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Cash dividends and investor protection in Asia

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Abstract

We study the importance of investor rights in payout policy determination in Asia, using a sample of up to 52,778 firm years. The listed Asian firms located in relatively high investor protection, common law countries, have a greater tendency to pay out and, if they do so, they tend to pay out more. We also examine the importance of distinctive creditor and minority shareholder rights in respect to payout policy determination. In our study of a variety of pay out events (decisions to pay out, to initiate or omit pay out and to markedly increase or decrease pay out), we show that this set of pay out events is principally determined by competing creditor and minority shareholder rights, rather than managerial sought reputation related effects, to diminish the cost of capital. Our findings indicate that creditors exert significant and far reaching influence over corporate payout policy decision-making, however, the importance of the agency costs of equity predominate.

Keywords: Payout policy, dividends, share repurchases, international financial markets
JEL Classification: G15, G32, G35,

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1 Introduction

In this article, we study the principal-agent relation and associated agency conflicts in respect to corporate payout determination in Asia. In particular, we examine the importance of distinctive creditor and minority shareholder rights in respect to payout policy determination across a wide variety of investor protection environments present in the region.

In a seminal contribution to the literature on international corporate governance, La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) find that higher dividends internationally are an 'outcome' of better minority shareholder protection regulation, at the country level, which enables these stakeholders to negotiate effectively with management and controlling shareholders. Over the last decade, several researchers have found corroborative evidence in favor of managers distributing more cash as dividends in countries with better minority shareholder protection regulation. For example, Dittmar, Mahrt-Smith and Servaes (2003) find evidence that firms incorporated in stronger shareholder protection countries hold less cash. Further, Pinkowitz, Stulz and Williamson (2006) find that cash is worth less to the minority shareholders invested in the firms in low-protection countries as a result of legal frameworks which facilitate the expropriation of this cash by the management and controlling shareholders.

Kalcheva and Lins (2007) and Jiraporn, Kim and Kim (2011) find that individual firm-level corporate governance quality also has a significant impact on its dividend policy. Kalcheva and Lins (2007) simultaneously control for minority shareholder protection both at the firm- and the country-level, and find that firms with weak minority shareholder protection, which are incorporated in countries that permit weak minority shareholder rights, hold more cash. Jiraporn, Kim and Kim (2011) show that stronger governance at firm-level not only leads to a higher propensity to pay but also to higher payout amounts. In addition, Brockman and Unlu (2011), indicate that the firm's disclosure environment plays a significant role in dividend payout policy determination through its effect on agency costs. Although it is therefore evident that both firm- and country-level measures of potential agency conflicts have both been found to determine corporate payouts, Harford, Mansi and Maxwell (2008) show that a firm's cash holding is principally influenced by the country-level minority shareholder protection rather than firm-level protection. Taken together, these international studies establish a pronounced linkage between minority shareholder rights at the firm- and country-level and cash holding as well as the disbursement of dividends at the firm-level. These studies suggest that in low-protection countries, management can stockpile cash while in high-protection countries legal frameworks enable minority shareholders to obligate the management to distribute cash and this manifests itself in the form of higher payout ratios in these countries.

In a complementary strand of the literature, researchers have turned to examining the importance of distinctive creditor and minority shareholder rights in respect to payout policy determination.[1] Brockman and Unlu (2009) use country-level creditor rights indices to document that creditors can strongly influence the management to adopt a more restrictive payout policy as a 'substitute' mechanism for weak creditor rights to minimize the firm's

[1]There are also several studies which examine the impact of the agency costs of debt on dividend policies at the individual country level, hence holding constant the creditor rights environment (Smith and Warner, 1979, Kalay, 1982 and Easterbrook, 1984).

agency cost of debt. In fact, they report that the agency costs of debt play a more influential role in dividend policies internationally than the agency costs of equity. In a similar vein, Chae, Kim and Lee (2009) find international evidence that firms with higher external financing costs undertake a more restrictive payout policy in order to maximize the value of the firm.

In this article, we adopt logit and tobit regression model specifications, together with the Fama-Macbeth (1973) hypothesis testing methodology, to build on the findings presented in Brockman and Unlu (2009), in respect to the impact of creditor and minority shareholder protection regulation on firm dividend policies. Unlike in the extant literature, which generally has a dominance of civil law countries in its sample (La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2000, von Eije and Megginson, 2008 and Brockman and Unlu, 2009, 2011), our Asian sample of ten developing countries includes an approximately balanced data set of five common law and five civil law countries. This allows a potentially insightful investigation of the impact of common and civil law regulatory frameworks on dividend policies in respect to emerging economies exclusively. In addition, our measurements of country level creditor and minority shareholder rights are preferred to those which are adopted in Brockman and Unlu (2009). Specifically, while we adopt a dynamic measurement, 2005 through to 2009, of creditor and minority shareholder rights indices, Brockman and Unlu (2009) avail of a static measurement of these rights.[2] In our investigation of the impact of investor rights on firms' dividend policies we follow Brockman and Unlu (2009) in controlling for firm maturity, leverage, profitability, growth opportunities, size and cash holdings. In addition, we extend this set of control variables to include the ownership concentration (Faccio, Lang and Young, 2001 and Chemmanur, He, Hu and Liu, 2010), earnings reporting frequency (von Eije and Megginson, 2008), stock market liquidity and market capitalization (Pinkowitz, Stulz and Williamson, 2006) as well as income risk (von Eije and Megginson, 2008) and privatization (Megginson, Nash and Randenborgh, 1994 and von Eije and Megginson, 2008) variables. Finally, following Brockman and Unlu (2009), in respect to the determination of dividend policies, we consider the determination of dividend omissions but we also consider the determination of dividend initiations, large dividend increases and large dividend reductions.

Our main findings can be summarized as follows. First, using a sample of up to 52,778 firm years and allowing for traditional payout determination variables, the Asian firms located in relatively high investor protection, common law countries, have a greater tendency to pay out and, if they do so, they tend to pay out more. Second, we also examine the importance of distinctive creditor and minority shareholder rights in respect to payout policy determination. The amount of pay out, and the decisions to initiate dividends and distribute a large increase in the dividends, are determined by the balance of these 'stakeholders rights' and the corresponding capacities of these stakeholders to influence insiders to retain or disgorge cash, respectively. Albeit, the decision to pay out (excluding the decision to *initiate* the pay out of dividends), is conducted to promote, from the perspectives of creditors and minority shareholders, the reputation of the firm. Finally, our findings indicate that creditors exert significant and far reaching influence over corporate payout policy decision-making, however, in Asia the importance of the agency costs of equity pre-

[2]The dynamic measurements of creditor and minority shareholder investor rights, which are sourced at the World Bank, are not available prior to 2005.

dominate. These findings are robust to an extensive set of control variables and model specifications.

The remainder of this article is organized as follows. In section 2, our data set is outlined and the constructed proxy explanatory variables are described with a particular focus on creditor and minority shareholder investor protection regulation variables. In section 3, we present summary statistics at the firm-, country- and industry-levels. In section 4, we present our empirical findings. Finally, a summary and concluding remarks are presented in the last section.

2 Data

In this section, we describe the sample of firms and both the dependent and independent variables adopted in this study. The dataset of independent variables, for our study, comprises an extensive set of country-specific investor protection variables and a well informed set of firm-specific characteristics, as detailed in table 1. We obtain our firm-level data from Worldscope via Thomson One Banker Analytics. We obtain our country level investor protection data from the World Bank's Doing Business database. With regard to both our dependent and our independent variables, we adopt a real US$ numeraire currency, with a base year for real value calculations set at 1990. To convert our nominal values into real values, we use country specific consumer price indices sourced at the World Bank in its World Development Indicators database.

Our dataset extends from 1990 to 2009 as a result of the limited availability of Asian related data at Worldscope prior to this period. We end the sample of data in our study in 2009 to minimize the effect of the sub-prime crisis on our firm specific control variables, which are included, as lagged variables (up to 2008), in our model specifications. Our dataset is also constrained to include the listed firms headquartered in the ten Asian countries examined in this study. In order to avoid the problem of survivorship bias we search for both active and inactive, *i.e.*, either dead or suspended listings in Worldscope. In addition, we eliminate firms with duplicate International Security Identifying Numbers (ISIN) and foreign firms. Following Fama and French (2001), we exclude utilities (SIC Code 4900-4949) and financial firms (SIC Code 6000-6999)[3]. Finally, firms with dividends which are greater than their total sales and firms with negative dividends, sales or market-to-book ratios are excluded from our analyses.

Our set of constraints yields 5,840 industrial listed firms across the ten Asian countries examined in this study. Our sample is proportionately divided between civil law (41%) and common law countries (59%). In particular, the civil law countries in the sample include China (686 firms), Indonesia (276 firms), Philippines (121 firms), South Korea (620 firms) and Taiwan (657 firms) and the common law countries observed include Hong Kong (655 firms), India (1,369 firms), Malaysia (696 firms), Singapore (363 firms) and Thailand (397 firms).

[Please insert table 1 about here]

[3]The payout policy and external financing of utilities is highly regulated. The financial reporting systems of financial firms differs from the wider sample of firms in our sample.

2.1 Dividend pay out

We study the impact of investor protection, while controlling for an extensive set of firm-specific characteristics, on the firm's likelihood to pay and the pay out amount by conducting logistic and tobit regression analyses. To examine the likelihood to pay, we use a dividend payout dummy (RDIV) which is equal to one if the firm initiates a common cash dividend, otherwise it is equal to zero. In our tobit regressions, following von Eije and Megginson (2008), we scale the real amount paid as common cash dividend by calculating its natural logarithm. In this way, we purposefully avoid the inclusion of firm-specific accounting data as a component of our dependent variable, *e.g.* by scaling cash dividends by total assets, sales or earnings (see, *inter alia*, Fama and French, 2001 and Denis and Osobov, 2008). In order to capture the essence of actual (real) common cash dividends paid, we use a natural logarithm scaled pay out dependent variable.

2.2 Investor protection variables

Our investor protection variables are sourced at the World Bank's Doing Business database and comprise three categories of variables: a creditor rights variable (a Legal Rights Index, LegRInd), a minority shareholder rights variable (an Investor Protection Index, ShRights) and a variable indicating the quality of the background country-level regulatory framework (RegQua). These investor protection variables extend over a five year period from 2005 to 2009 and the variables are updated annually. Our decision to measure the extent of minority shareholder and creditor rights follows in the vein of La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998, 2000) and Brockman and Unlu (2009), respectively. In fact, the specific Legal Rights Index which we adopt is originally constructed in Djankov, McLeish and Schleifer (2007) and the Investor Protection index, which we adopt, is introduced in Djankov, LaPorta, Lopez-de-Silanes, and Schleifer (2008).

The Legal Rights Index (LegRInd) measures the extent to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. The index ranges from 0 to 10, with higher scores indicating that these laws are better designed to expand access to credit. The adopted minority share holder rights index (ShRights) measures the capacity of these shareholder to protect themselves against management and directors misuse of corporate assets for personal gain. In particular, the index of shareholder rights reflects three attributes of investor protection, these are shareholders ability to sue officers and directors for misconduct (ShInd), the directors liability for self-dealing (DirLia) and the transparency of related-party transactions in the form of disclosure (DisInd). The index of shareholder rights (ShRights) is calculated as the the equally weighted mean of ShInd, DirLia and DisInd for each country annually. The index ranges from 0 to 10, with higher values indicating superior minority shareholder protection. The data for the Legal Rights index and the Investor Protection index are sourced in surveys of corporate lawyers with regard to securities regulations, company law and court rules of evidence. Unlike the perception-based index of creditor rights and anti-director rights adopted by La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998, 2000) and Brockman and Unlu (2009), which was based on a somewhat *ad-hoc* selection of variables (Jappelli, 2010 and Haidar, 2009), the outlined Legal Rights and Investor Protection indices provide relatively objective

measures of creditor and minority shareholder protection regulation and enforcement.[4]

Finally, we extend our model specifications to incorporate an additional governance factor to account for the overall quality of a country's regulatory framework (RegQua). This regulatory quality (RegQua) variable aims to capture the government's ability to formulate and implement sound policies and regulations which permit and promote private sector development.

2.3 Control variables

We use a well informed set of firm-specific control variables which have been studied in the corporate payout policy determination literature to account for various dividend payout theories. Following Pinkowitz, Stulz and Williamson (2006), Dittmar and Mahrt-Smith (2007) and Brockman and Unlu (2009), we assess the empirical importance of the agency-cost based theory of dividend determination by controlling for cash holdings to assets (CASH) and debt to assets (LR). In addition, Aggarwal and Kyaw (2010), report the importance of leverage to mitigate agency costs in multinational firms. Following Chemmanur, He, Hu and Liu (2010) and Gopalan, Nanda and Seru (2013) we control for ownership concentration by averaging the ratio of number of closely held shares to total outstanding common equity (OWN) from 1990 to 2009. In respect to the development of the firm's investment opportunity set (Fama and French 2001 and Denis and Osobov 2008), we include the annual change in real total assets (DAA) in our model specifications. Following, DeAngelo, DeAngelo and Stulz (2006), we include retained earnings to total equity (RETE) as a proxy for the phase of the financial life-cycle of the firm and in the spirit of Fama and French (2001) and Grullon and Michaely (2002), we adopt (percentile rank of) market capitalization (SIZE), as an indication of the phase of the firm's financial life-cycle.

In addition, following Lintner (1956) and Miller and Rock (1985) we control for the earnings before interest after tax to total assets (EA). Bozos, Nikolopoulos and Ramgandhi (2011) report that earnings on the London Stock Exchange may contain important information content, in relation to average abnormal stock market returns, particularly during periods of economic growth and stability. de Jong, van Dijk and Veld (2003) highlight the role of free cash flows in determining pay out. Free cash flow is related to earnings and is the cash flow that remains subsequent to optimal capital budgeting decisions. Anticipated income uncertainty is expected to have a significant influence on the firm's likelihood to pay due to the deteriorating effect on the firm value and higher cost of external financing. To operationalize this aspect, we include income risk (SDS), as suggested by von Eije and Megginson (2008). We also follow Wood (2001) and von Eije and Megginson (2008) to include Earning Reporting Frequency (ERF). Further, we account for the country-specific characteristics by following von Eije and Megginson (2008) to include a dummy (equal to 1) for the privatized firms (Private) and common law countries (COM). Finally, in line with Pinkowitz, Stulz and Williamson (2006), we control for the size of the stock market

[4]In line with Aggarwal, Erel, Stulz and Williamson, 2008, we would additionally wish to account for, firm-level governance indices which increase with minority shareholder protection. However, these firm level indices are not available at present, across both minority shareholder and creditor rights. For example, if we were to avail of the Aggarwal, Erel, Stulz and Williamson, 2008 dataset, this would account only for minority shareholder rights indices at the firm level in a subset of our Singapore and Hong Kong sampled firms.

(StTraVal) and stock market liquidity (StTraVol) from the World Bank's World Development Indicators.

We winsorize variables defined as ratios, namely the earnings ratio (EA), the asset growth rate (DAA) and retained earnings to total equity (RETE) at upper and lower 0.5% levels, while we winsorize variables such as cash holdings to assets (CASH), the leverage ratio (LR) and income risk (SDS) at upper 0.5% levels only as these variables have a minimum lower bound value of zero. The predicted signs between our firm-specific control variables and dividends are as follows: SIZE (+); EA (+); CASH (+/-)[5]; DAA (-); LR (-); RETE (+); ERF (+/-)[6]; SDS (-); OWN (+/-)[7]; Private (+); COM (+), StTraVal (+); StTraVol (+).

3 Summary statistics

3.1 Firm-specific and country-level

Table 2 presents our main sample summary statistics in each of the ten countries studied as well as for the common and civil law country groupings. As a majority of payout disclosures (N) involves actual payouts (Payers) both across country groupings and across individual countries, the sample has a majority of dividend paying firms. There is a higher average payout per firm, in terms of both cash dividends (primarily China and Taiwan) and share repurchases (South Korea), in civil law countries than in common law countries. Among common law countries (Panel A), Hong Kong and Singapore are the significant payers in respect to both aggregate and average amounts. The principal distinctions across explanatory variables in respect to country groupings relate to the relatively large firms in civil law countries (Panel B) which tend to be less closely held than their counterparts in common law countries. In addition, the civil law countries tend to have overall stock markets with relatively large market capitalizations as well as relatively liquid stock market trading.

Turning to the last section of both Panels in table 2. It reports the raw values of country-level investor protection variables with high scores representing strong investor protection. Based on the average and median value - obtained from the World Bank's Doing Business database for 2005-2009 - common law countries have a higher investor protection across all the six factors[8]. Overall, among common law countries, Singapore and Hong Kong represents best level of investor protection followed by Malaysia, India and Thailand. While, except for South Korea, there is lack of substantial variation in the investor protection environment among civil law countries.[9]

[5]DeAngelo, DeAngelo and Stulz (2006) state that firms may have a high cash holding due to accumulated free cash flow (incentivates a dividend increase) or to finance future growth (incentivates a dividend decrease).

[6]von Eije and Megginson (2008) argue that if if a company signals its quality by frequent reporting, it does not pay cash dividends as frequently (negative impact on the likelihood to pay out) but if it does pay out, it can pay more (positive for the amount paid).

[7]Chay and Suh (2009) envision ownership concentration as a sign of increased agency conflict between the management and shareholders (negative relation on pay out) while Gopalan, Nanda and Seru, 2013, interpret it to be a source of internal financing (positive relation on pay out).

[8]Except for the median for Regulatory Quality (RegQua) of civil law countries.

[9]The table reports noteworthy variation in creditor rights, LegRInd, across countries with similar legal

[Please insert table 2 about here]

3.2 Industry-specific

In table 3 we not only present the distribution of our sample firms across different industries (based on SIC Code classification) but we also report the average number of payers and payout amount across industry sectors. As can be seen from the table, our sample does not appear to be heavily weighted towards a particular industry and contains a broad cross-sectional representation of industry sectors. The largest number of firms from a specific sector, in our sample, comes from the machinery industry sector (1,244 firms or 21.30%) closely followed by the food textiles and printing industry sector (1,014 firms or 17.36%). The chemical and petroleum industry has the highest proportion (68.98%) of payers and the highest median payout (US$ 0.49 million). Unsurprisingly, the highest amount of real payout comes from the machinery industry sector (US$ 52,947 million, *i.e.*, 19.93%). It is followed by the wholesale and retail sector (US$ 37,552 million, *i.e.*, 14.14%). However, the transportation sector (US$ 14.82 million) and mining sector (US$ 13.63 million) report the highest average dividend payouts per firm.

[Please insert table 3 about here]

3.3 Amount paid and payout pattern

In this section, unlike findings reported for the United States (Skinner, 2008), we document a marked preponderance of cash dividends relative to share repurchases in Asia. We plot the cash dividend pay out, share repurchases and total pay out, in figure 1, 1990 to 2009. This figure shows that total payout is closely tied to cash dividends (66.6% - lowest - in 2000 to 99.6% - highest - in 1994 of total payout relates to cash dividends. The proportion of share repurchases in total pay out diminishes significantly in 2008 and 2009). Furthermore, as evident from the graph, fluctuations in total payout (from US$ 2.71 billion in 1990 to US$ 43.65 billion in 2007) are not principally driven by fluctuations in aggregate share repurchase amounts (which vary from US$ 0.02 billion in 1994 to US$ 6.64 billion in 2007) but by cash dividend amounts of pay out (from US$ 2.64 billion in 1990 to US$ 38.24 in 2008). Taking these findings together, it is evident that cash dividends is the preferred payout mechanism in Asia.

[Please insert figure 1 about here]

Turning to year-by-year pay out (both cash dividends and share repurchases), table 4, reports a systematic year-by-year increase from 1990 to 2008 in dividend (share repurchase) disclosures, from 216 in 1990 to 5,013 in 2008 (from 185 in 1990 to 4,263 in 2008) and also in the number of dividend payers (share repurchasers), from 185 in 1990 to 3,157 in 2008 (from

origins, *i.e* common and civil law countries, as well as countries with similar protection of minority shareholder rights, ShRights. For example, Thailand, a common law country, is ranked near the top of the list (after Singapore, Malaysia and Hong Kong), in respect to minority shareholder rights, ShRights. Notwithstanding, it is ranked near the lowest of the ten countries examined in respect to creditor rights, LegRInd (just above Indonesia, Philippines and Taiwan).

5 in 1990 to 724 in 2008). The joint execution of dividend pay out and share repurchases has risen in a similar fashion (from 4 in 1990 to 584 in 2008)[10]. The observed rise in pay out activity over the last two decades in Asia primarily stems from a striking increase in the observed listings, from 2,059 listings in 1990 to 12,600 listings in 2009.

In table 4, it is evident that from 1990 to 2009, the total number of firms that conduct share repurchases exclusively (1,091) or undertake dividend pay out and share repurchases simultaneously (3,564) is small relative to the total number of firms which elect to pay cash dividends exclusively (23,409). Furthermore, the relative unimportance of share repurchases is also evident in average pay out amounts disbursed, in light of a significantly higher average cash dividend pay out (US$ 5.03 million per observed firm) relative to average share repurchase amounts (US$ 0.93 million per observed firm).

On examination of the pay out of that minority of firms which engages in share repurchases pay out activity, the average pay out (US$ 8.92 million per repurchasing firm) is higher than the average pay out amount observed through cash dividends (US$ 8.21 million per cash dividend payer). Therefore, as a result of the statistics depicted in the figure 1 and presented in table 4, we proceed to exclude share repurchases from our analyses. Share repurchases activities in Asia not only account for a small fraction of total pay out thereby failing to explain the fluctuation in total pay out amounts but they also stem from a small subset of listed industrial firms.

[Please insert table 4 about here]

4 Empirical results - regression analysis

4.1 Payout theories and firm-specific characteristics

In table 5, we analyze the importance, in respect to Asian listed industrial firms payout decisions and amounts of pay out, of different but potentially mutually inclusive payout theories. We focus on aspects of agency conflicts and investor protection, in relation to firm payout determination. We adopt logit and tobit regression models, and we account for certain agency conflict effects (CASH, DAA, LR and OWN) as well as the financial phase of the life-cycle of the firm (SIZE and RETE). In addition, we simultaneously account for other important firm- and market-specific characteristics viz. EA, ERF, SDS, Private, COM, StTraVal and StTraVol, related to pay out determination, as detailed in section 2. The dependent variable for the decision to pay dividends (Panel A), modelled using the logit regression, is a dummy variable. It has a value equal to one if a firm decides to pay in a fiscal year, otherwise it is zero. We adopt the logit regression model to examine the importance of well-known payout theories on a firm's decision to pay cash dividends. The dependent variable for the tobit regression (Panel B) is the natural logarithm of the amount of cash dividends paid by cash dividend payers, in millions of US$ in 1990 prices. In this model, we also account for the impact of the key dividend pay out theories on dividend pay outs. Across the logit and tobit regression models, each reported coefficient is the average of the nineteen regression coefficients over the nineteen-year sample period, 1990 to 2009.

[10]There is a marginal decline of approximately 5% in three of the five categories discussed above from 2008 to 2009 and a significant drop in actual repurchasing firms from 724 (2008) to 498 (2009).

The average coefficient standard errors are calculated following the Fama-MacBeth (1973) methodology.

It is especially interesting to note that well-known agency conflict variables, which determine pay out, *e.g.* the leverage ratio (a negative effect on likelihood to pay, Brockman and Unlu, 2009) and ownership concentration (a significant positive effect, Gopalan, Nanda and Seru, 2013) and the country level investor protection dummy variable (COM) are of first order importance, in respect to payout determination in Asia. Our main variable of interest in this table, the common law dummy (COM) variable, is significantly positive for both the likelihood to pay (1.706, t-stat=11.98) and amount paid (0.323, t-stat=4.72). Consistent with the findings of La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) in an international setting (33 countries) and von Eije and Megginson (2008) in the European Union (15 countries), we find, accounting for a wide variety of pay out determinants, that Asian firms located in high investor protection regimes, *i.e.*, common law countries, have a greater tendency to payout and if they do so they tend to payout more.

Overall the regression results, provide evidence in support of the agency-cost based lifecycle theory in the Asia setting. Our empirical findings are qualitatively consistent, not only for the full Asia sample, but also for the blocks of civil law and common law countries in respect to agency cost-based determinants (CASH, DAA, LR and OWN) and key lifecycle determinats (SIZE and RETE) of dividend pay out. Additionally, our models provide evidence in support of key traditional determinants of payout, like the positive effect of the earnings ratio (EA) and the negative effect of income volatility (SDS). In line with findings in the European Union (von Eije and Megginson, 2008), we report a markedly large proportion of the payout amount emanating from previously state-owned privatized firms (Private). Unlike the findings presented in Pinkowitz, Stulz and Williamson (2006), the expected effect of the stock market size (StTraVal) and liquidity (StTraVol) is restricted, in Asia, to the decision to pay out, and this is primarily driven by decisions in civil law countries.

In summary, the payout policies of the industrial listed firms in the Asian markets are operating in line with the extant literature, which reports findings from the United States (Fama and French, 2001 and Skinner, 2008), the European Union (von Eije and Megginson, 2008) and the G-6 countries (Denis and Osobov, 2008). As a result, new findings concerning dividend payout determination in these Asian markets, in respect to the importance of distinctive creditor and minority shareholder rights is likely to have relevance even beyond the Asia region.

[Please insert table 5 about here]

4.2 Investor protection and likelihood to pay

In table 6, we examine the impact of investor protection variables, LegRInd, ShRights and RegQua, on the firm's payout decision, while accounting for effects of the traditional pay out determinants, in the period 2005 to 2009. We report models in respect to LegRInd, ShRights, RegQua and overall investor protection in Panels A to D, respectively. Consistent with findings reported in table 5, across the four models, our key traditional determinants show the expected effects. In particular, firms with higher market capitalization (SIZE),

profitability (EA), retained earnings (RETE) and ownership concentration (OWN) together with lower debt levels (LR) and income volatility (SDS) are more likely to decide to pay dividends. As previously suggested, this effect is increased if the firm is headquartered in a relatively high investor protection regime (*i.e.* a common law country, COM) and if it is listed on a relatively small (StTraVal) but highly liquid (StTraVol) stock exchange.

In Panel A, in line with findings reported in Brockman and Unlu (2009), the estimated coefficients (t-statistics) of 0.010 (2.07) and 0.046 (1.98) for the creditor rights (LegRInd) are positively significant and they support the substitution hypothesis of dividend pay out, *i.e.*, weak creditor rights lead managers to substitute restrictive dividend policies. In Panel B, the coefficient of interest on minority shareholder rights (ShRights) switches from significantly negative, -0.008, t-statistic = 3.22, (in support of the substitution hypothesis) to significantly positive, 0.185, t-stat = 3.62, (in support of the outcome hypothesis, in line with the La Porta, Lopez-de-Silanes, Shleifer and Vishny, 2000), in respect to the likelihood to pay. As a result, we leave interpretation of the effects of minority shareholder rights (ShRights) to the fully parametrised model presented in Panel D, which accounts for the three investor protection variables simultaneously. Next, in Panel C, we study the importance of regulatory quality (RegQua), in respect to the likelihood to pay. The coefficients (t-statistics) of especial interest, 0.005 (t-stat=3.77) and 0.022 (t-stat=2.38), are positive and highly significant.

Finally, in Panel D, we report the simultaneously estimated effects of all three investor protection variables (LegRInd, Shrights and RegQua), both alone and with the traditional determinants of dividend pay out to act as control variables. We find significant and consistent results in support of the substitution hypothesis of dividend pay out, across the two models. The more extensive creditor rights and the weaker the rights of minority shareholders, the more likely the decision to pay. Hence, the decision not to pay dividends, *i.e.*, an example of a restrictive dividend payout policy, is a substitute mechanism for weak creditor and strong minority shareholder rights. This mechanism substitutes dividend restrictions, through contractual arrangements and informal agreements, for weak creditor rights with a view to attaining reputational capital and reducing the cost of capital in the future (Brockman and Unlu, 2009). At the same time, the decision to pay out substitutes for weak minority shareholder rights, thus also attaining reputational capital. The findings suggest the importance of creditor rights, in mitigating the agency costs of debt, in formulating corporate payout policies in Asia. Notwithstanding, the influence of the minority shareholder rights on the likelihood to pay out predominates, relative to the influence of creditor rights.

[Please insert table 6 about here]

4.3 Investor protection and amount paid

In table 7, we examine the impact of investor protection variables, LegRInd, ShRights and RegQua, both individually and simultaneously on the firm's payout amount, while accounting for effects of the traditional pay out determinants, in the period 2005 to 2009. Our findings, in the Asia region, across the four models are in line with Fama and French (2001). Larger firms (SIZE) with higher earnings and cash holdings (EA and CASH) and a smaller investment opportunity set (DAA) pay significantly higher dividends. In

addition, following findings reported in respect to firms in the European Union (von Eije and Megginson, 2008), privatized firms (Private) and firms that frequently report their earnings (on a quarterly basis) decide to pay more. It is interesting to note that our key agency variables, leverage (LR) and ownership concentration (OWN) together with the common law dummy (COM), in our tobit regressions, are generally insignificant in the 2005 to 2009 period.

In Panel A, we find that creditor rights (LegRInd) exhibit insignificant results across the restricted model specification (-0.011, t-stat=-1.68) and the unrestricted model specification (0.033, t-stat=1.74), where the latter estimate controls for the effects of traditional payout determinants. In panel B, we show consistent positive effects of minority shareholder rights (ShRights) across the restricted (0.078, t-stat=4.54) and unrestricted model specification (0.208, t-stat=4.24). Therefore the outcome hypothesis is relevant in regard to minority shareholder rights in respect to payout amounts. In panel C of table 7, similar to the findings in regard to the likelihood to pay, the regulatory quality (RegQua) has a positive and significant impact on the payout amount for both the restricted model specification (0.022, t-stat=12.41) and the unrestricted model specification (0.019, t-stat=18.81).

Turning to Panel D, we report the effects of the three investor protection variables simultaneously. We find consistent results in terms of sign and significance of coefficient for both the restricted and the unrestricted model specifications. The higher the minority shareholder rights (ShRights in Panel B, D) and the lower creditor rights (LegRInd in Panel A-restricted specification, Panel D) the greater the payout amount. These results are consistent with the outcome hypothesis of La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) where the agency cost of equity plays a decisive role in management's decision on dividend amount. Taking the findings in Panel D together, they show a tension between the influence of minority shareholders and bondholders rights, and this tension partially determines firm payout amount. The influence of the minority share holder rights on the dividend payout amount is markedly pronounced, relative to the influence of creditor rights.

[Please insert table 7 about here]

4.4 Robustness test

We adopt a logit regression model to conduct a number of additional hypotheses tests, in respect to the influence of investor protection variables on the decision to initiate, omit, markedly increase or decrease cash dividend pay outs (the latter are defined by more than 30% adjustments in payout amounts over consecutive fiscal years). The dependent variable is a dummy variable which is equal to one if the event occurs, otherwise it is equal to zero. The results are reported in table 8. In the model estimation, we account for the set of traditional control variables previously outlined and we focus on the set of coefficients on the investor protection variables.

In panel A, in respect to the decision to initiate dividends, we report a pronounced positive effect of minority shareholder rights (0.198, t-stat=8.59) and a significant negative effect of creditor rights (-0.137, t-stat=-2.67), on this decision. This finding qualifies the results presented in table 6, which indicates opposing effects on the decision to pay out, indicative of the importance of the substitution hypothesis. The latter findings should

now be qualified in terms of the importance of the outcome hypothesis in the context of decisions to initiate dividends. Turning to Panel B, following Dhillon and Johnson (1994) and Chemmanur, He, Hu and Liu (2010), we study marked increases in dividend payment amounts between consecutive fiscal years. In line with the dividend initiation findings, the estimated coefficients for minority shareholder rights (0.233, t-stat=5.51) and creditor rights (-0.114, t-stat=-2.74) are qualitatively similar for dividend increases. Hence, these latter findings also support the importance of the outcome hypothesis. Specifically, the greater investor entitlements, the greater the direct influence of the exercising of these entitlements on dividend pay out. Turning to regulatory quality (RegQua), it exhibits a positive but small influence on dividend initiation (0.009, t-stat=2.02) and a similar influence on marked dividend pay out increases (0.010, t-stat=2.16).

Panels C and D report findings in respect to the importance of investor protection variables on the decision to omit dividends (Brockman and Unlu, 2009) or to decrease dividends markedly. The findings suggest evidence, building on earlier findings in table 6, that the substitution hypothesis is important, in respect to creditor rights. A weakening of creditor rights (ShRights and RegQua do not significantly effect these decisions) results in a restriction of dividend policies, either in terms of a dividend omission or a pronounced decline in dividends. The implication is that such adjustments in dividends will reassure bondholders of the reputation of the firm in regard to the protection of their prospects as claimants on the firm's cash flows. It is envisaged that this should have a diminishing effect, other things equal, on the cost of debt in the firm's capital structure. There is no significant effect, documented in Panels C and D, in respect to minority shareholder rights.

Consistent with La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000), it is noteworthy that the outcome hypothesis effects of payout determination, reported in Panels A and B, are markedly stronger than the substitution effects (following Brockman and Unlu, 2009) of payout determination, reported in Panels C and D. Firm pay outs are principally characterised, from an agency conflicts perspective, by competing entitlements across minority shareholders and bondholders, as opposed to the importance of reputational effects.

[Please insert table 8 about here]

5 Conclusion

In this article, we study the principal-agent relation and associated agency conflicts in respect to corporate payout determination in Asia. In particular, we examine the relative importance of distinctive creditor and minority shareholder rights in respect to payout policy determination across a variety of investor protection environments present in the region.

Our study of the effects of the principal-agent relation on firm payout policy is conducted with considerable novelty. In this study, we examine the Asian markets, availing of a dynamic measurement, 2005 through to 2009, of creditor and minority shareholder rights. In contrast, Brockman and Unlu (2009) avail of a static measurement of creditor rights over time. Furthermore, we account for additional effects on the dividend decisions studied, relative to those effects accounted for in Brockman and Unlu (2009). In particular, we extend the set of control variables used by these authors to also account for the effects

of ownership concentration (Faccio, Lang and Young, 2001 and Chemmanur, He, Hu and Liu, 2010), earnings reporting frequency (von Eije and Megginson, 2008), stock market liquidity and market capitalization (Pinkowitz, Stulz and Williamson, 2006) as well the effects of income risk (von Eije and Megginson, 2008) and privatization (Megginson, Nash and Randenborgh, 1994 and von Eije and Megginson, 2008) on firm payout policy. Finally, following Brockman and Unlu (2009), in respect to the determination of dividend policies, we consider the determination of dividend omissions but we also consider the determination of dividend initiations, large dividend increases and large dividend reductions.

Several of our main findings are consistent with the findings reported in earlier studies. We find, in line with La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) and Harford, Mansi and Maxwell (2008), that the Asian firms located in relatively high investor protection, common law countries, have a greater tendency to pay out and, if they do so, they tend to pay out more. Second, we examine the importance of distinctive creditor and minority shareholder rights in respect to payout policy determination. Consistent with reported findings of Brockman and Unlu (2009) and Chae, Kim and Lee (2009), we show that the ongoing decision to pay out (exclusive of the dividend *initiation* decision) is conducted to promote, from the perspectives of creditors and minority shareholders, the reputation of the firm.

Concurrently, we do show, however, that the amount of payout of firms in Asia is principally determined by the balance of the 'stakeholders rights' and the corresponding capacities of debt and equity claimants to influence firm dividend policy. This veritable confrontation, between creditor and minority shareholder entitlements, is pre-eminent in influencing insiders to retain or disgorge amounts of cash (small and large) as well as the decision to initiate cash dividends. Finally, unlike in the extant literature we find a different relative importance of the agency costs of debt and equity on firm payout policy determination. In Brockman and Unlu (2009), a conclusion is drawn in regard to the decisive role of the agency costs of debt in determining dividend policies relative to that of the reported agency costs of equity. In contrast, our findings indicate that creditors exert significant and far reaching influence over corporate payout policy decision-making, however, in Asia at least, the importance of the agency costs of equity predominate.

References

[1] Aggarwal, R., Erel, I., Stulz, R., Williamson, R., 2008. Differences in governance practices between U.S. and foreign firms: measurement, causes, and consequences . Review of Financial Studies 22, 3131-3169.

[2] Aggarwal, R., Kyaw, N.A., 2010. Capital structure, dividend policy, and multinationality: Theory versus empirical evidence. International Review of Financial Analysis 19, 140-150.

[3] Bozos, K., Nikolopoulos, K., Ramgandhi, G., 2011. Dividend signaling under economic adversity: Evidence from the London Stock Exchange. International Review of Financial Analysis 20, 364-374.

[4] Brockman, P., Unlu, E., 2009. Dividend policy, creditor rights and the agency costs of debt. Journal of Financial Economics 92, 276-299.

[5] Brockman, P., Unlu, E., 2011. Earned/contributed capital, dividend policy, and disclosure quality: An international study. Journal of Banking and Finance 35, 1610-1625.

[6] Chae, J., Kim, S., Lee, E.J., 2009. How corporate governance affects payout policy under agency problems and external financing constraints. Journal of Banking and Finance 33, 2093-2101.

[7] Chemmanur, T.J., He, J., Hu, G., Liu, H., 2010. Is dividend smoothing universal? New insights from a comparative study of dividend policies in Hong Kong and the U.S. Journal of Corporate Finance 16, 413-430.

[8] Chay, J.B., Suh. J, 2009. Payout policy and cash-flow uncertainty. Journal of Financial Economics 93, 88-107.

[9] DeAngelo, H., DeAngelo, A., Stulz, R.M., 2006. Dividend policy and the earned/contributed capital mix: a test of the lifecycle theory. Journal of Financial Economics 81, 227-254.

[10] Denis, D.J., Osobov, I., 2008. Why do firms pay dividends? International evidence on the determinants of dividend policy. Journal of Financial Economics 89, 62-82.

[11] Dhillon, U.S., Johnson, H., 1994. The effect of dividend changes on stock and bond prices. Journal of Finance 49, 281-289.

[12] Dittmar, A., Mahrt-Smith, J., Servaes, H., 2003. International corporate governance and corporate cash holdings. Journal of Financial and Quantitative Analysis 38, 111-133.

[13] Dittmar, A., Mahrt-Smith, J., 2007. Corporate governance and the value of cash holdings. Journal of Financial Economics 83, 599-634.

[14] Djankov, S., La Porta, R., Lopez-de Silanes, F., Shleifer, A., 2008. The law and economics of self-dealing. Journal of Financial Economics 88, 430-465.

[15] Djankov, S., McLiesh, C., Shleifer, A., 2007. Private credit in 129 countries. Journal of Financial Economics 84, 299-329.

[16] Easterbrook, F.H., 1984. To agency-cost explanations of dividends. American Economic Review 74, 650-659.

[17] Faccio, M, Lang, L.P.H., Young, L., 2001. Dividends and expropriation. American Economic Review 91, 54-78.

[18] Fama, E.F., French, K.R., 2001. Disappearing dividends: Changing firm characteristics or lower propensity to pay?. Journal of Financial Economics 60, 343.

[19] Fama, E.F., MacBeth, J., 1973. Risk, return, and equilibrium: Empirical tests. Journal of Political Economy 81, 607636.

[20] Gopalan, R., Nanda, V., Seru, A., 2013. Internal capital market and dividend policies: Evidence from business groups. Review of Financial Studies, *forthcoming*.

[21] Grullon, G., Michaely, R., 2002. Dividends, share repurchases, and the substitution hypothesis. Journal of Finance 57, 1649-1684.

[22] Haider, J.I., 2009. Investor protections and economic growth. Economics Letters 103, 1-4.

[23] Harford, J., Mansi, S.A., Maxwell, W.F., 2008. Corporate governance and firm cash holdings in the US. Journal of Financial Economics 87, 535-555.

[24] Jappelli, T., 2010. Economic literacy: An international comparision. The Economic Journal 120, 429-451.

[25] Jiraporn, P., Kim, J-C, Kim, Y.S., 2011. Dividend payouts and corporate governance quality: An empirical investigation. The Financial Review 46, 251-279.

[26] de Jong, A., van Dijk, R., Veld, C., 2003. The dividend and share repurchase policies of Canadian firms: Empirical evidence based on an alternative research design. International Review of Financial Analysis 12, 349-377.

[27] Kalay, A., 1982. Stockholder-bondholder conflict and dividend constraints. Journal of Financial Economics, 211-233.

[28] Kalcheva, I., Lins, K.V., 2007. International evidence on cash holdings and expected managerial agency problems. Review of Financial Studies 20, 1087-1112.

[29] La Porta, R., Lopez-de Silanes, F., Shleifer, A., Vishny, R.W., 1998. Law and finance. Journal of Political Economy 106, 1113-1155.

[30] La Porta, R., Lopez-de Silanes, F., Shleifer, A., Vishny, R.W., 2000. Agency problems and dividend policies around the world. Journal of Finance 55, 1-33.

[31] Lintner, J., 1956. Distribution of incomes of corporations among dividends, retained earnings, and taxes. The American Economic Review 46, 97-113.

[32] Megginson, W.L., Nash, R.C., Randenborgh, M.V., 1994. The financial and operating performance of newly privatized firms: An international empirical analysis. Journal of Finance 49, 403-452.

[33] Miller, M.H., Rock, K., 1985. Dividend policy under asymmetric information. Journal of Finance 40, 1031-1051.

[34] Pinkowitz, L., Stulz, R., Williamson, R., 2006. Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. Journal of Finance 61, 2725-2751.

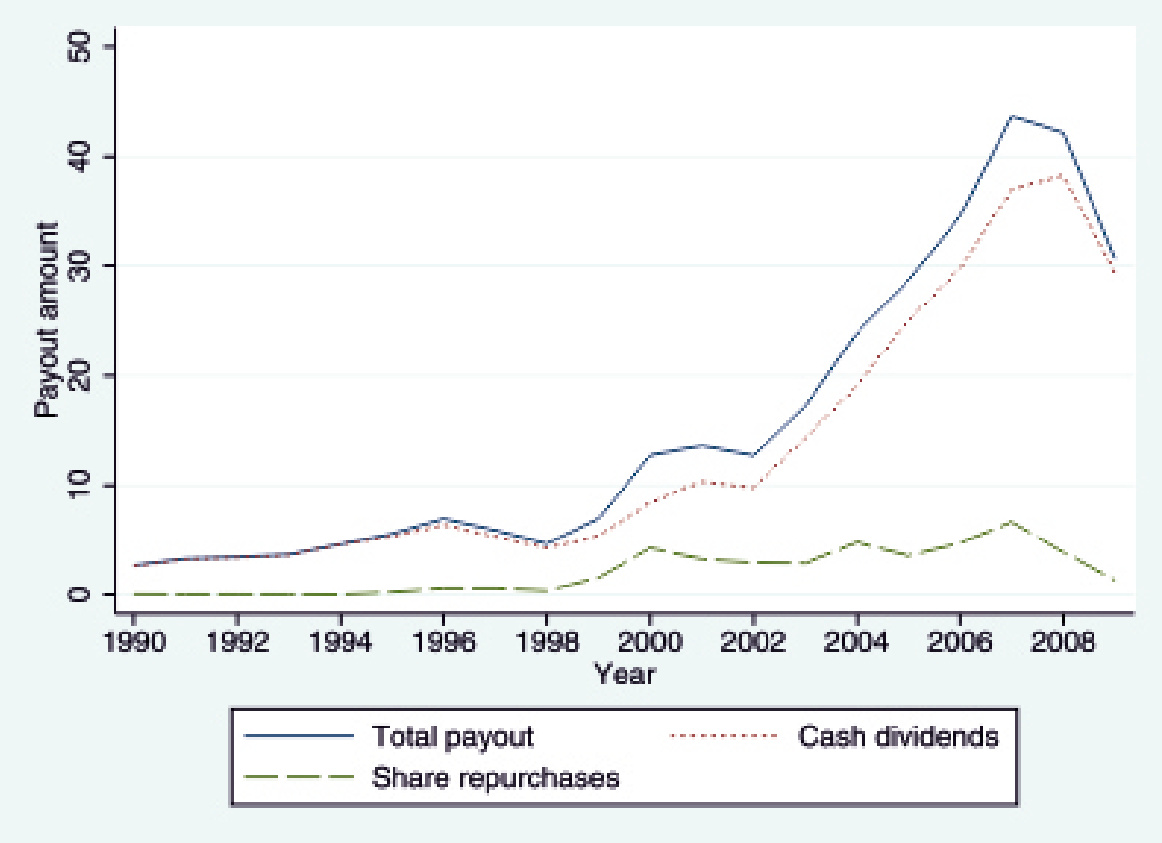
[35] Skinner, D.J., 2008. The evolving relation between earnings, dividends, and stock repurchases. Journal of Financial Economics 87, 582-609.

[36] Smith, S.W., Warner, J.B., 1979. On financial contracting: An analysis of bond covenants. Journal of Financial Economics 7, 117-161.

[37] von Eije, H., Megginson, W.L., 2008. Dividends and share repurchases in the European Union. Journal of Financial Economics 89, 347-374.

[38] Wood, A., 2001. Death of the dividend? CFO Europe Research Report. The Economist Group, London.

Figure 1: Cash dividends, share repurchases and total payout amounts as real (1990 prices), billions of US$, by the listed industrial firms in Asia, 1990 to 2009



Notes. The figure's key is explained as follows. The reference Cash Dividends, Share Repurchases and Total Payout refers to the real total amounts paid (in billions of US$, 1990 prices), in each specific year from 1990 to 2009. Total Payout is the sum of Cash Dividends and Share Repurchases. The set of ten Asian countries in our sample comprises China, Hong Kong, India, Indonesia, Malaysia, Philippines, Singapore, South Korea, Taiwan and Thailand.

Table 1: **Description of the variables used in the regression models**

Variables	***Definition***
Cash Dividends (RDIV)	The total real (1990 prices) amount of common cash dividend distributed by the firm, in millions of US$.
Share Repurchase (RSR)	The total real (1990 prices) amount of share repurchases conducted by the firm, in millions of US$.
Market Value (SIZE)	The percentile ranking of a firm with respect to its market value, on an annual basis.
Earnings Ratio (EA)	The firm earnings before interest but after tax as a percentage total assets.
Cash Holding (CASH)	The sum of cash and short term investments as a percentage of total assets of the firm.
Asset Growth (DAA)	The relative (percentage) change of the total assets in real (1990 prices) millions of US$.
Leverage Rate (LR)	The sum of short-term and long-term debt as a percentage of the total assets of the firm.
Retained Earnings (RETE)	The retained earnings as a percentage of the market value of firm equity.
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.
Income Risk (SDS)	The standard deviation of the net income as a fraction of total sales over the most recent five years including the current fiscal year.
Ownership (OWN)	The number of shares held by the insiders (shareholders who hold 5% or more of the outstanding shares, such as officers, directors, immediate families, other firms or individuals) as a percentage of the total number of outstanding common shares.
Privatized (Private)	A dummy variable, which indicates whether a company is privatized; Private = 1, otherwise zero. Privatization means the firm was once owned by the state.
Common Law (COM)	A dummy variable, which indicates whether a company originates from a common law country; COM = 1, otherwise zero. *La Porta, Lopez-de-Silanes, Shleifer and Vishny (1998, 2000) and Brockman and Unlu (2009)*
Stocks Traded Value (StTraVal)	The total value of shares traded during the period as a percentage of GDP. *Source: World Bank's World Development Indicators.*
Stocks Traded Volume (StTraVol)	This is a turnover ratio. It is the total value of shares traded during the period divided by the average market capitalization for the period. *Source: World Bank's World Development Indicators.*

Table 1 *contd...*

Variables	***Definition***
Legal Rights Index (LegRInd)	The legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of the borrowers and lenders. Strength of the index (0=weak to 10=strong). *Source: World Bank's Doing Business Database.*
Shareholder Rights Index (ShInd)	The shareholders index reflects the ability of shareholders to sue officers and directors for misconduct. Strength of index (0=weak to 10=strong). *Source: World Bank's Doing Business Database.*
Directors Liability Index (DirLia)	The director's liability index, with higher values indicating the greater liability of directors. Strength of index (0=weak to 10=strong). *Source: World Bank's Doing Business Database.*
Disclosure Index (DisInd)	The disclosure index measures the extent to which investors are protected throug disclosure of ownership and financial information. Strength of index (0=weak to 10=strong). *Source: World Bank's Doing Business Database.*
Shareholder Rights (ShRights)	The average of the Shareholder Rights Index (ShInd), Directors Liability Index (DirLia) and the Disclosure Index (DisInd). Strength of the index (0=weak to 10=strong). *Source: World Bank's Doing Business Database.*
Regulatory Quality (RegQua)	The regulatory quality index reflects the percentile rank which captures perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development. Strength of the index. *Source: World Bank's Worldwide Governance Indicators.*
Constant	The intercept of the regression equation.

Table 2: **Summary statistics - Firm-specific and country-level data**

Panel A: Common law countries												
Country	Hong Kong		India		Malaysia		Singapore		Thailand		Common law countries	
Firms	655		1369		696		363		397		3480	
Private	11		33		3		0		6		53	
N	7090		8374		7439		3698		4519		31120	
Payers	3829		5645		4927		2542		2915		19858	
Payout	56812		19154		22451		25797		15097		139312	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
	Firm-specific variables											
RDIV	8.0	0.4	2.3	0.2	3.0	0.3	7.0	0.7	3.3	0.4	4.5	0.3
RSR	0.4	0.0	0.1	0.0	0.3	0.0	1.0	0.0	0.2	0.0	0.3	0.0
SIZE	50.2	48.5	42.2	38.4	41.8	36.9	48.1	45.2	34.8	28.3	43.5	39.9
EA	0.1	4.8	8.2	8.3	4.1	5.0	4.2	5.3	5.4	6.8	4.5	6.3
CASH	39.4	34.5	12.9	6.8	24.9	17.4	33.0	27.7	22.3	14.1	25.2	17.1
DAA	10.2	6.7	9.0	5.6	4.4	3.4	9.2	6.4	4.2	4.2	7.5	5.1
LR	21.6	16.4	33.0	32.7	24.0	21.0	21.4	18.0	33.1	28.7	27.0	23.5
RETE	-11.4	33.1	9.6	0.7	3.5	25.7	3.7	27.7	-19.4	16.4	-2.4	25.6
ERF	2.1	2.0	2.0	1.0	3.3	4.0	2.3	2.0	3.1	4.0	2.5	2.0
SDS	40.3	6.3	10.6	3.1	15.7	4.3	13.2	3.9	14.0	4.0	19.3	4.1
OWN	58.6	60.3	51.2	51.3	52.1	52.8	57.9	59.5	56.3	56.6	54.0	54.9
	Macroeconomic variables											
StTraVal	209.5	140.1	44.4	43.2	71.9	44.1	93.4	84.2	41.7	40.2	85.8	52.6
StTraVol	57.0	52.4	84.4	84.2	39.8	33.3	61.6	54.7	83.7	84.4	67.9	56.8
	Investor protection variables											
LegRInd	10.0	10.0	7.2	7.5	10.0	10.0	10.0	10.0	4.0	4.0	8.2	8.0
SHInd	8.8	9.0	7.0	7.0	7.0	7.0	9.0	9.0	6.0	6.0	7.4	7.0
DirLia	8.0	8.0	4.0	4.0	9.0	9.0	9.0	9.0	4.0	2.0	6.3	7.0
DisInd	10.0	10.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	10.0	8.8	10.0
ShRights	8.9	9.0	6.0	6.0	8.7	8.7	9.3	9.3	6.7	6.0	7.5	7.7
RegQua	98.9	99.8	43.7	43.9	66.1	66.3	99.4	99.5	61.1	61.0	66.4	63.3
Panel B: Civil law countries												
Country	China		Indonesia		Philippines		South Korea		Taiwan		Civil law countries	
Firms	686		276		121		620		657		2360	
Private	15		7		3		1		6		32	
N	2790		3182		1456		7276		6954		21658	
Payers	1769		1510		424		4881		3929		12513	
Payout	38167		4710		1681		32429		49350		126336	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
	Firm-specific variables											
RDIV	13.7	0.6	1.5	0.0	1.2	0.0	4.5	0.4	7.1	0.5	5.8	0.3
RSR	0.0	0.0	0.0	0.0	0.3	0.0	4.8	0.0	1.3	0.0	1.9	0.0
SIZE	75.4	77.7	37.2	31.2	36.2	29.5	48.7	46.0	65.0	67.1	57.6	61.4
EA	4.2	4.8	4.4	6.2	2.0	3.8	3.9	5.4	5.5	5.5	4.4	5.2
CASH	35.7	32.2	25.5	18.9	31.8	21.4	23.9	19.2	32.6	28.4	30.1	25.5
DAA	13.5	9.7	-3.7	-3.6	-0.2	-3.3	3.3	4.3	6.9	4.7	6.0	4.8
LR	27.6	26.2	37.0	31.3	22.9	16.6	31.1	30.1	22.4	21.5	28.1	25.8
RETE	-2.9	11.0	-17.8	22.1	-10.9	17.0	8.7	18.3	-0.6	11.9	-2.3	13.0
ERF	3.1	4.0	3.0	4.0	2.9	4.0	1.8	1.0	2.2	2.0	2.5	2.0
SDS	12.4	2.6	20.2	5.3	48.5	8.4	11.0	2.6	7.3	3.6	13.3	3.2
OWN	56.6	56.5	68.0	69.9	72.0	75.3	38.4	38.1	27.7	24.0	44.5	42.1
	Macroeconomic variables											
StTraVal	50.7	29.9	11.2	9.7	12.5	10.5	101.8	97.3	255.3	258.1	115.4	60.2
StTraVol	152.7	132.1	52.7	42.7	25.2	23.5	190.9	177.7	247.3	207.9	171.4	174.1
	Investor protection variables											
LegRInd	4.8	4.5	3.0	3.0	3.0	3.0	7.0	7.0	3.3	3.0	4.7	4.0
SHInd	3.6	4.0	3.0	3.0	8.0	8.0	7.0	7.0	5.0	5.0	5.0	5.0
DirLia	1.0	1.0	5.0	5.0	2.0	2.0	2.0	2.0	4.0	4.0	2.6	2.0
DisInd	10.0	10.0	9.2	9.0	2.0	2.0	7.0	7.0	7.0	7.0	7.9	7.0
ShRights	4.9	5.0	5.7	5.7	4.0	4.0	5.3	5.3	5.3	5.3	5.2	5.3
RegQua	43.5	44.8	36.8	37.6	53.5	52.3	72.6	72.8	82.3	83.3	61.7	69.3

Notes. The table shows the firm-specific and country-specific summary statistics for our set of ten Asian countries, 1990 to 2009. Firms refer to the number of firms in a particular country. Private refers to the number of privatized firms in a country. N refers to the number of dividend discloser (firm-year) observations. Payers refers to the number of payout observation and Payout refers to the total amount paid as cash dividend, in real (1990 prices) millions of US$. For references, definitions and the construction of the firm-specific, macroeconomic and investor protection variables, please refer to the table 1.

Table 3: **Summary statistics - Industry-specific data**

Industry	SIC Code	Firms	Proportion	N	Payers	Payers %	Payout	Mean payout	Median payout
Agriculture	0100-0999	111	1.90%	1,024	633	61.82%	3,349	3.27	0.26
Mining	1000-1499	173	2.96%	1,492	685	45.91%	20,336	13.63	0.00
Construction	1500-1799	276	4.73%	2,623	1,570	59.86%	10,307	3.93	0.28
Manufacturing									
Food / textiles / printing	2000-2799	1,014	17.36%	9,559	5,774	60.40%	25647	2.68	0.24
Chemicals / petroleum	2800-2999	669	11.46%	5,815	4,011	68.98%	31,735	5.46	0.49
Rubber / plastic /glass	3000-3299	351	6.01%	3,417	2,145	62.77%	8,861	2.59	0.28
Metals	3300-3499	490	8.39%	4,106	2,588	63.03%	20,581	5.01	0.29
Machinery	3500-3899	1,244	21.30%	11,060	7,028	63.54%	52,947	4.79	0.39
Other	3900-3999	59	1.01%	531	327	61.58%	1,126	2.12	0.22
Transportation	4000-4799	252	4.32%	2,400	1,553	64.71%	35,577	14.82	0.45
Communication	4800-4899	55	0.94%	425	211	49.65%	2,408	5.67	0.00
Electric / gas services	4900-4999	18	0.31%	125	31	24.80%	222	1.77	0.00
Wholesale / retail	5000-5999	489	8.37%	4,684	2,895	61.81%	37,552	8.02	0.35
Services	7000-8999	619	10.60%	5,389	2,884	53.52%	14,981	2.78	0.09
Other	9000-9999	20	0.34%	128	36	28.13%	19	0.15	0.00
Total		5,840	100%	52,778	32,371	61.33%	265,648	5.03	0.29

Notes. The table shows the industry-specific summary statistics, from 1990 to 2009, for the ten Asian countries, based on Standard Industry Classification (SIC) Codes. Firms refer to the number of firms in a particular industry while Proportion refers to the percentage of firms in that particular industry, relative to the aggregate of firms studied. N refers to the number of dividend discloser (firm-year) observations. Payers refers to the number of payout observations. Payers % refers to the percentage of actual dividend payers. Payout refers to the total amount paid as cash dividend, in real millions (1990 prices) in US$ across industry sectors. Mean payout and Median payout refers to the average and median payout respectively, by the firms in a particular industry sector.

Table 4: **Cash dividend and share repurchase data for industrial listed firms in Asia, 1990 to 2009**

Year	Number of listed firms	Firms with cash dividend data available	Firms that pay cash dividends	Firms with share repurchase data available	Firms that repurchase shares	Firms with data available for both dividends and repurchase shares	Firms that pay both dividends and repurchases share	Firms that only pay cash dividends	Firms that only repurchase shares	Average amount paid in cash dividends by obser. ved firms	Average amount paid to repurchase shares by obser. ved firms	Average amount paid in cash dividends by payers	Average amount paid to repurchase shares by repurchasers
1990	2059	216	185	185	5	184	4	151	0	12.24	0.34	14.30	12.74
1991	2337	389	340	342	8	340	8	290	0	8.37	0.13	9.57	5.52
1992	2545	490	411	441	12	438	10	361	2	6.95	0.10	8.28	3.63
1993	2778	586	492	516	8	516	6	430	2	6.21	0.08	7.39	5.43
1994	3062	714	585	643	12	643	11	517	1	6.46	0.03	7.89	1.72
1995	3266	1042	818	1037	42	1032	34	777	8	5.12	0.22	6.52	5.42
1996	3561	1391	1086	1379	69	1374	56	1019	11	4.58	0.42	5.87	8.42
1997	3808	1523	1124	1488	109	1482	92	1008	16	3.48	0.39	4.71	5.33
1998	3881	1622	975	1556	170	1552	132	808	38	2.65	0.24	4.41	2.17
1999	3936	2333	1217	1828	183	1810	134	848	49	2.30	0.87	4.41	8.70
2000	4191	3029	1603	2395	303	2329	210	1045	90	2.79	1.79	5.27	14.13
2001	6059	3458	1950	2852	374	2764	254	1256	111	2.99	1.15	5.30	8.74
2002	6258	3666	2038	3048	319	2935	226	1350	90	2.66	0.97	4.79	9.24
2003	6537	3975	2313	3313	336	3177	252	1557	80	3.60	0.87	6.19	8.63
2004	10669	4261	2538	3473	356	3346	267	1692	83	4.49	1.39	7.54	13.52
2005	11825	4212	2540	3565	322	3448	245	1836	74	5.95	1.00	9.87	11.09
2006	12027	4944	2986	4220	404	4115	311	2187	89	6.03	1.12	9.98	11.74
2007	12346	5018	3090	4206	446	4085	352	2184	93	7.37	1.58	11.98	14.89
2008	12471	5013	3157	4263	724	4143	584	2042	137	7.63	0.91	12.11	5.38
2009	12600	4896	2923	4160	498	4035	376	2051	117	5.98	0.33	10.02	2.72
Total	126216	52778	32371	44910	4700	43748	3564	23409	1091	5.03	0.93	8.21	8.92

Notes. The table indicates an annual summary of the total number of Asian firms observed corresponding to Figure 1. It also presents an annual summary of the number of observations for firms which disclose both their cash dividend and their share repurchase policies, the observed number of firms which pay only cash dividends or conduct only share repurchases and the annual summary of the number of observations of firms which conduct both types of payout. In addition, the table presents the real value of total payout, cash dividends and share repurchases each year in real millions US $, 1990 prices. It also summarizes the average amount paid as dividends and to repurchase shares, by the firms which disclose their payout policies, and the firms that actually make pay outs.

Table 5: **Regression analysis using firm-specific characteristics to explain the likelihood to pay cash dividends and the payout (cash dividend) amount for ten Asian economies, 1990 to 2009**

	Panel A: Logit regression for likelihhod to pay cash dividends						Panel B: Tobit regression for amount paid as cash dividends					
	Full sample		Civil law		Common law		Full sample		Civil law		Common law	
Variables	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat	Coeff.	T-stat
SIZE	0.021	11.53	0.016	8.15	0.026	7.67	0.032	22.59	0.030	18.14	0.035	27.02
EA	0.142	13.12	0.178	6.66	0.175	7.33	0.014	4.29	0.023	2.50	0.014	4.76
CASH	0.006	2.99	0.008	2.70	0.008	2.05	0.004	6.22	0.005	1.49	0.005	8.28
DAA	0.001	0.65	0.005	1.74	0.003	0.69	-0.004	-9.52	-0.002	-2.99	-0.006	-7.00
LR	-0.030	-13.12	-0.037	-5.44	-0.029	-7.05	0.001	0.99	0.000	0.30	0.000	0.43
RETE	0.003	5.40	0.004	4.65	0.004	2.27	0.000	1.22	0.001	0.66	0.000	1.25
ERF	0.015	0.28	-0.098	-1.41	0.147	0.70	0.061	3.11	0.089	1.29	0.080	3.14
SDS	-0.039	-3.73	-0.082	-3.38	-0.031	-3.41	0.000	1.08	-0.015	-1.20	-0.001	-0.99
OWN	0.008	4.78	0.011	3.74	0.010	2.76	0.005	4.43	0.006	4.53	0.002	2.37
Private	-0.311	-1.53	-0.234	-0.99	-0.187	-0.60	0.361	5.65	0.290	3.41	0.730	2.06
COM	1.706	11.98					0.323	4.72				
StTraVal	-0.009	-4.67	-0.011	-2.95	0.001	0.16	0.001	0.90	-0.003	-1.77	0.004	1.70
StTraVol	0.009	5.31	0.013	4.00	-0.028	-1.93	0.000	0.24	0.003	1.79	0.004	1.00
Constant	-1.385	-6.14	-1.187	-3.21	0.636	2.97	-1.983	-13.83	-2.104	-6.23	-2.089	-14.31
Observations	1425		612		813		1225		523		702	
Log Likelihood	-596.1		-242.7		-325.4		-1829.6		-805.7		-988.9	
Pseudo R^2	35.61%		38.35%		44.48%		18.81%		16.01%		24.90%	

Notes. The table reports the Logit and Tobit regression results for the decision to pay cash dividends by listed firms in ten Asian countries, and two subsets of Civil Law and Common Law countries, 1990-2009. The dependent variable that applies here for the likelihood to pay out (Logit regression) is a dummy variable that takes the value of 1 if a company pays out, and zero if its pay out is zero. The dependent variable for the amount of pay out (Tobit regression) is the natural logarithm of the amount of cash disbursed in millions of US$, 1990 prices. The values reported in the Coeff. column are the average of the 19 regression coefficients of the associated explanatory variable for the sample period, from 1991 to 2009. All the firm-specific explanatory variables are lagged by one year. Private, COM, StTraVal and StTraVol have been included contemporaneously in the specifications. T-stat refers to the t-statistics for the average regression coefficient, computed following Fama-MacBeth (1973). We test the null hypothesis that the expected coefficient is zero. 'Observations' is the average annual number of observations, 'Log Likelihood' is the average log likelihood ratio and 'Pseudo R^2' is the average Pseudo R^2 value. For references, definitions and the construction of the firm-specific, macroeconomic and investor protection variables, please refer to the table 1.

Table 6: **Logistic regression analysis to test the importance of investor protection variables in the likelihood to pay cash dividends for ten Asian economies, 2005 to 2009**

	Panel A: Creditor rights				Panel B: Shareholder rights				Panel C: Regulatory Quality				Panel D: Investor protection			
Variables	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
SIZE			0.027	19.01			0.028	19.29			0.028	15.39			0.028	16.02
EA			0.132	42.72			0.132	41.99			0.131	36.42			0.131	36.59
CASH			0.000	0.20			0.000	0.13			0.000	-0.05			0.000	0.07
DAA			-0.001	-0.72			-0.001	-0.68			-0.001	-0.68			-0.001	-0.75
LR			-0.028	-36.63			-0.028	-36.57			-0.027	-37.61			-0.027	-39.65
RETE			0.003	7.90			0.003	8.12			0.003	7.81			0.003	7.91
ERF			-0.053	-1.10			-0.067	-1.46			-0.055	-1.13			-0.054	-1.31
SDS			-0.019	-6.19			-0.019	-6.13			-0.019	-6.13			-0.019	-6.08
OWN			0.004	2.44			0.004	2.43			0.004	3.15			0.005	2.83
Private			-0.890	-4.56			-0.876	-4.47			-0.855	-4.39			-0.850	-4.30
COM			1.122	23.21			0.847	8.68			1.059	5.23			1.104	14.68
StTraVal			-0.003	-3.75			-0.004	-3.24			-0.006	-2.78			-0.006	-2.36
StTraVol			0.009	3.45			0.011	3.15			0.008	2.20			0.008	1.76
LegRInd	0.010	2.07	0.046	1.98									0.056	3.52	0.047	2.78
ShRights					-0.008	-3.22	0.185	3.62					-0.138	-4.48	-0.264	-5.46
RegQua									0.005	3.77	0.022	2.38	0.008	4.00	0.034	5.17
Constant	0.369	7.19	-1.824	-4.31	0.46	13.18	-2.655	-4.03	0.109	1.55	-2.661	-5.02	0.424	10.15	-2.710	-3.35
Observations	4817		2431		4817		2431		4817		2431		4817		2431	
Log Like.	-3224.0		-1016.1		-3224.6		-1014.6		-3218.0		-1008.0		-3209.9		-1004.6	
Pseudo R^2	0.02%		37.17%		0.01%		37.26%		0.21%		37.67%		0.46%		37.87%	

Notes. The table reports the Logit regression results for the decision to pay out cash dividends in our set of ten Asian countries, 2005-2009. The dependent variable that applies here for the likelihood to pay out (Logit regression) is a dummy variable that takes the value of 1 if a company pays out, and zero if its pay out is zero. The values reported in the Coeff. column are the average of the 5 regression coefficients of the associated explanatory variable for the sample period, from 2005 to 2009. All the firm-specific explanatory variables are lagged by one year. Private, COM, StTraVal and StTraVol and Investor protection variables (LegRInd, ShRights and RegQua) have been included contemporaneously in the specifications. T-stat refers to the t-statistics for the average regression coefficient, computed following Fama-MacBeth (1973). We test the null hypothesis that the expected coefficient is zero. 'Observations' is the average annual number of observations, 'Log Likelihood' is the average log likelihood ratio and 'Pseudo R^2' is the average Pseudo R^2 value. For references, definitions and the construction of the firm-specific, macroeconomic and investor protection variables, please refer to the table 1.

Table 7: **Tobit regression analysis to test the importance of investor protection variables in the the payout (cash dividend) amount for ten Asian economies, 2005 to 2009**

	Panel A: Creditor rights				Panel B: Shareholder rights				Panel C: Regulatory Quality				Panel D: Investor protection			
Variables	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat	Coef.	T-stat
SIZE			0.032	55.17			0.033	64.07			0.033	55.53			0.033	54.50
EA			0.008	4.60			0.008	4.22			0.008	4.89			0.008	4.86
CASH			0.003	9.02			0.003	10.59			0.003	11.66			0.003	10.65
DAA			-0.005	-10.41			-0.005	-9.96			-0.005	-9.83			-0.005	-10.65
LR			0.000	0.38			0.001	0.90			0.001	1.88			0.001	1.65
RETE			0.000	-0.66			0.000	-1.00			0.000	-1.60			0.000	-1.40
ERF			0.058	4.69			0.030	4.85			0.047	7.31			0.039	6.23
SDS			0.000	0.87			0.000	1.42			0.000	1.08			0.000	1.37
OWN			0.000	0.36			0.000	0.04			0.000	-0.43			0.000	-0.68
Private			0.363	5.12			0.382	5.24			0.406	5.89			0.401	5.67
COM			0.022	0.14			-0.434	-2.28			-0.149	-5.79			-0.193	-1.15
StTraVal			0.001	2.77			0.001	2.08			-0.001	-3.73			-0.001	-2.67
StTraVol			0.000	0.02			0.000	0.78			-0.002	-1.93			-0.001	-1.35
LegRInd	-0.011	-1.68	0.033	1.74									-0.075	-4.33	-0.047	-2.87
ShRights					0.078	4.54	0.208	4.24					0.041	2.01	0.129	3.99
RegQua									0.022	12.41	0.019	18.81	0.025	13.27	0.017	7.63
Constant	0.238	3.90	-1.839	-20.11	-0.371	-2.83	-2.713	-15.59	-1.323	-11.94	-2.415	-22.24	-1.029	-8.50	-2.680	-21.88
Observations	4817		2431		4817		2431		4817		2431		4817		2431	
Log Like.	-8766.2		-3652.4		-8748.4		-3633.1		-8547.0		-3622.0		-8500.1		-3615.1	
Pseudo R^2	0.02%		16.48%		0.22%		16.93%		2.48%		17.18%		3.00%		17.34%	

Notes. The table reports the Tobit regression results for the amount of cash dividends pay out in our set of ten Asian countries, 2005-2009. The dependent variable for the amount of pay out (Tobit regression) is the natural logarithm of the amount of cash disbursed in millions of US$, 1990 prices. The values reported in the Coeff. column are the average of the 5 regression coefficients of the associated explanatory variable for the sample period, from 2005 to 2009. All the firm-specific explanatory variables are lagged by one year. Private, COM, StTraVal and StTraVol and Investor protection variables (LegRInd, ShRights and RegQua) have been included contemporaneously in the model specifications. T-stat refers to the t-statistics for the average regression coefficient, computed following Fama-MacBeth (1973). We test the null hypothesis that the expected coefficient is zero. 'Observations' is the average annual number of observations, 'Log Likelihood' is the average log likelihood ratio and 'Pseudo R^2' is the average Pseudo R^2 value. For references, definitions and the construction of the firm-specific, macroeconomic and investor protection variables, please refer to the table 1.

Table 8: **Logistic regression analyses to explain pronounced changes in cash dividend policies in Asia, 2005 to 2009**

	Panel A: Initiate the dividends		Panel B: Increase the dividends		Panel C: Omit the dividends		Panel D: Decrease the dividends	
Variables	Coefficient	T-statistics	Coefficient	T-statistics	Coefficient	T-statistics	Coefficient	T-statistics
SIZE	-0.007	-4.09	0.006	5.19	-0.005	-2.40	0.004	1.43
EA	0.028	4.90	0.059	12.84	-0.020	-5.05	-0.005	-1.56
CASH	-0.001	-0.60	0.001	0.68	-0.002	-0.53	-0.003	-1.27
DAA	0.008	10.20	0.009	9.37	-0.001	-0.62	-0.005	-3.62
LR	-0.002	-1.73	-0.006	-3.08	0.001	0.50	-0.003	-1.70
RETE	0.000	0.46	0.001	3.82	0.001	6.15	0.001	6.07
ERF	-0.243	-9.24	-0.152	-3.00	-0.054	-0.94	-0.027	-0.71
SDS	-0.001	-0.78	-0.005	-4.51	-0.016	-2.76	-0.012	-4.88
OWN	0.001	0.40	0.000	0.20	0.003	1.43	0.004	1.23
Private	0.104	0.31	-0.184	-0.77	0.148	0.37	-0.101	-1.11
COM	-0.201	-0.58	0.149	0.65	0.305	0.57	0.486	1.42
StTraVal	-0.002	-2.73	-0.003	-2.06	0.002	1.62	0.001	0.64
StTraVol	-0.001	-0.67	0.002	1.36	0.002	1.21	0.002	1.63
LegRInd	-0.137	-2.67	-0.114	-2.74	-0.056	-3.04	-0.050	-2.85
ShRights	0.198	8.59	0.233	5.51	0.122	0.66	0.033	0.26
RegQua	0.009	2.02	0.010	2.16	-0.022	-1.88	0.002	0.22
Constant	-2.464	-7.63	-2.731	-7.44	-2.602	-10.03	-2.221	-6.55
N	2471		2471		2471		2471	
Log Like.	-565.1		-1176.4		-568.3		-1063.2	
Pseudo R^2	4.39%		10.81%		5.00%		4.40%	

Notes. The table reports the Logit regression results for a pronounced change in cash dividend policies in our set of ten Asian countries, 2005-2009. The dependent variable that applies for the likelihood to 'Initiate the dividends' is a dummy variable that takes the value of 1 if a firm pays out in the current year while it did not paid any dividend in the previous year and zero otherwise. The dependent variable that applies for the likelihood to 'Omit the dividends' is a dummy variable that takes the value of 1 if a firm omits a dividend in the current year while it did pay dividends in the previous year, and zero otherwise. The dependent variable that applies here for the likelihood to 'Increase the dividends' / 'Decrease the dividends' is a dummy variable that takes the value of 1 if a firm increases / decreases its payout by more than 30% in the current year compared to the previous year, and zero otherwise. The values reported in the Coeff. column are the average of the 5 regression coefficients of the associated explanatory variable for the sample period, from 2005 to 2009. All the firm-specific explanatory variables are lagged by one year. Private, COM, StTraVal and StTraVol and Investor protection variables (LegRInd, ShRights and RegQua) have been included contemporaneously in the model specifications. T-stat refers to the t-statistics for the average regression coefficient, computed following Fama-MacBeth (1973). We test the null hypothesis that the expected coefficient is zero. 'Observations' is the average annual number of observations, 'Log Likelihood' is the average log likelihood ratio and 'Pseudo R^2' is the average Pseudo R^2 value. For references, definitions and the construction of the firm-specific, macroeconomic and investor protection variables, please refer to the table 1.