and the frequency of financial reporting (ERF). Consistent with our univariate results, findings reported in Model II show that the dividends increase with increase in the earnings (ER) and firm efficiency (Sales_Emp). Consistent with the 'outcome' model of La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000), the coefficient (0.170) on COM suggests that non-privatized firms in common law countries, relative to civil law countries, pay higher dividends. An important finding to note in Model II is that even after adding all these factors to the regression model, the coefficient (0.24) for the privatization dummy (PVT) remains positive, significant, and economically important. A 24% increase in pay out is associated with the privatized firms in civil law countries, relative to non-privatized firms in civil law countries. Another important finding to note in Model II, is that the privatized firm pay out premium (0.24 - 0.242 = -0.002) in common law countries is small and insignificant.[21]

Next, in Model III, we add interaction variables to the model. After adding the interactions between the privatization dummy and the other determinants of dividend policy we find that the coefficient on the privatization dummy (PVT) is no longer significant (p-value=0.851). The loss of significance for the dummy (PVT) coefficient in Model III indicates that the positive relation, found in Models I and II, between dividends and privatization is likely to be driven by one of the other determinants in the model.[22] The insignificance for the coefficient (-0.191) on PVT suggests that we can account for the difference in dividends between privatized and non-privatized firms in civil law countries, once we allow for the varying strength of dividend determinants across these categories of firms.

A closer examination of the results in Model III indicates a significant positive relation between dividends and the earnings ratio (ER * PVT) and growth in sales (G_Sales * PVT) of privatized firms. These results show a strong relation between the privatized firm's decision to increase dividends and its

[21] A Wald test (un reported) shows that this summation in coefficients is statistically insignificantly different to zero at conventional significant levels.

[22] The expectation is that the new interaction variables will soak up the explanatory power of the privatization dummy variable (PVT) in Model II. To the extent that the constituent covariates of an interaction variable are not perfectly correlated, we examine which component of the interaction variable has the greater predictive capacity with respect to dividend determination.

improvement in performance and efficiency post privatization. On the other hand, our results in Model III further show that arguments based on the life-cycle or maturity hypothesis do not fit the privatized firms in our sample. The interaction coefficients for the retained earnings to total equity (RETE * PVT) are insignificant.

The results are, however, consistent with the agency theory. We find a significant negative relation between the privatized firm's dividends and the interaction term (-0.005) for closely held shares (CLOSE * PVT). For a one percent rise in the proportion of closely held shares, there is a 0.5% greater reduction in real dividend pay-out than in non-privatized firms (which exhibit an associated 0.3% reduction in real dividend pay-out). Furthermore, we find a significant negative coefficient (-0.245) on the interaction between the privatization dummy and the dummy for the common law countries (COM * PVT). The negative coefficient (-0.245) on the interaction by itself suggests that the difference in the privatized firm dividend premia across common and civil law countries is, accounting for the additional interaction terms, 24.5%.

This finding for the privatized firms, in civil law countries, is therefore consistent with the 'substitute model' suggested by La Porta, Lopez-de-Silanes, Shleifer, and Vishny (2000).[23] This hypothesis suggests that dividends are a substitute for legal protection and therefore, firms in countries with lower levels of protection to shareholders pay higher dividends. It is, therefore, important to note that our findings show a distinct dividend pay-out behaviour by privatized firms in common law versus civil law countries. We find no dividend pay-out premium, after accounting for interaction variables, of common law country privatized firms. Our findings, however, do suggest a strong relation between the civil law country privatized firm's decision to increase dividends, with its agency costs, and its improvement in performance and efficiency post privatization.

****** Insert Table 4 about here ******

In Model IV of Table 4, we regress the real dividends scaled by net income on the same right hand side variables included in model III. After scaling the dependent variable, in model IV, the coefficients for many of the determinants of dividends become insignificant. However, the coefficient (0.008) on the interaction between privatization dummy and growth in sales (G_Sales*PVT) suggests that higher dividend pay out by privatized firms can be partially explained by the growth in sales for these firms. The signs and significance for the coefficients on the common law dummy (COM) and its interaction with the privatization dummy (COM*PVT) are similar to those for model III discussed earlier.

[23] The summation of coefficients on PVT (-0.191) and COM*PVT (-0.245) confirms that, in our sample, privatized firms in common law countries pay an indistinguishable dividend than counterpart non-privatized firms in common law countries. A Wald test (unreported) shows that this summation in coefficients is statistically insignificantly different to zero at conventional significant levels.

In the results discussed so far, we recognize that there is a significant difference in the sample sizes of privatized and non-privatized firms. Therefore, we ask ourselves whether the results are influenced by the difference in the sample sizes of these two groups. As a robustness check, we create another control sample of non-privatized firms that is comparable to the privatized firms in sample size. Specifically, for each privatized firm, we find one matching non-privatized firm. We construct the one-to-one matched sample sequentially at the year of privatization on the following criteria: country of origin, firm size (+/- 10%), cash holdings (+/- 5%), and growth in total assets. Model V includes the privatized firms and the one-to-one matching sample of non-privatized firms. The results for Model V are mostly consistent with the results discussed earlier for Model III. However, in Model V we find a significant positive coefficient (0.026) on the interaction term Ln_Sales_Emp*PVT, which suggests that the higher dividends by privatized firms can be partially explained by a higher firm efficiency exhibited by these firms.

Last, in Model VI, we extend the Model III to include a dividend tax penalty variable. As reported in Model VI, our findings in respect to Model III are robust to the international variation over time of the dividend tax penalty (Poterba and Summers, 1984, Jacob and Jacob, 2013).[24] Specifically, the dividend tax penalty (DTP) is associated with a significant, large (-0.329), and negative influence of dividend pay outs internationally, however, there is no significant difference in the magnitude of this effect across privatized and non-privatized firms (DTP * PVT). The results for Model VI show that even after controlling for the tax penalty, the coefficients on the interactions between privatization dummy and sales growth (G_Sales * PVT) and the proxy for firm efficiency (Ln_Sales_Emp*PVT) remains positive and significant. This further supports our earlier findings that the higher dividends by privatized firms are driven by better firm performance and improvement in firm efficiency post privatization.

****** Insert Table 5 about here ******

Last, for an additional robustness check, we repeat the analysis by separating the firms into sub-samples based on the level of development in the country. The results for these sub-samples are reported in Table 5. In Panels A and B of Table 5, we confirm that studied in isolation both emerging and developed markets' privatization dividend premia are accounted for by the interaction terms between the privatization dummy and growth in sales and firms efficiency. We still do not find any support for RETE in either sub-sample. However, we do find some differences between developed and emerging countries for other determinants of dividends. For instance, we find that while the interaction on CLOSE and PVT is negative and significant for the developed countries, it is not for the firms in emerging countries.

[24] The same result holds using other proxies for the dividend tax preference (La Porta, Lopez-De-Silanes, Shleifer, and Vishny, 2000) and weighted average dividend tax (Becker, Jacob and Jacob, 2013). The results are available from the authors on request.

Similarly, while the interaction on growth in sales and privatization is positive and significant for the firms in developed countries, it is not in the sub-sample for the emerging countries. However, we do find a positive coefficient on the interaction for sales-to-employee ratio and the privatization dummy for firm in emerging countries, suggesting that the higher dividends by privatized firms in these markets are partially explained by better firm efficiency.

One important commonality across these markets is the coefficients for the common law dummy (COM) and for the common law interaction dummy with privatization (COM*PVT). This corroborates the importance of the 'substitution' model to explicate privatized firm pay-out premium. As reported in Model VI, our findings are also robust, across a sample of 17 countries, to the international variation over time of the dividend tax penalty; DTP * PVT (Poterba and Summers, 1984, Jacob and Jacob, 2013).[25] In any of the models we test, we find that the higher dividends by privatized firms are either explained by higher growth in sales or better firm efficiency. Therefore, overall, the findings show that post privatization improvement in operating and firm efficiency have a significant positive impact on the dividends paid by privatized firms.

5. Conclusions

Since the rapid growth in privatizations of European firms during the 1980s and 1990s, the effect of privatization on the firm's financial performance, operating efficiency, and payout decisions has been of great interest to researchers. Governments usually expect privatization to increase the profitability and the operational efficiency of the firms. Consistent with those expectations, prior studies document an improvement in firm performance, an increase in capital spending, and a decrease in debt and ownership concentration post privatization. Another significant impact of privatization is on the dividend policies of the firms. While there are no explicit theoretical explanations as to why privatized firms exhibit higher dividend pay-outs, prior studies suggest that it could be a consequence of changes in the ownership structure, shareholder preferences, and the resulting agency conflicts. The dividends by privatized firms increase markedly around the privatization event and are significantly higher as compared to the non-privatized firms and hence the topic warrants further research. Although the literature on privatization has grown rapidly, the question as to *why* privatized firms pay such high dividends and what factors enable them to do so are still unanswered. We attempt to fill this gap in the literature. From the viewpoints of corporate officials who must set the payout policy, investors in respect to capital allocation decisions, and economists seeking to understand the functioning of the capital markets, an important question arises in

[25] The same result holds using other proxies for the dividend tax; viz. dividend tax preference (La Porta, Lopez-De-Silanes, Shleifer, and Vishny, 2000) and weighted average dividend tax (Becker, Jacob and Jacob, 2013). The results are available from the authors on request.

respect to the determination of the privatized firm payout decisions: Does the difference between the dividend pay outs of pre- and post-privatized firms stem principally from differences in incomplete contracting possibilities, financial life-cycles, information asymmetries or taxes between the two groups?

When compared to non-privatized firms, we find that the privatized firms are not only more profitable but also pay a higher proportion of their profits as dividends. Our findings show a strong positive relation between the firm's decision to pay dividends and its profitability, growth in sales, and improvement in firm efficiency. We find no reduction in the privatized firm's growth opportunities, sales growth, earnings growth, market-to-book ratio, or cash reserves after privatization. We conclude that the life-cycle theory maturity hypothesis does not explain the dividend premium paid by privatized firms.

Instead, we propose an agency costs type signalling based argument in conjunction with the importance of firm performance and firm efficiency on privatized firm dividend pay-out. Privatization leads to harsher product market competition, higher capital market scrutiny, and a likely change in a firm's objective function together with significant change in the ownership structure, which in turn could lead to an increase in the agency conflicts between various stakeholders. The management can send a costly signal, in a higher dividend pay-out, to the market to mitigate potential over-investment and other agency costs. We find a strong and consistent positive relation between the privatized firm's dividends and its earnings, growth in sales, and operating efficiency. We find an additional negative relation between the extent of closely held shares in civil law country located privatized firms and dividend pay outs, which is consistent with dividends potentially substituting for the monitoring activities of certain major shareholders. Finally, our results show, accounting for well-known dividend determinants, that, after privatization, firms increase pay outs in civil but not in common law countries which suggests a signal of reduced prospective agency costs to protect minority shareholders, which is unnecessary in common law countries. These findings are robust to different model specifications. Therefore, we conclude that the commonly observed increase in dividends immediately following privatization is mainly driven by improvements in profitability, firm efficiency, growth opportunities, and a new incentive on firm management to reduce agency costs.

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Figure 1:
The growth opportunities of newly privatized firms are proxied by the market to book value (MTBV), growth in total assets (G_TA) and sales growth (G_Sales) and profitability of these firms is proxied by the scaled earnings (ER). The time scale is from 3 years pre- to 3 years post- the year of privatization, year 0. The data is sampled from State Owned Enterprisers in 26 countries from 1990 to 2011 for up to 100 firms privatized between 1992 and 2009.

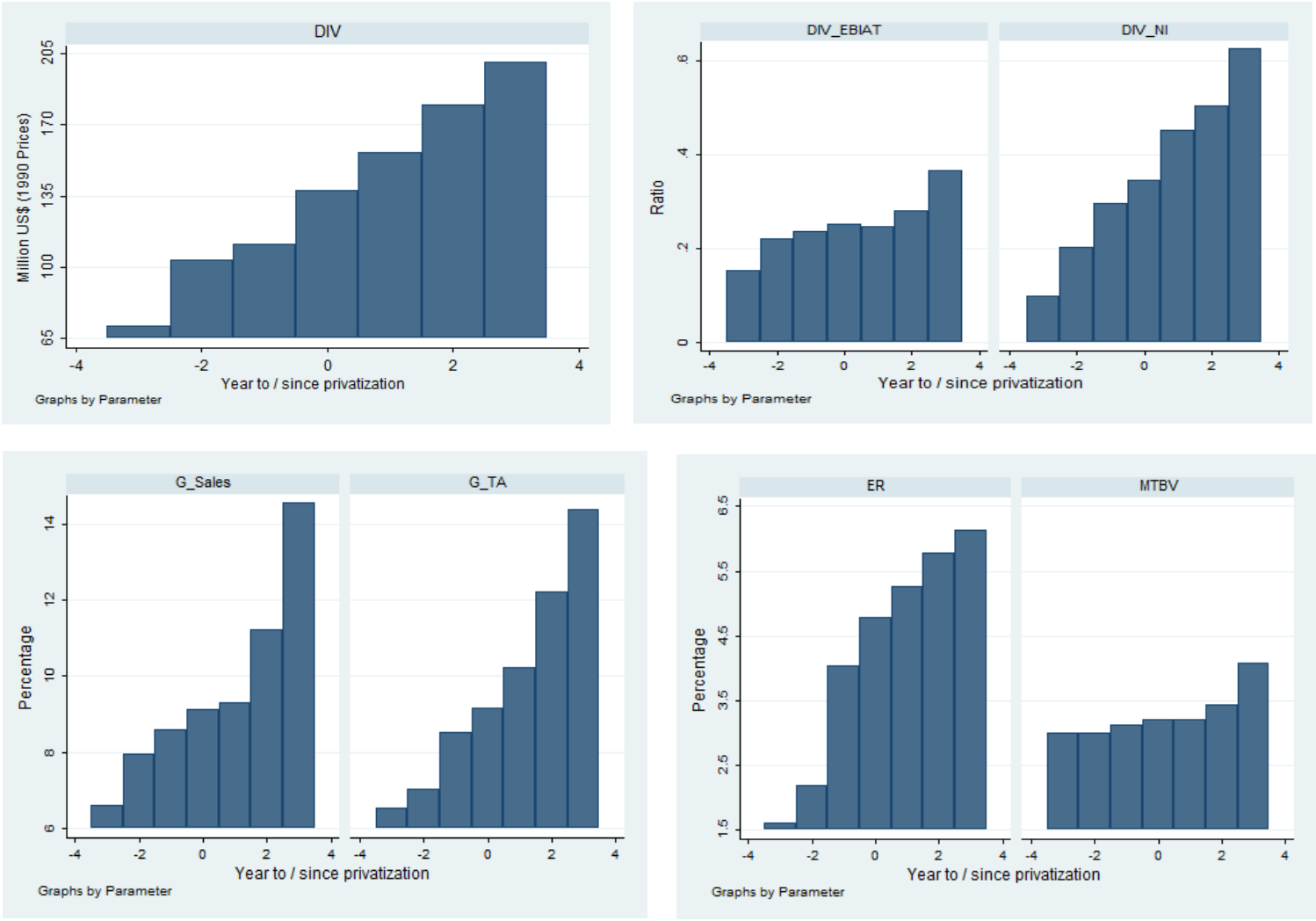

Table 1
This table presents summary statistics for the proxy variables (firm characteristics) used in this study to compare the firm-specific characteristics 3-years before and 3-years after privatization for 100 newly privatized firms across 26 countries from 1990 to 2011 for the firms privatized between 1992 and 2009. All data are sourced in Worldscope. N refers to the number of firms observed for a specific variable. Expected change refers to the anticipated change in proxy variable after privatization. It relates to both Sign and Proportion. Sign refers to the expected sign of the difference in mean and median proxy variable values after privatization. Proportion refers to the percentage of firms whose proxy values change as expected as well as a test of significance of this change (Z-statistics). Before and After refers to the mean and median values of the proxy variables for the three-year periods before and after privatization. Difference refers to the difference in mean and median values for 3-years after privatization minus mean and median values for 3-years before privatization. Difference in mean between the pre and post privatization firm-specific characteristics for privatized firms is calculated by using a two-sample mean-comparison test (T-statistics). Difference in median between the pre and post privatization firm-specific characteristics for privatized firms is calculated by using a Wilcoxon signed rank test (Z-statistics). We use the country specific consumer price indices to deflate the nominal firm specific accounting and financial data into real 1990 prices. The proxy variables have been converted from local currency to US$ by using the year-end conversion rate. For a definition of the proxy variables please refer to Appendix 1.

		Expected change		Mean			Median		
Variables	N	Sign.	Prop.	Before	After	Difference	Before	After	Difference
Payout									
DIV	87	(+)	0.782[a]	93.712	175.541	81.829[a]	7.213	25.797	18.584[a]
DIV_EBIAT	87	(+)	0.655[a]	0.187	0.239	0.052	0.121	0.211	0.090[b]
DIV_NI	87	(+)	0.609[b]	0.160	0.488	0.328[b]	0.194	0.346	0.152[b]
Size									
MV	69	(+)	0.725[a]	7831.021	10312.490	2481.469[c]	816.797	1186.427	369.630[a]
SIZE	69	(+)	0.687[b]	73.278	76.457	3.179[a]	79.433	84.453	5.020[a]
Profitability									
ER	90	(+)	0.733[a]	2.483	5.810	3.327[a]	5.626	6.581	0.955[a]
Liquidity									
RETE	81	(+)	0.654[a]	-15.159	17.267	32.426[b]	10.290	18.483	8.193[a]
CASH	90	(+)	0.500	24.948	25.545	0.598	21.635	22.612	0.977
Ownership									
CLOSE	70	(-)	0.757[a]	100.00	49.674	-50.326[a]	100.000	50.897	-49.103[a]
Risk									
NI_Risk	100	(-)	0.450	0.084	0.124	0.039[b]	0.027	0.033	0.007[c]
Growth									
G_TA	79	(+)	0.648[a]	8.741	12.659	3.918[b]	6.088	6.941	0.853[c]
MTBV	69	(+)	0.536	3.030	3.578	0.548	1.760	1.713	-0.047
G_Sales	79	(+)	0.756[a]	8.221	11.964	3.743[a]	6.477	10.309	3.832[a]
Leverage									
LR	90	(-)	0.467	25.039	23.862	-1.178	23.428	21.685	-1.743
Reporting									
ERF	91	(+)	0.923[a]	2.114	2.938	0.824[a]	2.000	3.000	1.000[a]
Efficiency									
Sales_Emp	75	(+)	0.747[a]	0.389	0.527	0.138[a]	0.180	0.210	0.030[a]
Emp	75	(-)	0.567[c]	38134.75	37925.35	-209.40[c]	7854.00	7249.67	-604.33[b]

a, b, c represents significance at the 1%, 5% and 10% levels respectively.

Table 2

This table presents summary statistics for proxy variables for privatized firms under different categories: control and revenue privatizations, competitive and non-competitive sectors, and emerging and developed markets. The sample is across 26 countries from 1990 to 2011 for the firms privatized between 1992 and 2009. All data are sourced in Worldscope. Panel A presents firm characteristic changes for firms operating in emerging countries versus firms operating in developed countries. We compare the firm-specific characteristics 3-years before and 3-years after privatization for up to 100 newly privatized firms - 27 emerging market privatization (Emer.) and 73 developed market privatization (Dev.). N refers to the number of firms observed for a specific variable. Expected (Positive / Negative) refers to the anticipated change in proxy variable after privatization, i.e., the expected sign of the difference in mean and median values after privatization. Prop. refers to the proportion of firms whose proxy values change as expected as well as a test of significance of this change (Z-statistics). Diff. refers to the difference in mean and median values for 3-years after privatization minus mean and median values for 3-years before privatization, respectively. Diff. in mean between the pre- and post-privatization firm-specific characteristics for privatized firms is calculated by using a two-sample mean-comparison test (T-statistics). Difference in median between the pre and post privatization firm-specific characteristics for privatized firms is calculated by using a Wilcoxon signed rank test (Z-statistics). We use the country specific consumer price indices to deflate the nominal firm specific accounting and financial data into real 1990 prices. All the proxy variables have been converted from local currency to US$ by using the year-end conversion rate. For a definition of the proxy variables please refer to Appendix 1.

		Panel A: Emerging Markets								Panel B: Developed Markets							
Variables	Sign	N	Prop.	Mean			Median			N	Prop.	Mean			Median		
				Before	After	Diff.	Before	After	Diff.			Before	After	Diff.	Before	After	Diff.
Payout																	
DIV	(+)	25	0.680[b]	129.70	177.83	48.13[a]	6.04	14.15	8.11[b]	62	0.823[a]	79.20	174.62	95.42[a]	9.42	29.60	20.19[a]
DIV_EBIAT	(+)	25	0.680[b]	0.19	0.32	0.14	0.08	0.21	0.13	62	0.645[a]	0.19	0.20	0.02	0.14	0.22	0.09[b]
DIV_NI	(+)	25	0.520	0.26	0.35	0.10	0.18	0.23	0.05	62	0.645[a]	-0.33	0.54	0.87[c]	0.22	0.36	0.14[b]
Size																	
MV	(+)	18	0.333	15500.24	10914.90	-4585.34	1912.09	1297.59	-614.49	51	0.863[a]	5124.24	10099.88	4975.64[a]	635.49	1108.03	472.54[a]
SIZE	(+)	18	0.278	76.29	74.50	-1.80	82.38	80.29	-2.09	51	0.725[a]	72.21	77.15	4.93[a]	78.59	84.49	5.90[a]
Profitability																	
ER	(+)	26	0.723[a]	7.75	16.34	8.59	9.22	11.88	2.65[a]	64	0.616[b]	-3.15	5.02	8.17[c]	5.11	6.14	1.03[c]
Liquidity																	
RETE	(+)	21	0.476	33.53	23.28	-10.25	30.75	31.03	0.28	60	0.717[a]	-32.20	15.16	47.36[a]	7.14	16.44	9.31[a]
CASH	(+)	26	0.538	24.97	26.78	1.82	23.14	24.59	1.45	64	0.484	24.94	25.04	0.10	20.58	20.98	0.40
Ownership																	

CLOSE	(-)	15	0.633 [c]	100.00	64.26	-35.74 [a]	100.00	65.76	-34.24 [a]	55	0.791 [a]	100.00	45.69	-54.31 [a]	100.00	48.17	-51.83 [a]
Risk																	
NI_Risk	(-)	27	0.704 [b]	0.05	0.08	0.03 [b]	0.03	0.06	0.03 [b]	73	0.479	0.10	0.14	0.04 [c]	0.03	0.02	0.00
Growth																	
G_TA	(+)	21	0.743 [a]	8.15	22.22	14.07 [a]	3.35	14.67	11.32 [a]	58	0.703 [b]	6.47	8.95	2.48 [c]	1.93	7.83	5.90 [b]
MTBV	(+)	18	0.333	3.92	2.70	-1.21	2.04	1.84	-0.20	51	0.678 [c]	2.72	3.89	1.17	1.54	1.68	0.13 [c]
G_Sales	(+)	21	0.857 [a]	5.35	23.10	17.74 [a]	5.37	11.63	6.26 [a]	58	0.517	9.26	7.93	-1.33	3.62	7.85	4.23
Leverage																	
LR	(-)	26	0.269	19.86	29.10	9.23	19.89	27.99	8.10	64	0.755 [a]	27.14	21.74	-5.41 [b]	24.90	18.73	-6.17 [a]
Reporting																	
ERF	(+)	26	0.923 [a]	1.94	3.13	1.19 [a]	1.00	4.00	3.00 [a]	65	0.923 [a]	2.18	2.86	0.68 [a]	2.00	3.00	1.00 [a]
Efficiency																	
Sales_Emp	(+)	16	0.688 [c]	0.27	0.49	0.22	0.12	0.17	0.05 [b]	59	0.763 [a]	0.42	0.54	0.12	0.18	0.21	0.04 [a]
Emp	(-)	16	0.563	45052.34	42456.05	-2596.29	7027.83	5242.33	-1785.50	59	0.541	36258.79	36696.69	437.90	7854.00	7440.67	-413.33

a, b, c represents significance at the 1%, 5% and 10% levels respectively.

Table 3
This table presents summary statistics for the set of proxy variables (firm characteristics) in privatized and non-privatized firms in 26 countries from 1990 to 2011. All data are sourced in Worldscope. N refers to the number of firm-year observations available for the respective variable in each category. Mean and median are the arithmetic average and median value for each proxy variable. We use the country specific consumer price indices to deflate the nominal firm specific accounting and financial data into real 1990 prices. All the proxy variables have been converted from local currency to US$ by using the year-end conversion rate. Difference in mean between the mean of the privatized and non-privatized firm-specific characteristics is calculated by using a two-sample mean-comparison test (T-statistics). Difference in median between the median of the privatized and non-privatized firm-specific characteristics is calculated by using a Wilcoxon signed rank test (Z-statistics). For a definition of the proxy variables please refer to the Appendix 1.

	Privatized firms			Non - privatized firms			Difference in	
	N	Mean	Median	N	Mean	Median	Mean	Median
Payout								
DIV	4419	128.02	3.94	70143	33.61	1.25	94.41[a]	2.69[a]
DIV_EBIAT	4415	0.30	0.14	69885	0.21	0.13	0.09[c]	0.01[a]
DIV_NI	4416	0.49	0.21	69998	0.48	0.18	0.02	0.03[a]
Size								
MV	4251	4409.16	342.53	68578	4046.24	124.13	362.93[b]	218.41[a]
SIZE	4251	62.17	67.45	68578	48.48	47.92	13.69[a]	19.53[a]
Profitability								
ER	4567	4.15	5.98	72252	3.07	5.18	1.08[a]	0.80[a]
Liquidity								
RETE	4345	-8.50	17.64	68439	-12.36	20.87	3.86	-3.23[a]
CASH	4552	25.16	21.82	71865	26.06	18.35	-0.89[a]	3.47[a]
Ownership								
CLOSE	3590	68.70	60.75	57893	45.80	48.33	22.91[a]	12.42[a]
Risk								
NI_Risk	4931	0.28	0.03	78300	0.98	0.03	-0.70[a]	0.00
Growth								
G_TA	4325	11.40	7.56	68194	11.72	7.74	-0.32	-0.18
MTBV	4238	2.43	1.62	68382	1.62	1.53	0.81[c]	0.09[a]
G_Sales	4294	11.64	9.69	66784	10.85	9.23	0.79	0.46[a]
Leverage								
LR	4568	22.43	20.80	72308	20.92	18.63	1.50[a]	2.17[a]
Reporting								
ERF	4591	2.77	2.00	73372	2.62	2.00	0.15[a]	0.00
Efficiency								
Sales_Emp	3853	0.52	0.18	58219	0.45	0.16	0.06	0.02[a]
Emp	3854	20245	3000	58300	7357	1060	12888[a]	1940[a]

a, b, c represents significance at the 1%, 5% and 10% levels respectively.

Table 4

This table presents results for the random effects panel regressions for the (natural log of the) real amounts paid as cash dividends, DIV, by privatized and non-privatized firms (26 countries, 1990 to 2011) from competitive industries on a wide set of payout determinants. We do not include non-competitive (utilities and financial institutes) industries in the sample. The values in the Coeff. column correspond to the regression coefficients of each explanatory variable and P-Val. corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. In Model I, only the privatization dummy, PVT is used as an explanatory variable. In Model II, the full set of determinants are included. In Model III, interaction variables with the privatization dummy variable, PVT, are also included. In Model IV, the real amounts paid as cash dividends are scaled by Net Income (Div_NI). In Model V, the tests are conducted on a one-to-one matched sample of privatized and non-privatized firms (26 countries, 1990 to 2011). The matched sample of firms is a monotonic one-to-one relation for the same firm-year of observation on the following criteria: country of origin, firm size (+/- 10%), cash holdings (+/- 5%), and growth in total assets. In Model VI, the Model III is extended to include a dividend tax penalty variable (Poterba and Summers, 1984) and this reduces sample size due to the exclusion of firms in certain countries detailed in Appendix 1. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (COM & PVT) and the YEAR variables, are lagged by one year. Independent variables succeeded by `* PVT' refer to the interaction between firm-specific characteristics and the PVT dummy. Hence, we adopt a parametric dummy variable difference-in-differences procedure. We use the natural logarithm of the firm-specific proxy variables denoted by `Ln_'. We control for the firm-level industry fixed effects and year fixed effects in the four regression models. Observation is the number of firm-year observations. 'Firms' is the number of firms for which observations are available. 'R^2 overall' is the overall R-squared statistic. For a definition of the proxy variables please refer to Appendix 1.

Dependent Variable →	Ln_Dividend		Ln_Dividend		Ln_Dividend		Dividend_Net Inc.		Ln_Dividend		Ln_Dividend	
Independent Variables ↓	Model I		Model II		Model III		Model IV		Model V		Model VI	
	Coeff.	P-Val.	Coeff.	P-Val.	Coeff.	P-Val.	Coeff.	P-Val.	Coeff.	P-Val.	Coeff.	P-Val.
SIZE			0.030	0.000	0.030	0.000	-0.004	0.436	0.035	0.000	0.031	0.000
ER			0.010	0.000	0.010	0.000	0.018	0.050	0.011	0.001	0.009	0.000
RETE			-0.001	0.000	-0.001	0.000	0.000	0.849	0.000	0.541	-0.001	0.000
CASH			0.003	0.000	0.002	0.000	0.005	0.423	0.006	0.005	0.002	0.000
CLOSE			-0.003	0.000	-0.003	0.000	-0.001	0.812	-0.004	0.136	-0.003	0.000
NI_Risk			0.050	0.000	0.047	0.000	0.002	0.971	0.018	0.768	0.046	0.000
G_TA			0.000	0.193	0.000	0.217	0.002	0.738	0.000	0.733	0.000	0.030
MTBV			-0.021	0.000	-0.023	0.000	-0.013	0.298	-0.022	0.195	-0.019	0.000
G_Sales			0.000	0.233	0.000	0.083	-0.008	0.137	-0.001	0.585	0.000	0.163
LR			-0.009	0.000	-0.009	0.000	-0.006	0.197	-0.005	0.169	-0.008	0.000
ERF			-0.023	0.004	-0.024	0.003	-0.162	0.190	-0.024	0.482	-0.010	0.276
Ln_Sales_Emp			0.140	0.000	0.139	0.000	0.030	0.703	0.179	0.100	0.106	0.000

Ln_EMP			0.275	0.000	0.270	0.000	0.024	0.646	0.255	0.142	0.267	0.000
COM			0.170	0.000	0.175	0.000	0.317	0.038	0.209	0.002	0.122	0.001
YEAR			0.032	0.000	0.032	0.000	0.015	0.380	0.032	0.000	0.034	0.000
DTP											-0.329	0.000
PVT	0.655	0.000	0.240	0.010	-0.191	0.851	1.392	0.459	0.064	0.491	0.660	0.465
SIZE * PVT					0.000	0.914	0.022	0.063	-0.006	0.223	-0.001	0.851
ER * PVT					0.007	0.098	-0.001	0.935	0.006	0.284	0.005	0.206
RETE * PVT					0.001	0.260	0.000	0.826	0.000	0.999	0.000	0.446
CASH * PVT					0.003	0.212	-0.001	0.923	-0.002	0.581	0.001	0.786
CLOSE * PVT					-0.005	0.019	-0.006	0.279	-0.004	0.051	-0.005	0.014
NI_Risk * PVT					0.044	0.465	0.009	0.911	0.159	0.196	0.021	0.705
G_TA * PVT					-0.001	0.569	-0.006	0.317	0.000	0.782	-0.001	0.276
MTBV * PVT					0.021	0.298	-0.052	0.446	0.025	0.355	0.030	0.063
G_Sales * PVT					0.002	0.039	0.008	0.034	0.002	0.109	0.002	0.015
LR * PVT					-0.006	0.128	0.013	0.527	-0.011	0.047	-0.006	0.152
ERF * PVT					0.011	0.792	-0.253	0.285	0.016	0.792	0.004	0.936
Ln_Sales_Emp * PVT					0.009	0.889	-0.079	0.656	0.026	0.015	0.037	0.015
Ln_EMP * PVT					0.057	0.327	-0.148	0.467	0.142	0.156	0.044	0.440
COM * PVT			-0.242	0.005	-0.245	0.040	-0.426	0.087	-0.296	0.057	-0.395	0.014
DTP * PVT											-0.272	0.362
Constant	0.956	0.000	-68.381	0.000	-67.854	0.000	-29.909	0.399	-69.331	0.000	-71.879	0.000
Observation	74557		42402		42402		42359		4755		35651	
Firms	5961		5340		5340		5339		506		4214	
Rsq. overall	0.033		0.636		0.637		0.011		0.655		0.664	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	

Table 5

This table presents results for the random effects panel regressions for the (natural log of the) real amounts paid as cash dividends, DIV, by privatized and non-privatized firms (26 countries, 1990 to 2011) from competitive industries on a wide set of payout determinants. We do not include non-competitive (utilities and financial institutes) industries in the sample. The regressions are performed according to different categorizations of privatization: emerging and developed markets. These categorizations are as detailed in table 2. The values in the Coeff. column correspond to the regression coefficients of each explanatory variable and P-Val. corresponds to the level of significance of the Z-value calculated using robust standard errors at the firm-level. The Models can be described as per table 6. To reduce the endogeneity problem the independent variables, except for the time invariant dummies (COM & PVT) and the YEAR variables, are lagged by one year. Independent variables succeeded by `* PVT' refer to the interaction between firm-specific characteristics and the PVT dummy. We use the natural logarithm of the firm-specific proxy variables denoted by `Ln_'. We control for the firm-level industry fixed effects and year fixed effects in the four regression models. Observation is the number of firm-year observations. 'Firms' is the number of firms for which observations are available. 'R^2 overall' is the overall R-squared statistic. For a definition of the proxy variables please refer to Appendix 1.

	Panel A: Emerging countries											
Variables	Ln_Dividend Model I		Ln_Dividend Model II		Ln_Dividend Model III		Div_Net Inc. Model IV		Ln_Dividend Model V		Ln_Dividend Model VI	
	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.
SIZE			0.030	0.000	0.030	0.000	0.016	0.000	0.034	0.000	0.031	0.000
ER			0.010	0.000	0.010	0.000	0.073	0.000	0.011	0.001	0.009	0.000
RETE			-0.001	0.000	-0.001	0.000	0.002	0.000	0.000	0.533	-0.001	0.000
CASH			0.003	0.000	0.002	0.000	0.012	0.000	0.006	0.007	0.002	0.000
CLOSE			-0.003	0.000	-0.003	0.000	0.001	0.668	-0.004	0.139	-0.003	0.000
NI_Risk			0.047	0.000	0.047	0.000	-0.042	0.611	0.001	0.985	0.045	0.000
G_TA			0.000	0.293	0.000	0.225	-0.008	0.002	0.000	0.763	0.000	0.033
MTBV			-0.023	0.000	-0.023	0.000	0.159	0.000	-0.021	0.211	-0.019	0.000
G_Sales			0.000	0.096	0.000	0.095	-0.004	0.049	0.000	0.743	0.000	0.188
LR			-0.009	0.000	-0.009	0.000	-0.036	0.000	-0.005	0.195	-0.008	0.000
ERF			-0.025	0.002	-0.024	0.002	0.070	0.010	-0.036	0.307	-0.011	0.230
Ln_Sales_Emp			0.141	0.000	0.137	0.000	-0.025	0.874	0.235	0.005	0.105	0.000
Ln_EMP			0.272	0.000	0.270	0.000	-0.137	0.080	0.159	0.141	0.266	0.000
COM			0.175	0.000	0.174	0.000	0.379	0.000	0.213	0.053	0.120	0.001
YEAR			0.033	0.000	0.033	0.000	0.017	0.041	0.040	0.000	0.035	0.000
DTP											-0.335	0.000
PVT	0.666	0.000	0.078	0.006	-6.071	0.665	-9.727	0.294	0.531	0.142	3.288	0.557
SIZE * PVT					-0.004	0.559	-0.034	0.357	-0.019	0.069	0.016	0.166
ER * PVT					0.024	0.115	-0.023	0.839	0.043	0.082	0.021	0.867
RETE * PVT					0.007	0.010	0.014	0.089	0.007	0.008	0.001	0.708
CASH * PVT					0.016	0.001	0.081	0.013	0.013	0.087	0.015	0.255
CLOSE * PVT					0.006	0.140	0.014	0.231	0.006	0.299	0.015	0.017
NI_Risk * PVT					-1.557	0.202	-2.176	0.611	-1.521	0.273	-9.314	0.006
G_TA * PVT					0.002	0.433	0.018	0.326	0.003	0.439	-0.010	0.177
MTBV * PVT					0.017	0.776	0.122	0.468	0.041	0.513	-0.105	0.139
G_Sales * PVT					-0.002	0.501	-0.006	0.477	-0.001	0.847	0.009	0.388
LR * PVT					-0.014	0.117	-0.009	0.632	-0.025	0.035	-0.020	0.000
ERF * PVT					-0.109	0.066	-0.821	0.054	-0.188	0.018	0.176	0.196
Ln_Sales_Emp * PVT					0.433	0.008	0.915	0.071	0.417	0.088	0.357	0.472
Ln_EMP * PVT					0.084	0.509	0.079	0.820	0.146	0.403	0.305	0.275
COM * PVT			-1.194	0.009	-1.148	0.011	-0.731	0.046	-1.345	0.011	Omitted	
DTP * PVT											-0.653	0.562
Constant	0.951	0.000	-69.182	0.000	-69.001	0.000	-30.924	0.034	-84.303	0.000	-73.461	0.000
Observation	71194		40245		40245		40243		1281		33494	
Firms	5712		5109		5109		5109		109		3983	
R2 overall	0.023		0.631		0.632		0.112		0.642		0.661	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	

Panel B: Developed countries												
Variables	Ln_Dividend Model I		Ln_Dividend Model II		Ln_Dividend Model III		Div_Net Inc. Model IV		Ln_Dividend Model V		Ln_Dividend Model VI	
	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.	Coeff.	PVal.
SIZE			0.030	0.000	0.030	0.000	0.016	0.000	0.035	0.000	0.031	0.000
ER			0.010	0.000	0.010	0.000	0.071	0.000	0.011	0.001	0.009	0.000
RETE			-0.001	0.000	-0.001	0.000	0.002	0.000	0.000	0.559	-0.001	0.000
CASH			0.002	0.000	0.002	0.000	0.012	0.000	0.006	0.006	0.002	0.000
CLOSE			-0.003	0.000	-0.003	0.000	0.001	0.633	-0.004	0.132	-0.003	0.000
NI_Risk			0.048	0.000	0.047	0.000	-0.042	0.622	0.011	0.850	0.045	0.000
G_TA			0.000	0.144	0.000	0.216	-0.008	0.002	0.000	0.740	0.000	0.030
MTBV			-0.021	0.000	-0.023	0.000	0.154	0.000	-0.022	0.189	-0.019	0.000
G_Sales			0.000	0.252	0.000	0.089	-0.004	0.054	0.000	0.657	0.000	0.165
LR			-0.009	0.000	-0.009	0.000	-0.036	0.000	-0.005	0.177	-0.008	0.000
ERF			-0.022	0.004	-0.024	0.002	0.070	0.008	-0.030	0.392	-0.010	0.265
Ln_Sales_Emp			0.135	0.000	0.138	0.000	-0.025	0.875	0.242	0.003	0.106	0.000
Ln_EMP			0.272	0.000	0.269	0.000	-0.136	0.087	0.169	0.111	0.267	0.000
COM			0.169	0.000	0.176	0.000	0.378	0.000	0.241	0.090	0.122	0.001
YEAR			0.033	0.000	0.032	0.000	0.017	0.029	0.036	0.000	0.034	0.000
DTP											-0.330	0.000
PVT	0.653	0.000	0.400	0.000	1.152	0.204	0.126	0.962	1.044	0.568	0.935	0.295
SIZE * PVT					0.000	0.965	0.012	0.218	-0.005	0.332	-0.001	0.721
ER * PVT					0.004	0.004	0.010	0.064	0.003	0.630	0.004	0.003
RETE * PVT					0.000	0.399	-0.002	0.524	0.000	0.848	0.000	0.437
CASH * PVT					0.000	0.995	0.000	0.988	-0.004	0.272	0.000	0.901
CLOSE * PVT					-0.006	0.007	-0.004	0.029	-0.005	0.165	-0.006	0.008
NI_Risk * PVT					0.021	0.706	0.057	0.686	0.128	0.110	0.017	0.757
G_TA * PVT					-0.001	0.331	-0.003	0.376	-0.001	0.563	-0.001	0.443
MTBV * PVT					0.038	0.022	-0.029	0.724	0.040	0.091	0.035	0.035
G_Sales * PVT					0.001	0.001	0.005	0.065	0.003	0.044	0.001	0.001
LR * PVT					-0.005	0.269	0.005	0.503	-0.009	0.134	-0.005	0.214
ERF * PVT					0.031	0.528	-0.058	0.441	0.047	0.460	0.007	0.892
Ln_Sales_Emp * PVT					0.056	0.184	0.078	0.715	-0.094	0.413	0.048	0.033
Ln_EMP * PVT					0.060	0.073	0.192	0.024	0.124	0.212	-0.048	0.408
COM * PVT			-0.401	0.003	-0.468	0.002	-0.536	0.014	-0.374	0.068	-0.536	0.001
DTP * PVT											-0.340	0.262
Constant	0.955	0.000	-68.837	0.000	-68.501	0.000	-32.138	0.022	-75.914	0.000	-72.095	0.000
Observation	73503		41969		41969		41969		4474		35547	
Firms	5874		5267		5267		5267		443		4195	
R2 overall	0.030		0.639		0.640		0.113		0.675		0.665	
Ind. fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Year fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	

Appendix 1
This table presents a description of the firm characteristics and non-firm specific contextual factors used in the study.

Variables	Definition
Privatized (PVT)	A dummy variable, which indicates whether a company is privatized; PVT=1 otherwise zero. Privatization is defined as a government or government controlled entity which sells shares or assets to anon-government entity (Worldscope).Privatization includes both indirectand direct sales of up to a 100% stake to an identifiable buyer and floatation of stock on a stock exchange.
Non-privatized	Firms that have not been and are not controlled by the state.
Payout	
Cash Dividends (DIV)	The total real (1990 prices) amount of common cash dividend distributedby the firm, in millions of US$. DIV EBIAT and DIV NI is cash dividend(DIV) scaled by earnings before interest but after tax (EBIAT) and netincome (NI), respectively.
Size	
Market Value (MV)	The total real (1990 prices) amount of market value (capitalization)of the firm, in millions of US$.
Size of Firm (SIZE)	The country-specific market value percentile ranking of a firm on anannual basis.
Profitability	
Earnings Ratio (ER)	The firm earnings before interest but after tax (EBIAT) as a percentage of total assets.
EBIAT	The total real (1990 prices) earnings before interest but after tax in millions of US$.
Net Income (NI)	The total real (1990 prices) net income of the firm in millions of US$.
Liquidity	
Retained Earnings (RETE)	The retained earnings as a percentage of the market value of firm equity.
Cash Holding (CASH)	The sum of cash and short term investments as a percentage of totalassets of the firm.
Ownership	
Close (CLOSE)	The number of shares held by insiders (shareholders who hold 5% or more of the outstanding shares, such as officers, directors or their immediatefamily members, other corporations or individuals) as a percentage of thetotal number of outstanding common shares.
Risk	
Income Risk (NI_Risk)	The standard deviation of net income as a fraction of total assets over the most recent threeyears including the current fiscal year.
Growth	

Total Assets Growth (G_TA)	The relative (percentage) change of the total assets in real (1990 prices) millions of US$. $G\_TA_t = ln(TA_t / TA_{t-1})$, where *ln* is natural logarithm.
MTBV	The market value of equity divided by the book value of the equity. The adopted measure is equivalent to Tobin's Q (eq. 2 page 71Chung & Pruitt, 1994).
Sales Growth (G_Sales)	The relative (percentage) change of the total sales in real (1990 prices) millions of US$. $G\_Sales_t = ln(Sales_t / Sales_{t-1})$, where *ln* is natural logarithm.
<u>Leverage</u>	
Leverage Ratio (LR)	The sum of short-term and long-term debt as a percentage of the total assets of the firm.
<u>Reporting</u>	
Earning Reporting Frequency (ERF)	The frequency at which earnings are reported per annum. (1 to 4 times).1 = Annual, 2 = Biannual and 4 = Quarterly Reporting.
<u>Efficiency</u>	
Sales to Employees Ratio (Sales_Emp)	The total real (1990 prices) sales of the firm in millions of US$ as a fraction of the total number of employees working in a firm.
Employees (Emp)	The total number of both full-time and part-time employees working in a firm.
<u>Intercept</u>	
Constant	The intercept of the regression equation.
<u>Non-firm specific contextual factors</u>	
Common Law (COM)	A dummy variable, which indicates whether a company originates from a common law country; COM = 1, otherwise zero.
Dividend Tax Penalty (DTP)	Dividend tax penalty is attributable to Poterba and Summers (1984) and defined as $\delta^{Div.} = \frac{\frac{\tau^{Div.} - \alpha}{1-\alpha} - \tau^{CG}}{1-\tau^{CG}}$, where $\tau^{Div.}$ Is the dividend tax rate, τ^{CG} is the capital gains tax rate and α is the imputation rate (α varies from 0% to 33%). DTP is calculated in all countries except Argentina, Brazil, Chile, China, India, Malaysia, Peru, Russia and Turkey due todata availability limitations.
YEAR	Year of observation of the firm-level characteristics in the regression analysis, from 1990 to 2011.

Appendix 2

This table presents a description of the sample of privatized firms and their average cash dividend pay out (in millions of 1990 real US$), 1990 to 2011. Firms refer to the number of privatized firms. Dividend refers to the average value of DIV. All the DIV observations have been converted from local currency to US$ by using the year-end conversion rate. Panel A gives the country by country DIV. Panel B gives the DIV based on control versus revenue privatizations. Panel C gives the DIV based on the nature of the industry, a competitive versus uncompetitive industry. Panel D gives the DIV based on the level of economic development of the country where the firm is incorporated. Panel E reports the industry breakdown of the DIV. All panels except panel B contain observations on 409 firms. Panel B is limited to 214 firms due to a paucity of data in the change in shareholdings pre- and post-privatization.

Countries	Firms	Dividend	Category	Firms	Dividend
Panel A: Country by country			Panel B: By level of development		
Argentina	2	254.73	Emerging	87	111.97
Australia	5	28.65	Developed	249	149.91
Austria	7	12.99			
Brazil	15	291.17			
Canada	55	25.16			
Chile	2	68.07	Panel C: Sector by sector		
China	5	39.48			
Finland	8	48.71	Telecommunication	32	296.94
France	39	199.25	Manufacturing	147	108.64
Germany	23	229.70	Transport	32	86.32
Greece	5	178.90	Wholesale / Retail	32	97.03
India	2	73.20	Agriculture, Mining & Const.	45	210.86
Italy	13	404.46	Other	48	86.74
Malaysia	2	87.79			
Mexico	3	256.26			
Netherlands	6	209.87			
New Zealand	5	19.64			
Norway	3	16.31			
Peru	7	25.12			
Poland	18	43.67			
Portugal	6	25.83			
Russia	22	111.16			
Spain	11	387.71			
Sweden	12	25.91			
Turkey	9	50.49			
UK	51	45.96			

Appendix 3

This table presents the annual time-series of the number of usable observations (N), the proportion of dividend payers (Prop.) as a fraction of firms that disclose their dividend payout, the arithmetic mean (Mean) and the median (Median) values of dividend, DIV, pay out for each year - 1990 to 2011 for the privatized and non-privatized firms. All data are sourced in Worldscope. All the DIV observations have been converted from local currency to US$ by using the year-end conversion rate. We test the significance of the changes in the proportions, arithmetic means, and medians of cash dividend pay out for each year between the privatized and non-privatized firms. We employ the two-sample mean-comparison tests (with T-statistics) as our test for significance for the difference in proportions and mean payout amounts of payers. We employ the Wilcoxon signed rank test (with its Z-statistics) as our test of significance for the change in median values of DIV between the privatized and non-privatized firms.

	Privatized firms				Non-privatized firms				Difference in		
Year	N	Prop.	Mean	Median	N	Prop.	Mean	Median	Prop.	Mean	Median
1990	105	0.88	40.50	6.17	1730	0.88	21.65	2.55	0.00	18.85[c]	3.62[a]
1991	110	0.84	37.50	5.63	1858	0.85	20.86	2.40	-0.02	16.65[c]	3.24[a]
1992	115	0.77	38.78	5.34	1973	0.82	18.72	2.06	-0.05	20.06[b]	3.28[a]
1993	124	0.78	38.09	4.49	2065	0.79	15.80	1.60	-0.01	22.30[b]	2.89[a]
1994	131	0.73	41.94	3.48	2172	0.79	18.05	1.88	-0.06	23.89[b]	1.60[a]
1995	145	0.79	53.68	7.06	2317	0.81	21.40	2.36	-0.02	32.28[a]	4.70[a]
1996	165	0.79	56.35	5.16	2704	0.78	21.32	2.08	0.01	35.03[a]	3.09[a]
1997	176	0.77	57.24	4.99	2897	0.77	20.37	1.78	0.00	36.88[a]	3.21[a]
1998	192	0.77	69.24	6.11	3022	0.75	24.76	1.67	0.02[b]	44.48[a]	4.45[a]
1999	203	0.74	76.94	5.41	3166	0.70	28.18	1.27	0.04[b]	48.76[a]	4.14[a]
2000	219	0.68	76.14	2.97	3452	0.68	21.44	1.05	0.01	54.70[a]	1.92[a]
2001	226	0.64	88.55	1.89	3644	0.64	24.57	0.81	0.00	63.98[a]	1.08[a]
2002	239	0.62	82.82	1.68	3779	0.59	23.36	0.51	0.03[b]	59.46[b]	1.17[a]
2003	256	0.59	86.60	1.42	3944	0.56	26.62	0.47	0.02[b]	59.98[a]	0.95[a]
2004	272	0.59	125.06	1.75	4110	0.56	31.91	0.49	0.03[b]	93.16[a]	1.26[a]
2005	273	0.59	146.43	2.13	4199	0.52	31.97	0.69	0.06[a]	114.45[a]	1.44[a]
2006	270	0.67	177.32	3.54	4222	0.60	42.62	0.82	0.08[a]	134.70[a]	2.72[a]
2007	263	0.70	228.18	4.89	4093	0.61	55.31	1.17	0.09[a]	172.87[a]	3.72[a]
2008	254	0.65	240.26	5.01	3967	0.61	54.57	1.42	0.03[a]	185.70[a]	3.59[a]
2009	246	0.66	234.14	2.20	3841	0.58	49.05	0.84	0.08[a]	185.08[a]	1.36[a]
2010	234	0.64	221.75	4.28	3720	0.58	50.72	0.79	0.07[a]	171.03[a]	3.49[a]
2011	201	0.70	276.32	10.75	3268	0.63	67.38	1.79	0.07[a]	208.94[a]	8.97[a]
1990 - 2011	4419	0.71	128.02	3.94	70143	0.66	33.61	1.25	0.05[a]	94.41	2.69[a]

a, b, c represents significance at the 1%, 5% and 10% levels respectively.