2011

Yes, dividends are disappearing: Worldwide evidence

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This version: 9/29/11

Abstract

This study examines the patterns in payout policies worldwide. Utilizing data from a sample of more than 17,000 companies from 33 different countries, we find evidence in support of a significant worldwide decline in the propensity to pay dividends. Most of the decline is due to the payout policies of smaller and less profitable firms with comparatively more investment opportunities. We find that larger firms, those with higher profitability, and firms with low growth opportunities have a greater propensity to pay dividends. The proportion of dividend payers varies substantially across industries as well. However, the proportion of firms paying dividends has declined over time, even after firms' characteristics have been controlled for. Moreover, aggregate dividends are highly concentrated in that they are paid only by a small group of firms. Our findings indicate that there has been a significant decline in the average dividend payout ratios over the years. The decline in the mean dividend payout ratios as well as the proportion of payers is much more pronounced in civil law countries.

JEL classification: G32; G35

Keywords: Dividends; Dividend payout policy

☆ The authors are grateful to JBF's referees for their helpful comments on the earlier versions of this paper. We have also benefited from the comments received at the 2010 meetings of the Infiniti Conference on International Finance. The careful, diligent and patient help of Irina Krop, Soudeh Mansourian and Dominika Chafai, without whose help this project would not have been completed, is also gratefully acknowledged. We also thank Jay Ritter for providing us access to his IPO database.

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1. Introduction

The seminal work on dividend policy by Miller and Modigliani (1961) gave birth to an extensive body of literature that examines the payout policies of firms in the US and elsewhere in the world. This interest in the empirics of dividends seems to have regained momentum following the publication of a paper by Fama and French (2001) that provides evidence that indicates a significant shift in the dividend policies of US industrial firms. Specifically, Fama and French find a substantial decline in the proportion of firms paying dividends from a peak of 67% in 1978 to 21% in 1999. This decline is, in part, due to changes in the characteristics of publicly traded firms toward (1) firms that have never paid dividends, (2) those with low or negative earnings, (3) smaller firms, and (4) those requiring larger investments. However, Fama and French find a significant decline in the propensity to pay dividends even after controlling for these characteristics.

Taking a different path of analysis, DeAngelo et al. (2004) find that dividends paid by US industrial firms actually increased (225% in nominal, and 23% in real terms) over the 1978–2000 period. The authors attribute their findings to the increasing concentration of dividends over the last two decades. Specifically, they find that in the year 2000 the largest 25 dividend payers paid 55% of aggregate industrial dividends and the largest 100 paid 82% of that total. Therefore, they conclude that not only are dividends not disappearing but that they are also increasing and becoming more concentrated. The latter phenomenon, they argue, is due to the influence of the very large payers. Thus, they report a pattern of increasing concentration attributable to a combination of a decline in the number of payers and an increase in the aggregate dividends.

Further, the decline in the number of payers (over the 1978–2000 period) was an artifact of acquisitions and financial distress: 57% of the firms that paid dividends in 1978 were subsequently delisted due to having been acquired or merged. They also report that most firms with very high earnings paid dividends in 2000. However, nearly half of the industrial firms reported losses, and only a few of these firms paid dividends. Among non-payers in 2000, a majority were firms with negative earnings (averaged over the 1996–2000 period), and many of these were newly listed and within the technology sector. DeAngelo et al. also show that the very large and the more profitable firms, who are responsible for most stock repurchases, dominate the dividends scene. They further report that there are significant differences between the characteristics of the dividend-payer and non-payer firms. Their findings cast doubt on the importance of the dividend clientele and signaling hypotheses as determinants of corporate dividend policy.

Several potential explanations have been offered for the declining propensity of firms to pay dividends. Most such arguments focus on the possibility that improved corporate governance has reduced the need for dividends as a mechanism to control the agency problems of free cash flows.[1] The increasing incidence of share repurchases, the possible decline in the information content value of dividends, the observed lower transaction costs for consumption-initiated sales of shares owned, and the catering theory are also among these explanations. The catering theory of Baker and Wurgler (2004a,b) hypothesizes that companies pay dividends to meet investor

[1] Based on the premise that insiders may be tempted to squander any excess cash, the agency-theory based models of dividends hypothesize that outside shareholders have a preference for dividends (e.g., see Easterbrook, 1986, Jensen 1986). Within this framework, the findings of Fama and French regarding a "declining propensity to pay," may be interpreted as a strengthening of corporate governance procedures, at least in the US. See, for example, La Porta, et al. (2000), who rely on the strength of corporate governance mechanisms to show that dividend payout ratios are higher, on average, in countries with stronger legal protection of minority shareholders.

demand and that the decline in the propensity to pay dividends might be the result of shifts in investor sentiment away from dividends and to capital gains.[2] Although, Baker and Wurgler report some empirical evidence in support of their argument, a robust explanation has yet to be offered as to why investors might shift preferences.

Salas and Chahyadi (2006) utilize a unique decomposition technique to measure the propensity to pay dividends while controlling for the effects of size, profitability, growth opportunities, and the age of the firm. Their findings lead them to conclude that the propensity to pay dividends has, indeed, decreased. However, the rate of decrease is only 34%, rather than the 46% reported by Fama and French (2001). Additionally, they report that neither the tax nor the dividend premium helps explain the decline in the proportion of dividend payers. On the question of the reasons for the disappearing dividends, their findings are consistent with those of DeAngelo et al. (2004) in that profitability and the age of the firm are the most important explanations. Hoberg and Prabhala (2005) also study the question and report that idiosyncratic risk explains close to 40% of the disappearing dividends. They do not find catering to be of any significance, once the idiosyncratic risk factor is accounted for.

Examining the behavior of firms in the European Union, Eije and Megginson (2008) report an increasing concentration of dividends and earnings within the 15 EU countries as well. Specifically, they report that the largest decile of the payers paid the 81% of the total dividends. Julio and Ikenberry (2004), on the other hand, report findings suggesting the reappearance of

[2] For example, when the sentiment for non-payers is high, dividend premium (measured by the difference in the average market-to-book ratios between dividend-paying and non-paying firms) tends to be negative and the propensity to pay dividends tends to decrease. Therefore, firms cater sentiment-driven demand to determine their dividend payments.

dividends. Specifically, they report a 5% increase in the proportion of US industrial firms paying dividends in the last five-year period covered by their study. However, after controlling for firm and industry characteristics, they find that the actual proportion of dividend payers is still lower than the expected proportion. Insofar as their observed small increase in the proportion of payers is concerned, they attribute it to the tax cut of 2003 and the natural maturing of firms listed in US markets in the 1990s.

Thus, few exceptions aside, little research has been published that deals with the payout polices of non-US companies. La Porta et al. (2000), use a large dataset from 33 countries to examine the payout policies of companies. However, they do not address the question of disappearing dividends. They do conclude that, due to a legal system that provides for stronger corporate governance and investor protection, firms in common law countries are more likely to pay dividends than those in civil law countries. Other international studies utilize data from a fairly limited number of countries in their sample. For example, Denis and Osobov (2005) find a declining propensity to pay in six of the most developed countries (US, UK, Japan, Germany, France, and Canada). They report that, in these countries, larger and more profitable firms are more likely to pay dividends, and that the effect of growth opportunities on dividend payments is dependent on the country's legal system. Further, the propensity to pay declines even after controlling for these factors. Their evidence fails to support the catering theory and lends support to the agency-cost model instead.

In a study dealing with the behavior of UK firms, Renneboog and Trojanowski (2005) find evidence in support of a decrease in the propensity to pay dividends. The authors attribute this in

part to the differences in the tax systems of the US and UK. They find that dividend payers in the UK are larger, more profitable, and less levered. Further, they also face fewer investment opportunities and grow slower than non-payers. Their findings provide weak support for the argument that dividends are substitutes by share repurchases. Further, they report a positive relation between the concentration of ownership and the choice of dividends (instead of repurchases) for the payout method. Finally, Bancel et al. (2005), in a survey that covers 16 EU countries, find that payout policy is determined by a complex interaction of the firm's ownership structure and the legal and institutional structures of its home country.

Using a large sample of 17,106 listed firms in 33 countries, this study intends to investigate the possible disappearance of dividends at the international level and the factors responsible for this phenomenon. For this purpose, we utilize data from the Worldscope database of Thompson One Banker Analytics for the 1985–2006 period. Scant availability of data prior to 1985 dictated the choice for starting with 1985. Consistent with previous works, including that of Fama and French, we exclude utilities, financials, and firms with negative equity value. Our sample includes all firms for which Thompson contains financial statements, dividends, and market valuation data. Needless to say, few (and in some cases no) traded firms existed in some of the developing, or less developed, markets prior to 1990. Indeed, organized exchanges did not even exist in some of these markets before this date. However, a wave of liberalization and globalization led to a significant increase in the number of listed companies in the post-1990 period. Naturally, our data and conclusions are subject to the biases driven by the availability of this data and the method of coverage by Thompson.

2. Empirical findings

Table 1 reports the number of firms that pay dividends (payers), those that do not (non-payers), never payers, and former payers for each of the years covered by the study. It also reports the dividend payout ratios for the payers. These results indicate that the proportion of payers declined sharply from 87% to 53% over the 22-year period covered by this study. Strikingly, this decline is continuous and persistent over time. The number of firms that never paid dividends reached an all time high of 6201 (36%) at the end of 2006 from only 169 (10%) in 1986. This pattern becomes even more striking once US firms are excluded from the data (i.e., for the rest of the world the percentage of payers declines to 59% in 2006 from its 95% level in 1985).[3] Among non-payers, the proportion of never payers does not exhibit a significant change from the 73% level in 1986 to the 78% level in 2006. In other words, the overwhelming majority of firms that do not pay dividends never do so.[4] This evidence also suggests that there is a significant change in the average (median) dividend payout ratio of dividend-paying firms. Specifically, we observe a sharp decline in the payout rates from 38% (34%) in 1985 to 34% (29%) in 2006. This decline is more striking, from 33% to 17%, when we consider all firms (including non- and never payers). It is also interesting to note that the total numbers of non-payers and never payers in our sample grow by a factor of 42 and 37 respectively, while the

[3] Results for the rest of the world are not included here, but are available from the authors.

[4] A closer evaluation of these results yields some support for the notion that dividends may be reappearing post-2003. (The same is observed for non-US firms.) However, it may be pre-mature to interpret this as "reappearing of dividends", as the increase in the proportion of payers is rather small. It should be noted that this rebound in dividend payments has taken place after the 2003 tax cut in the US, a growing world economy, and the coming of age/maturity of firms that went public during the 1990s.

number of payers grows only by a factor of seven.[5] We note also, that the low numbers of former payers indicate that payers are usually the same firms that continue with their practice over time.

We next examine the proportion of payers and non-payers on a country-by-country basis. Table 2-A reports the results, which indicate a steady decrease over the 1985–2006 period. In some markets such as Austria, Brazil, Chile, Spain, and Japan the decline in the proportion of payers is smaller than others. However, in almost all markets we observe decreases in this ratio and most noticeably between 1993 and 2003. We note, however, that large changes in the proportion of payers, especially in the developing markets, could be partly attributed to the influence of the smaller firms that were newly listed between 1985 and 1990.[6] Nonetheless, these results show that there are large decreases in the proportion of payers between 1985 and 2006 especially in the more developed and larger markets. The steepest declines occur in markets such as Australia (67%), Canada (60%), the UK (56%), the US (47%), and Germany (45%). An evaluation of the proportion of payers in different sub-periods (e.g., 1995–2003) also confirms a worldwide decline in the propensity to pay. For example, in 1995–2003 the declines in the proportion of payers are 13% for the US, 28% for Canada, 33% for the UK, and 42% for Australia. The magnitude of the decline in this subperiod is significantly larger in many smaller and developing markets than it is in the more developed markets. However, the declines are observed across all markets, indicating that the proportion of dividend payers has declined not

[5] The total number of non-payers increased from 188 to 7,985, never-payers from 169 to 6,201 and payers from 1,246 to 9,121.

[6] Assuming that firms that initiate access to public capital markets through IPOs are, on average, smaller in size than those already trading in public markets, this conclusion can be supported by a comparison of the numbers of IPOs during the1985-1990 period to the preceding six-year period. Comparing these statistics for six of the developing markets for which data could be obtained (Brazil, Korea, Malaysia, South Africa, Thailand, and Taiwan), we observe that 770 firms went public during the 1985-1990 period, compared to a total of 196 firms that did so during the preceding six-year period. In other words, compared to the earlier six-year period, the number of firms that entered the markets for the shares of publicly traded firms during the 1985-1990 period was four times as many. Interestingly, the total number of IPOs in these same markets dropped to 757 during the 1991-1997 period.

only in the developed markets but also in the developing markets. Therefore, the disappearance of dividends appears to be a worldwide phenomenon.

Table 2-B summarizes these results by the legal system of the countries studied. These results indicate that civil law countries are more likely to pay dividends than those falling in the common law category. Although arrived at in a different manner, these results are consistent with those of La Porta et al. (1998) who conclude that countries develop substitute mechanisms for investor protection, including the adoption of mandatory dividends in civil law countries where investor protection laws are generally weaker. The average proportions of payers in civil law and common law countries were 65% and 40%, respectively, in 2006. Further, the decline in the propensity to pay is significantly more pronounced in common law countries. The average proportion of payers in common law countries declined from 92% in 1985 to 40% in 2006, whereas it dropped from 80% to 65% in civil law countries. This difference becomes even more striking when we compare the gap between the maximum and minimum proportion of payers under the two legal systems.

2.1. Concentration of dividends

We next analyze the data to determine whether dividends and earnings are concentrated at the global level. To this end, we compute the total dividends paid by the largest ten dividend-paying firms as a fraction of the aggregate amount of dividends by all firms in each country. We repeat the procedure for the earnings numbers as well. Results, as reported in Table 3-A, indicate that both dividends and earnings are highly concentrated among the largest firms: Almost two-

thirds (66%) of the aggregate dividends paid by our sample of 9,121 firms (that did pay dividends in year 2006) were paid by the ten largest dividend payers. This is consistent with the previous findings of DeAngelo et al. (2004) and Eije and Megginson (2008). Note also that the average value of these percentages (over the entire sample period of 22 years) is 69%, and that the average value for the last five years of this period is 66%. A country-by-country analysis leads us to conclude the same for other countries represented in our sample. The concentration is, indeed, over 90% in four of these countries: Denmark, Austria, Netherland, and China. Consistently high, it exceeds the 80% mark in Belgium, Finland, Norway, Italy, and Spain. For 2006, the ratio is less than 50% only in five countries: the US, Japan, Canada, India, and Malaysia. Further, Japan and the US exhibit the lowest concentration ratios with 27% and 30% respectively. This indicates that dividends are much less concentrated in these two countries than the rest of the world.

Insofar as a possible trend in this concentration ratio is concerned, the data suggests a small decrease. Specifically, the average concentration ratio is 72% during the first five-year period covered by this study, and 66% during the last five-year period.[7] Only for five of these countries do we find evidence suggesting a slight increase in the concentration ratio over time but the number increases to eight with a comparison of the first and last five-year figures.

Analyzing the influence of the largest 25 firms, we find that (except for the US and Japanese markets where the fractions fall below 50%) the fraction of dividends paid by the largest 25 payers (relative to the aggregate dividends paid) exceeds the 50% mark.[8] Therefore, it

[7] The decline in the concentration ratio is 3.42 percentage points when we compare the first and last values available.
[8] These results are not included, but are available from the authors.

can be argued that the high concentration ratio, observed at the global level, is not driven by the ratios of a few large markets like the US and the UK. On average, the fraction of dividends paid by the largest 25 dividend payers was 73% in 2006 and averaged 75% for the 2002–2006 period.

2.2. Trends in the dividend payout ratios

We now extend the analysis of Fama and French by evaluating the behavior of payout ratios in the 33 countries covered by our study. As discussed earlier, our data indicate that there has been a significant decline in the average payout ratios from 39% to 34% over this period. However, the results reported in Table 3-B show that, during the period covered by our study, aggregate dividends paid increased approximately by a factor of 15 to $436.8 billion. From this pool, US companies paid approximately a total of $50 billion, and $386.7 billion is attributed to the rest of the world. Over our sample period, total dividends paid by non-US companies grew by a factor of 28, a much more pronounced rate of growth than the corresponding rate in the US. Further, as reported in Table 3-C, a country-by-country classification of progress shows that 27% of the aggregate dividends are paid by firms in the UK and the US, and 48% are attributed to firms in Germany, France, and Japan. Therefore, we find a concentration in aggregate dividends of a different sort: just five countries pay almost half of the aggregate global dividends.[9]

Examining the pattern of aggregate earnings and dividends, as reported in Table 3-D, we observe that the ratio of aggregate dividends to earnings has actually increased (albeit slightly) from 24% in 1985 to 28% in 2006. We also observe a substantial increase in the payout ratio in the rest of the world (excluding the US) from 20% in 1985 to 29% in 2006. This increase also

[9] This is, of course, not a surprising finding as these five countries represent the world's largest economies.

holds when we compare the average payout ratios of the first and the last three years of this period.[10] We further note that median earnings have declined consistently, while mean earnings have remained fairly constant over this time period.[11] Focusing on the population of US firms, we observe that total dividends as a percentage of earnings show a significant decline from 31% to 20% while the proportion of firms with positive earnings remains very high at 95% (97% in 1985). The trend is in the opposite direction for the rest of the world where the proportion of firms with positive earnings increased from 56% in 1985 to 74% in 2006.[12] Therefore, our findings here indicate that the propensity to pay dividends has declined and that both earnings and dividends are very concentrated.

This conclusion can be further substantiated through an analysis of the fraction of a country's GDP accounted for by corporate net income and dividends. For this purpose, we rely on data from Thomson One Banker and aggregate all net income reported by the corporate sector and dividends paid by the same firms within each country. The results indicate that during the period covered (1985–2006) both corporate net income and dividends have assumed increasingly more important roles as percentages of national incomes.[13] However, on average, the share of a country's GDP accounted for by its corporate net income has grown more significantly than the share accounted for by the dividends. In the US, for example, the percentage of GDP accounted for by corporate net income grew from 5.1% to 13.93% while the share accounted for by

[10] We also observe a substantial increase in the payout ratio in the rest of the world (excluding the US) from 20% in 1985 to 29% in 2006. These results are available from the authors. We also note that, as previously reported, (1) the aggregate dividends increased by a factor of 15 during this period, and (2) a large number of smaller non-dividend paying firms entered the markets for the shares of publicly traded firms. Therefore, it is not surprising to observe that the aggregate payout ratio does not exhibit the decreasing trend that firm-level payout ratios do.

[11] Here again (as referred to earlier and in Footnote 6) these results can be attributed to the influence of smaller firms that were newly listed between 1985 and 1990.

[12] These results are not reported here. However, they are available from the authors.

[13] Due to their length, these results are not reported here. However, they are available from the authors.

dividends grew from 3.06% to 4.95%. Similar patterns are observed in other developed capital markets. For example, the corresponding values for the UK are: net income from 2.38% to 8.61% and dividends from 1.53% to 4.47%, and the corresponding set of numbers for Japan are 1.52% to 4.85% and 0.41% to 1.07%. The pattern in other markets is less uniform. However, the overall results indicate that, proportionally, corporate net income has grown to account for a larger share of a country's GDP than dividends.

Consistent with the hypothesis of La Porta et al. (1998) that the legal system of a country imparts an influence on the dividend policy of its resident firms, we find that variations in dividend payout ratios are dependent on the structure of the country's legal system (e.g., common law, civil law, etc.). The results, presented in Table 4, indicate that, for the 1985–2006 period, the average mean dividend payout ratio of payers in common law countries is similar to that of civil law countries. However, the payout ratios of the two systems exhibit distinctly different trends. Specifically, while civil law countries experience a sharp decline in the mean payout ratio of payers, from 43% (in 1985) to 36% (in 2006) the mean payout ratio in the common law countries increases from 36% to 43% in the same period.[14] (Mean payout ratios during the 1994–2006 period were 37% for dividend payers in civil law countries and 41% for payers in common law countries.) We also analyze the mean and median payout ratios of payers in 33 countries between 1985 and 2006.[15] With the exception of Brazil, Denmark, France, Sweden, Thailand, and Taiwan, we observe a global decrease in the mean payout ratios between 1985 and 2006.

[14] Results do not change when we compare the first and last five years' data.
[15] These results are not included here, but are available from the authors.

2.3. Firm characteristics of payers and non-payers

The observed decrease in the proportion of payers can, of course, be attributed to the changing characteristics of firms or to other factors fostering a degree of reluctance to pay dividends. To explore this, we analyze the characteristics of our representative firms over time, and in each country. We report the median values of some of these characteristics in Table 5-A.[16] These results show substantial differences between payers, non-payers and never payers. Consistent with previous findings, payers are much larger (judged either by median total assets or by market capitalization) and more profitable than non-payers.[17] They also have fewer investment opportunities, and spend less in R&D than the non-payer group. For example, in 2006, the average median of total value of the assets of a dividend-payer firm is $220 million, while it is only $42 million for the non-payer firm. Judged by the measure of their market values, the corresponding numbers are $456 million and $65 million. Dividend payers have a profitability ratio of 8.12% versus 1.20% for non-payers. Similarly, the average earnings before interest are $146.86 million for payers, and $13.63 million for non-payers. This gap is even more striking when evaluating the net earnings measure: $61.35million vs. $0.01million. Further, V_t/A_t, RD_t/A_t, and asset growth rates are larger for the never and non-payers than they are for the dividend payers.[18]

[16] Mean values were also examined and the conclusions were identical. These results are available from the authors.

[17] Profitability (E_t/A_t) is measured as the ratio of earnings before interest (net income + interest expense) to the book value of total assets and as the ratio of after-tax earnings to the book value of equity (Y_t/BE_t). Growth opportunities are measured as the ratio of the market value of total capital (book value of total assets – book value of equity + market value of equity) to the book value of total assets (V_t/A_t). Firm size is represented by book value of total assets (A_t). The market value of equity is measured as the market capitalization at fiscal year-end if available. Alternatively, market equity is measured as the number of shares outstanding times the year-end closing price of firm's stock. Leverage is measured as the ratio of book liability to the total assets.

[18] Although not reported, we observe that the change in treasury stock has a negative sign for payers and a positive sign for non-payers. The negative change for payers indicates that dividend payers are also repurchasing their shares. Therefore, it appears that share repurchases are not used as a substitute for dividends, but instead as a

An examination of the means and medians of these firm characteristics across the countries represented in our study confirms our findings for the overall sample.[19] On average, dividend payers are larger, more profitable, have less R&D expenditures, and are less leveraged than non-payers. These differences hold across all the countries examined. However, the relation between dividend payments and growth opportunities is not uniform across all countries. There are also significant differences between common law and civil law countries. A time-series comparison of firms within each country indicates that the characteristics of the average firm move closer to those of the firms that are less likely to pay dividends in that country. That is to say that the characteristics of the average firm in each market trend toward those of a smaller, less profitable, and more leveraged firm. Interestingly, up until 1996, non-payers had less leverage and a lower V_t/A_t than payers. The pattern reverses for the 1996–2006 period, which might be attributed to the significant increase in the new listings across all markets.

Table 5-B reports the relative importance of dividend paying firms as measured by the fraction of aggregate values of earnings, investments, and other measures attributed to them as a group. According to these results, payers account for 78–80% of the aggregate book and market values of assets for all firms during the 1988–90 period when 83% of these firms paid dividends. This represents a sharp contrast with the 2003–06 period, when only half of the firms paid dividends, and payers account for 87–88% of the aggregate book and market values of assets. Note also that even former payers are much larger than non-payers and never payers. Indeed,

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complimentary element. The positive change in the treasury stock measure for non-payers suggests that, on average, they do not repurchase their shares. Instead, they issue new shares to secure their additional funding needs, as dictated by their investment opportunities. We also note that the financial characteristics of never-payers are very similar to those of non-payers.

[19] Country-based statistics are not reported here due to space restrictions but can be obtained from the authors.

these former payers are about double the size of firms that never pay. During the latter part of this period, as the number of firms increases and the number of payers decreases, payers become even larger relative to non-payers. Dividend payers are also more profitable, as they account for a very large percentage of the aggregate earnings; higher than the percentage of the aggregate assets and market values that they represent.

To further study the influence of the policies of larger firms, we group the firms into size deciles by each year and by each country covered. These results, as reported in Table 5-C, indicate that although the proportion of payers decreases in all deciles, the largest decreases occur in the lower size deciles. For example, the proportion of payers in the smallest size group is 63% in 1985, and drops to 21% by 2006. In the largest size group, we observe a much smaller decline from 97% to 82%.[20] Therefore, the propensity to pay dividends seems to decrease with the size of the firm.[21]

2.4. Industry effects

Next, we undertake to study the possible effect of industry affiliation on the propensity to pay dividends. Accordingly, we classify our sample firms based on their SIC codes. Our results indicate that although the proportion of payers exhibits a steady decline over time, the proportions of dividend payers vary substantially across the 53 industries examined. As reported in Table 6, the proportion of payers in some industries such as building materials-hardware,

[20] The impact of size is even more striking for the US firms. While the average proportion of payers in the smallest deciles groups drop from 40% in 1985 to 10% in 2006, the proportion of payers in the largest deciles drops from 93% to 64% during the same period.
[21] This decrease holds in a country-by-country analysis as well.

tobacco, petroleum refining, food, and electric-gas/sanitary services (SIC codes: 52, 21, 29, 54, 49) is above 75% and significantly higher than that of other industries. In contrast, in industries such as metal mining, oil and gas extraction, mining non-metal minerals, health services, and business services (SIC codes 10, 13, 14, 80, 73); the proportion of payers remains below 35%. Similar results are obtained when we repeat this analysis for each of the countries covered.

An analysis of the proportion of payers over time, at the industry-level, indicates that the metal mining, mining non-metal minerals, communications, textile mill products, hotels, and furniture industries (SIC codes 10, 14, 48, 22, 70, and 25) have the largest decreases in the proportion of payers. On the other hand, the proportion of payers substantially increases in membership organizations, legal services, government, admin-environmental quality, and museum-gallery industries (SIC codes 86, 81, 91, 95, 84).[22] The proportions decline only modestly for firms in petroleum refining, building materials, home furniture, and water transportation (SIC codes 29, 52, 57, 44). These results also indicate that industries with high contemporary proportions of payers are the same ones that held the same status in the past. A comparison of average payout ratios across the industries indicates that a few industries pay a relatively larger share of their earnings as dividends than do others. Specifically, the mean payout ratio is 45% and higher for firms in the electric-gas-sanitary services, holdings, and real estate (SIC codes 49, 67, and 65). But, the payout ratios are lower in the non-depository credit institutions and building materials-hardware industries.

Further, scrutinizing the characteristics of firms in different industries, we find that the size of the firm does not play a significant role. As a matter of fact, when we rank our industry

[22] It should be noted that the number of firms in these industries is very low; some have less than ten.

groupings by their proportion of payers, we find that only two of the ten industries with the highest proportion of payers are among the ten industries with the largest average firm size. Therefore, it can safely be concluded that the industry effect has a much more pronounced influence on the propensity to pay than does firm size.

2.5. The changing characteristics of firms and logit regressions

To provide further evidence on the differences in the characteristics of payers and non-payers and to assess the impact of changes in characteristics on the propensity to pay dividends, we utilize logit models that relate the probability of paying dividends to firm size, growth opportunities, and profitability. Data from the 1985–1995 period (i.e., the base-period) is used to estimate the model's coefficients. These estimates are then used to compute the expected probability of dividend payments for each of the following periods and are compared to the actual rate of dividend payments. The differences between expected and actual rates are then used as proxies for changes in the propensity to pay dividends. Therefore, our method is similar to that of Fama and French. Our dependent variable assumes a value of one in year *t* if a firm pays dividends and zero otherwise. The explanatory variables are E_t/A_t, V_t/A_t, dA_t/A_t, and NYP_t, as measures of profitability, growth opportunities, and size respectively.[23, 24]

[23] NYP_t, the proxy for a firm's size is the percentage of firms with the same or lower market capitalization as of the end of the firm's fiscal year.

[24] The median firm size in most countries decreases over time. This is probably an artifact of the influence of the newly listed companies and their smaller sizes.

Table 7 reports the results from our annual logit regressions.[25] Consistent with our prior univariate results, we find that the likelihood of paying dividends is positively related to firm size. The estimated coefficients for all variables have the expected signs, and are consistent with the findings of previous studies. Profitability and size both have estimates that are positive, and statistically significant. However, our proxy for investment opportunities, dA/A, has estimates that are negative, and significantly so, for most periods.[26]

We now proceed to estimate the effect of these characteristics on the percentages of firms paying dividends. In line with our approach up to this point, we estimate the logit regressions for the base period of 1985–1995. Using these results, we arrive at an estimate of the proportion of payers. This is, in turn, compared to the actual proportions. The difference represents the change in the propensity to pay dividends, after controlling for the effect of the firms' characteristics. These differences between the actual and expected proportions of payers will be used as a measure of changes in the propensity to pay dividends.[27] Table 8 reports the expected proportion of payers for the forecast period of 1996–2006. These results indicate that the proportion of firms expected to pay dividends, after the changes in the characteristics of firms are accounted for, is consistently and universally higher than the actual percentage of firms paying dividends.[28] Interestingly, the difference between the expected proportions and the actual proportions of

[25] Here again (to isolate the effect of the data from the US sample) we have performed analysis by classifying the data into two groups, "global: including the US", and "rest of the world: excluding the US". These results, not reported here, are available from the authors.

[26] We repeate the analyses for both the "global" and "the rest of the world" samples without the inclusion of the market-to-book ratio. Results are identical to those reported in Table 7, and are available from the authors.

[27] Regressions for the base period utilize only the data from the payers group. The average annual coefficients are used to compute the probability of dividend payments for each firm in following years based on their characteristics in that year. Taking the averages of probabilities of each firm in each year, we compute the expected proportion of payers, which is then compared with the actual proportion of payers.

[28] As with the previous set of regressions, we repeat the analyses a second time with data that excluded the US. The results, available from the authors, are identical to those reported in Table 8.

payers increases over time. These findings are consistent with those of Fama and French who show that the spread between the expected and actual percent widens and attribute the shortfall to a reduced propensity to pay. When we repeat these analyses for each of the 33 countries, we find substantial variation among them in terms of the differences between the expected and actual proportions. With the US as a reference point, we observe that for the majority of these markets the differences between the expected proportions of payers and the actual proportions are as high as those in the US and tend to grow wider over time. Thus, it is clear that the declining proportion of payers (once changes in characteristics are accounted for) is a global phenomenon. The changing characteristics of listed firms (toward less profitable, smaller, more leveraged, and with more growth opportunities) explains only part of the decline in the propensity to pay dividends.

It can be argued that the declining propensity to pay dividends might be attributable to the tax disadvantage of dividends.[29] However, a compelling counter-argument is that repurchases cannot fully explain this phenomenon; they are undertaken primarily by payers (and not by never payers), and their magnitude is quite small. Furthermore, share repurchases are not legally allowed in many of the countries in our sample. Rules governing repurchases have been liberalized in some civil law countries such as Japan, Germany and France.[30] Additionally, as Grullon and Ikenberry (2000) show, firms that pay dividends are similar in type to those that

[29] See Bagwell and Shoven (1989), and Dunsby (1995) for evidence in support of the hypothesis that a substitution of share repurchases for dividends, generates tax savings. See also Grullon and Michaely (2002) for evidence indicating that a move away from dividends to repurchases represents a substitution effect.

[30] Share repurchases have long been legal in common law countries like the US and the UK These activities gained momentum in the 1990s after the adoption of the so-called "harbor rule" by the SEC to protect firms from allegations of manipulation in 1982.

repurchase shares. In other words, the available empirical evidence shows that repurchases and dividends are complements, not substitutes.

2.6. Robustness of results

To test for the robustness of our logit regression findings and to deal with the potential mis-specification problems in these regressions, we employ a portfolio approach similar to that utilized by Fama and French. For each year covered, we construct 27 portfolios by sorting firms into three equal groups on the basis of variables used to measure their profitability, investment and growth opportunities, and size. Sample firms are first divided into three groups on the basis of market capitalization. These portfolios are then divided into three profitability classes that result in nine portfolios. These nine portfolios are subsequently divided into three groups based on growth (low, medium, high). For each of the 27 constructed portfolios, we estimate the base period probability of paying dividends as the sum of the number of payers divided by the number of firms in the portfolio.

Results that Table 9 reports indicate that larger firms are more likely to pay dividends after controlling for profitability (E/A) and investment opportunities (V/A or dA/A). More profitable firms are more likely to pay dividends after controlling for size and investment opportunities. Firms classified into higher profitability portfolios (i.e., high E/A firms) have a higher proportion of payers in the base period than those in the low E/A portfolios. Further, firms with more investments are less likely to pay dividends. Additionally, high V/A portfolios in a given size group typically have lower proportions of payers than the low V/A portfolio. Consider 2006 for

example: the proportion of payers among the small and very profitable firms that have high V/A is 39.8% compared to that of firms with a low V/A at 57%. The group with the lowest proportion of payers consists of firms with low market capitalization, low-to-medium profitability (as represented by E/A), and high investment opportunities (as represented by V/A). Additionally, comparing the proportion of payers for each of the 27 portfolios during the base period to the average of the previous five years, we observe that the steepest drop in the proportion of payers occurs in portfolios of high V/A and low E/A firms, especially in the small size portfolios. In general, the decline is more pronounced for the smaller firms. Interestingly, however, the proportion of payers also decreases sharply from 88% to 23% in the largest size group with low profitability and high investment outlays. The smallest decline takes place in the portfolio of the largest firms with high profitability and low investment outlays (from 92% to 82%). Consistent with previous findings, this group (of large firms with high and medium E/A and low V/A) has the highest proportion of payers both during the base period (higher than 90%) and as of 2006 (higher than 80%). Although these proportions are higher in magnitude than those reported by Fama and French, they are consistent with their findings.

When dA/A (rather than V/A) is used as a proxy for growth opportunities, the proportion of payers is smaller across almost all portfolios. However, with only a few exceptions, these results are similar to our earlier findings. For example, the proportion of payers is higher in high dA/A groups (compared to low dA/A groups) especially for the small- and medium-size portfolios. In other words, firms with high growth opportunities are less likely to pay dividends in the small size and low profitability portfolio. Noticeable decreases are also observed in the percentages of

payers in small- and medium-size firms with low profitability. Additionally, over time, the proportion of payers declines sharply for low-growth firms of small size and low profitability.

Next, we estimate the expected proportions of payers for all 27 portfolios for the period following the base period, and compare the expected values to their actual proportions. The results, reported in Table 10, are consistent with our previous findings: While the expected proportion of payers remains almost constant at around 77%, the actual proportion of payers decreases significantly. The gap between the expected and actual percentages of payers widens over time to reach 25% in 2006.

Summarizing, results of the portfolio approach indicate that the changing characteristics of firms (to a profile of smaller ones that are less profitable and face high investment outlays) are the primary factor responsible for the decrease in the proportion of firms that pay dividends. However, even after controlling for the influences of these changing characteristics, a significant decline in the proportion of payers is observed. This decline leads us to conclude that the propensity to pay dividends has decreased over time.

3. Conclusions

Fama and French's (2001) findings provide evidence in support of the idea that a significant decline exists in the propensity of US firms to pay dividends. However, only a few studies focus their attention on the pattern of dividend payments at an international level. This study is designed to make a contribution to this body of literature and fill the gap. We investigate

the pattern in dividend payments, and their trend over time, in 33 different countries over the 1985–2006 period. Utilizing data from a large sample of more than 17,000 firms, we find a substantial variation in the propensity to pay dividends at the global level. However, the common trend across these markets is a declining tendency to pay dividends. Specifically, over the 22 years covered by this study, the proportion of payers has declined sharply from 87% to 53%. Importantly, this decline is persistent and consistent over subperiods and across all 33 countries studied. Therefore, the inevitable conclusion is that dividends are disappearing at the global level.[31] Indeed, it can be argued that the evolution of the stock markets around the world, that is, their preference to become more developed and better capable of facilitating the investors' preferences to switch their investment allocations among corporations, and the expanded opportunities made available to firms for the sale and repurchase of their shares, has played a significant role in reducing the importance attached to the dividends by the corporate sector.[32]

We also identify a number of cross-sectional determinants for the propensity to pay dividends. We find that larger firms, firms with higher profitability, and firms with lower growth opportunities have a greater propensity to pay dividends. Our results indicate that the changed characteristics of publicly traded firms to those typified by the smaller firms, less profitable ones and facing more investment opportunities, explain a significant portion of the decline in dividend payers. However, the proportion of firms paying dividends exhibits a significant decline even

[31] However, in line with Julio and Ikenberry's results for US firms, that a small (but significant) pattern of reappearing dividends may be afoot, we also find some evidence in support of the notion that global dividends may be on their way back. Specifically, we observe a small increase in the proportion of payers in the post-2003 period. The generally positive state of world economy in the pre-2007 period, and the coming of age of the large number of firms that went public during the 1990s, may be the primary factor responsible for this small rebound. Therefore, the evidence may be insufficient to be interpreted as a reappearing of dividends.

[32] We thank the referee for pointing this out.

after controlling for such factors, which lends further credence to the argument that the evolution of the market has reduced the historical significance of the role played by dividends.

We also find that the proportion of dividend payers varies substantially across industry lines. For example, the proportion of payers in industries such as building materials-hardware, tobacco, petroleum refining, food, electric, gas, and sanitary services is above 75% and significantly higher than that of other industries. In contrast, the proportion of payers is well below 35% in industries such as metal mining, oil and gas extraction, mining, non-metal minerals, health services, and business services. The firms with low market capitalization, low-to-medium profitability, high investment outlays, and high rates of asset growth comprise the lowest proportion of payers.

Our findings also indicate that there has been a significant decline in the average payout ratios of dividend payers. Each country's legal system also exerts significant influence on the dividend payout ratios of its corporate sector; that is, variations are dependent on whether the country's legal system conforms to common or civil law. Although the proportion of payers is lower in common law countries than in civil law countries, we observe a sharp decline in the mean dividend payout ratios of firms in civil law countries. This takes place at the same time that a pronounced increase takes place in common law countries. These results indicate that starting with 1995, the mean dividend payout ratios of firms in common law countries have been consistently higher than those of the firms in civil law countries.

Additionally, our results indicate that dividends exhibit a high degree of concentration, because a limited number of large and profitable firms pay them. For example, the ten largest dividend payers (of the 9,121 firms that did pay dividends) paid as much as 66% of the aggregate dividends paid in 2006.[33] However, this concentration does exhibit wide variations with regard to the countries studied. Whereas it exceeds 90% in some countries, it is at its lowest in Japan and the US, at 27% and 30% respectively. Also worthy of note is the observation that, the average fraction of dividends paid by the largest 25 payers over the 2001–2006 period stands at 75%; an increase of about four percentage points relative to the beginning of the sample period.

These results indicate that the phenomenon of disappearing dividends, first reported by Fama and French (2001) for US firms, is global. It is present in all markets, developed and developing alike. The changing characteristics of the average publicly traded firm (to the smaller and less profitable firm that requires high investment outlays) are the primary factor behind the declining proportion of firms that pay dividends. However, the decline in the proportion of payers, and a lower propensity to pay, does persist even after controlling for the changing characteristics of firms.

[33] These findings are consistent with the earlier results of DeAngelo, et al. (2004), and Eije and Megginson (2008).

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Table 1: Summary Statistics: Annual number of dividend payers and non-payers, never payers and former payers, means and medians of payout ratios, numbers (and percentages) of payers and non-payers: 1985–2006 for all countries.

Payers pay dividends in year *t*; non-payers do not. The two subgroups of non-payers are firms that have never paid and former payers (firms that do not pay in year *t* but did in a previous year).

	1985	**1986**	**1987**	**1988**	**1989**	**1990**	**1991**	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
All Firms	1434	1623	2059	2433	2697	3052	3556	3855	4105	4823	5519	6459	6997	8047	9128	10837	12407	13388	13895	14928	15714	17106
Mean of Dividend Payout Ratio of Payers	38%	38%	37%	33%	34%	35%	37%	38%	38%	36%	35%	35%	34%	35%	34%	33%	35%	37%	36%	34%	34%	34%
Median of Dividend Payout Ratio of Payers	34%	34%	33%	30%	30%	31%	32%	34%	34%	31%	31%	30%	29%	30%	29%	28%	30%	32%	31%	29%	29%	29%
Payers	1246	1393	1707	2020	2236	2529	2883	3048	3157	3418	3867	4425	4642	4951	5282	5882	6427	6843	7208	7809	8367	9121
	87%	86%	83%	83%	83%	83%	81%	79%	77%	71%	70%	69%	66%	62%	58%	54%	52%	51%	52%	52%	53%	53%
Non-Payers	188	230	352	413	461	523	673	807	948	1405	1652	2034	2355	3096	3846	4955	5980	6545	6687	7119	7347	7985
	13%	14%	17%	17%	17%	17%	19%	21%	23%	29%	30%	32%	34%	39%	42%	46%	48%	49%	48%	48%	47%	47%
Never Payers	0	169	202	284	343	387	444	571	674	805	1201	1469	1773	2061	2635	3246	4200	5106	5453	5662	5907	6201
	0%	10%	10%	12%	13%	13%	13%	15%	16%	17%	22%	23%	25%	26%	29%	30%	34%	38%	39%	38%	38%	36%
Former Payers	0	14	25	21	28	49	76	100	122	142	108	150	203	329	354	392	468	617	514	413	367	485
	0%	1%	1%	1%	1%	2%	2%	3%	3%	3%	2%	2%	3%	4%	4%	4%	4%	5%	4%	3%	2%	3%

Table 2- A: Average proportion of payers for each of the countries included, grouped by legal system: Civil law countries.

	AUT	BEL	BRA	CHE	CHL	DEU	DNK	ESP	FIN	FRA	GRC	ITA	NLD	NOR	SWE	TUR
1985	57%	88%		87%		93%	78%	67%	100%	85%	0%	100%	95%	100%	94%	
1986	86%	69%		92%		88%	90%	75%	100%	91%	50%	100%	95%	67%	100%	
1987	75%	72%		86%	100%	80%	92%	75%	92%	86%	83%	89%	89%	73%	100%	
1988	77%	88%		90%	88%	83%	88%	85%	88%	87%	100%	93%	88%	60%	100%	
1989	87%	93%	91%	93%	100%	83%	94%	84%	92%	89%	100%	94%	89%	55%	96%	100%
1990	87%	96%	85%	93%	93%	85%	89%	88%	94%	92%	100%	86%	81%	50%	93%	100%
1991	88%	90%	53%	90%	89%	89%	78%	74%	89%	87%	90%	88%	84%	45%	92%	86%
1992	84%	79%	73%	85%	100%	86%	73%	76%	64%	87%	89%	84%	80%	53%	80%	88%
1993	76%	80%	100%	70%	93%	81%	73%	63%	61%	84%	83%	79%	85%	59%	61%	94%
1994	68%	79%	100%	66%	92%	75%	73%	64%	68%	76%	80%	76%	88%	78%	68%	100%
1995	76%	86%	100%	77%	93%	78%	87%	65%	89%	82%	82%	75%	86%	78%	81%	96%
1996	81%	88%	100%	79%	94%	74%	79%	64%	89%	77%	85%	76%	81%	76%	85%	86%
1997	75%	76%	100%	80%	98%	72%	78%	75%	90%	71%	89%	80%	81%	58%	76%	82%
1998	80%	76%	75%	83%	92%	69%	79%	65%	96%	74%	86%	78%	74%	55%	69%	72%
1999	80%	72%	50%	83%	85%	63%	80%	68%	88%	70%	84%	80%	76%	48%	61%	68%
2000	75%	70%	74%	81%	89%	52%	76%	71%	79%	65%	77%	72%	70%	51%	52%	52%
2001	67%	68%	67%	80%	84%	48%	67%	67%	80%	63%	78%	65%	68%	42%	49%	42%
2002	60%	63%	60%	62%	88%	46%	55%	62%	77%	59%	73%	66%	66%	36%	45%	21%
2003	60%	63%	67%	60%	88%	44%	55%	63%	76%	60%	77%	63%	64%	45%	46%	23%
2004	68%	72%	68%	64%	89%	44%	58%	68%	82%	60%	77%	61%	65%	46%	46%	22%
2005	70%	69%	71%	63%	85%	46%	60%	73%	79%	61%	77%	63%	68%	46%	48%	47%
2006	67%	64%	76%	66%	86%	48%	65%	74%	78%	62%	72%	64%	67%	42%	51%	53%

Table 2- A (Continued):
Average proportion of payers: Common law countries:

	AUS	CAN	GBR	NZL	USA
1985	96%	88%	99%	100%	74%
1986	96%	82%	96%	100%	71%
1987	90%	75%	94%	100%	68%
1988	85%	76%	95%	100%	65%
1989	77%	71%	94%	75%	65%
1990	75%	68%	93%	100%	63%
1991	71%	65%	88%	100%	57%
1992	68%	60%	85%	88%	54%
1993	71%	57%	86%	88%	51%
1994	73%	56%	84%	93%	40%
1995	71%	54%	87%	94%	37%
1996	69%	48%	82%	89%	34%
1997	73%	48%	76%	100%	32%
1998	63%	35%	76%	86%	29%
1999	54%	29%	74%	86%	27%
2000	40%	25%	64%	76%	25%
2001	31%	25%	58%	61%	24%
2002	29%	24%	55%	53%	23%
2003	31%	26%	53%	60%	24%
2004	29%	26%	50%	63%	26%
2005	30%	28%	46%	70%	28%
2006	29%	29%	43%	71%	28%

Table 2- A (Continued):
Average proportion of payers: Civil law and common law countries

	THA	ZFA
1985	0%	95%
1986	0%	96%
1987	100%	100%
1988	100%	100%
1989	100%	100%
1990	80%	100%
1991	97%	100%
1992	100%	100%
1993	92%	93%
1994	89%	89%
1995	82%	93%
1996	81%	88%
1997	77%	90%
1998	35%	68%
1999	44%	61%
2000	48%	63%
2001	55%	53%
2002	62%	57%
2003	70%	63%
2004	70%	68%
2005	75%	67%
2006	73%	64%

Table 2- A (Continued):
Average proportion of payers: Civil law/common law and customary law countries

	CHN	ISR	JPN	KOR	TWN	HKG
1985			99%	100%		95%
1986			97%	100%		96%
1987			95%	100%		97%
1988			94%	96%	100%	97%
1989			91%	95%	100%	95%
1990			92%	96%	83%	88%
1991			94%	91%	65%	91%
1992	57%		94%	85%	64%	90%
1993	33%	0%	93%	86%	51%	91%
1994	71%	71%	91%	81%	35%	95%
1995	78%	87%	88%	84%	44%	90%
1996	62%	65%	87%	83%	30%	82%
1997	60%	72%	88%	83%	24%	77%
1998	53%	52%	90%	67%	29%	71%
1999	51%	70%	89%	61%	32%	57%
2000	47%	58%	85%	66%	45%	51%
2001	54%	42%	85%	64%	45%	48%
2002	84%	37%	85%	62%	53%	45%
2003	87%	43%	81%	66%	57%	48%
2004	85%	40%	82%	68%	64%	50%
2005	49%	45%	85%	71%	62%	55%
2006	45%	47%	85%	73%	100%	57%

Table 2- A (Continued):
Average proportion of payers: Civil law/common law, Muslim law and customary law countries

	IDN	IND	MYS	SGP
1985			92%	94%
1986			93%	94%
1987			88%	91%
1988			89%	96%
1989		100%	88%	100%
1990	50%	100%	87%	100%
1991	89%	71%	89%	91%
1992	96%	63%	90%	87%
1993	96%	64%	91%	90%
1994	97%	85%	92%	90%
1995	95%	87%	92%	94%
1996	96%	93%	91%	89%
1997	92%	92%	90%	86%
1998	48%	92%	79%	85%
1999	39%	89%	69%	75%
2000	64%	87%	67%	68%
2001	46%	81%	69%	65%
2002	45%	82%	66%	57%
2003	47%	80%	62%	59%
2004	46%	82%	60%	57%
2005	48%	80%	62%	62%
2006	55%	69%	63%	65%

Table 2-B: Average proportion of payers, classified by the legal system of the countries included

	Civil Law	Common Law	Civil Law & Common Law	Civil Law/ Common Law & Customary Law	Civil Law/ Common Law, Muslim Law & Customary Law
1985	80%	91%	95%	98%	93%
1986	85%	89%	96%	98%	94%
1987	85%	85%	100%	97%	90%
1988	87%	84%	100%	97%	92%
1989	90%	76%	100%	95%	96%
1990	88%	80%	90%	90%	84%
1991	82%	76%	98%	85%	85%
1992	80%	71%	100%	78%	84%
1993	78%	71%	92%	59%	85%
1994	78%	69%	89%	74%	91%
1995	83%	69%	88%	79%	92%
1996	82%	64%	85%	68%	92%
1997	80%	66%	84%	67%	90%
1998	76%	58%	52%	60%	76%
1999	72%	54%	52%	60%	68%
2000	69%	46%	56%	59%	72%
2001	65%	40%	54%	56%	65%
2002	59%	37%	60%	61%	63%
2003	60%	39%	66%	64%	62%
2004	62%	39%	69%	65%	61%
2005	64%	40%	71%	61%	63%
2006	65%	40%	68%	68%	63%

Table 3-A: Country-by-country analysis of the concentration of dividends: The percentages of aggregate dividends accounted for by those of the largest ten Dividend Payers

Year	AUS	AUT	BEL	BRA	CAN	CHE	CHL	CHN	DEU	DNK	ESP	FIN	FRA	GBR	GRC	HKG	IDN
1985	77%				90%				73%				72%	65%		90%	
1986	83%				87%	78%			77%				66%	65%		89%	
1987	76%				84%	63%			74%				61%	64%		86%	
1988	74%		93%		81%	59%			70%		94%		60%	60%		80%	
1989	73%		94%		80%	61%			69%	88%	92%	91%	61%	61%		78%	
1990	80%		91%		77%	58%			67%	87%	91%	85%	57%	57%		79%	
1991	76%		90%		79%	59%			67%	89%	93%	80%	61%	57%		72%	84%
1992	74%		92%		78%	64%	87%		66%	88%	88%	89%	60%	56%	82%	68%	72%
1993	73%		93%		77%	71%	85%		66%	88%	93%	91%	56%	63%	82%	66%	71%
1994	67%		92%		80%	72%	80%		67%	84%	91%	86%	58%	61%	73%	65%	71%
1995	64%		91%		72%	67%	74%	64%	62%	87%	92%	80%	53%	61%	64%	55%	57%
1996	62%	93%	92%		67%	60%	69%	65%	63%	84%	93%	82%	48%	64%	77%	59%	52%
1997	61%	90%	91%		63%	61%	61%	55%	62%	81%	93%	79%	54%	61%	78%	58%	58%
1998	64%	87%	87%		58%	56%	66%	61%	76%	83%	93%	81%	54%	67%	79%	55%	88%
1999	63%	87%	84%		55%	52%	53%	58%	63%	82%	90%	79%	57%	66%	76%	62%	86%
2000	68%	88%	86%	81%	56%	61%	70%	84%	61%	82%	84%	84%	52%	60%	81%	54%	86%
2001	65%	86%	86%	85%	60%	53%	84%	83%	59%	88%	82%	85%	56%	66%	63%	59%	79%
2002	69%	89%	85%	79%	43%	61%	64%	59%	57%	86%	74%	85%	56%	66%	77%	54%	82%
2003	64%	86%	85%	80%	43%	57%	68%	74%	58%	87%	86%	81%	55%	63%	75%	64%	84%
2004	61%	98%	86%	72%	35%	58%	77%	74%	55%	84%	87%	78%	60%	62%	73%	55%	86%
2005	57%	90%	85%	74%	38%	55%	63%	91%	57%	77%	80%	78%	55%	64%	75%	58%	83%
2006	59%	93%	86%	73%	31%	51%	57%	92%	59%	95%	80%	72%	57%	62%	73%	59%	84%
Avg[1]	69%	90%	89%	78%	65%	61%	71%	72%	65%	85%	88%	83%	58%	62%	75%	67%	77%
last5[2]	62%	91%	86%	76%	38%	56%	66%	78%	57%	86%	81%	79%	57%	64%	75%	58%	84%
first5[3]	76%	89%	93%	82%	84%	65%	79%	61%	73%	88%	93%	91%	64%	63%	76%	85%	71%
diff5[4]	-15%	2%	-8%	-6%	-46%	-9%	-13%	17%	-15%	-3%	-11%	-12%	-8%	1%	-1%	-27%	13%
diff1[5]	-18%	0%	-6%	-7%	-59%	-27%	-30%	28%	-13%	6%	-14%	-19%	-16%	-3%	-10%	-31%	1%

[1] Average: All periods
[2] Average: Last five-year percentages
[3] Average: First five-year percentages
[4] Change: Last five-year average—first five-year average
[5] Change: Last year-, first-year percentage

Table 3-A (Continued): Country-by-country analysis of concentration of dividends: The percentages of aggregate dividends accounted for by those of the largest ten dividend payers

Year	IND	ISR	ITA	JPN	KOR	MYS	NLD	NOR	SGP	SWE	THA	TUR	TWN	USA	ZAF	avg
1985				25%		73%		92%						35%		69%
1986				25%		79%	95%	93%						29%		72%
1987			83%	23%		72%	93%	92%	82%					36%		71%
1988			83%	24%	75%	73%	91%	92%	80%					36%	81%	72%
1989			84%	22%	70%	66%	90%	90%	78%	89%				39%	76%	74%
1990			84%	21%	70%	63%	89%	89%	80%	87%				44%	72%	73%
1991			83%	22%	67%	49%	89%	89%	75%	87%	78%			34%	70%	72%
1992			81%	21%	60%	48%	89%	89%	73%	85%	63%			32%	73%	71%
1993			83%	21%	54%	47%	87%	90%	74%	87%	54%			33%	63%	71%
1994			78%	21%	52%	55%	89%	85%	70%	85%	55%		72%	34%	62%	69%
1995	95%		89%	20%	49%	42%	89%	91%	73%	77%	52%		58%	33%	67%	67%
1996	37%		90%	23%	51%	42%	89%	82%	74%	74%	52%	69%	53%	31%	72%	66%
1997	38%		87%	20%	50%	39%	88%	82%	73%	72%	55%	69%	60%	36%	65%	65%
1998	37%		87%	20%	54%	53%	86%	93%	75%	70%	76%	73%	60%	37%	64%	68%
1999	39%		89%	20%	64%	47%	95%	89%	73%	77%	61%	68%	53%	37%	65%	66%
2000	45%	80%	84%	26%	63%	42%	85%	93%	83%	69%	63%	77%	46%	29%	63%	68%
2001	47%	80%	82%	33%	61%	39%	82%	89%	81%	70%	54%	79%	66%	31%	77%	69%
2002	60%	78%	84%	22%	57%	51%	80%	86%	66%	63%	61%	80%	57%	39%	76%	67%
2003	61%	76%	84%	25%	58%	44%	88%	79%	68%	67%	65%	81%	50%	31%	65%	67%
2004	51%	80%	90%	26%	67%	45%	85%	79%	58%	70%	64%	81%	47%	33%	50%	66%
2005	47%	71%	88%	26%	57%	43%	94%	81%	60%	67%	64%	74%	51%	31%	57%	65%
2006	45%	85%	84%	27%	54%	46%	90%	84%	56%	69%	70%	67%	51%	30%	62%	66%
Avg[1]	50%	79%	85%	23%	60%	53%	89%	88%	73%	76%	62%	74%	56%	34%	67%	69%
last5[2]	53%	78%	86%	26%	59%	46%	87%	82%	62%	67%	65%	77%	51%	33%	62%	66%
first5[3]	49%	80%	83%	24%	72%	73%	92%	92%	80%	89%	61%	70%	61%	35%	78%	72%
diff5[4]	4%	-2%	3%	2%	-14%	-27%	-5%	-10%	-18%	-21%	4%	7%	-10%	-2%	-16%	-5%
diff1[5]	-49%	5%	1%	2%	-21%	-27%	-5%	-8%	-26%	-19%	-8%	-2%	-21%	-5%	-19%	-3%

[1] Average: All periods
[2] Average: Last five-year percentages
[3] Average: First five-year percentages
[4] Change: Last five-year average—first five-year average
[5] Change: Last year-, first-year percentage

Table 3-B: Aggregate dividends paid (in millions of dollars)

Year	Global Number of Firms	Global Total Amount ($m)	Global Total Number of Firms Excluding US	Global Total Amount Excluding US ($m)
1985	1434	$27,661	861	$13,393
1986	1623	$30,593	1024	$18,255
1987	2059	$39,646	1409	$24,662
1988	2433	$45,701	1714	$29,395
1989	2697	$55,739	1967	$36,648
1990	3052	$67,785	2299	$43,443
1991	3556	$67,862	2700	$46,056
1992	3855	$62,985	2950	$45,784
1993	4105	$68,260	3127	$46,986
1994	4823	$77,988	3471	$57,061
1995	5519	$93,489	3990	$72,060
1996	6459	$103,298	4755	$82,170
1997	6997	$105,465	5157	$81,465
1998	8047	$129,383	5957	$104,783
1999	9128	$146,900	6908	$120,370
2000	10837	$146,287	8460	$126,264
2001	12407	$168,785	9976	$149,300
2002	13388	$164,275	10902	$140,108
2003	13895	$204,540	11342	$180,895
2004	14928	$280,971	12199	$247,497
2005	15714	$338,286	12861	$299,481
2006	17106	$436,806	14085	$386,698

Table 3-C: Country-by-country aggregate amounts of dividends paid in 2006 (in millions of dollars), and the relative share of each country

Country	Number of Firms	Total Dividends Paid ($m)	Relative Share
AUS	1177	$18,458	4.23%
AUT	48	$1,497	0.34%
BEL	77	$3,340	0.76%
BRA	158	$13,107	3.00%
CAN	1012	$18,157	4.16%
CHE	129	$1,266	0.29%
CHL	107	$2,313	0.53%
CHN	152	$12,061	2.76%
DEU	655	$36,369	8.33%
DNK	95	$10,941	2.50%
ESP	87	$10,118	2.32%
FIN	108	$6,627	1.52%
FRA	527	$34,049	7.80%
GBR	1274	$67,442	15.44%
GRC	221	$2,351	0.54%
HKG	671	$13,834	3.17%
IDN	137	$2,105	0.48%
IND	1268	$8,814	2.02%
ISR	59	$2,256	0.52%
ITA	182	$15,780	3.61%
JPN	1821	$21,772	4.98%
KOR	553	$8,866	2.03%
MYS	679	$3,392	0.78%
NLD	108	$18,262	4.18%
NOR	130	$2,912	0.67%
NZL	68	$1,320	0.30%
SGP	493	$5,350	1.22%
SWE	250	$11,455	2.62%
THA	369	$4,930	1.13%
TUR	129	$2,380	0.54%
TWN	1144	$17,974	4.11%
USA	3021	$50,107	11.47%
ZAF	197	$7,200	1.65%

Table 3D: Analysis of payout ratios for dividend payers

Year	Total Number of Firms	Total Number of Profitable Firms	Mean Profits ($m)	Median Profits ($m)	Aggregate Earnings ($m)	Aggregate Dividends ($m)	Payout Ratio	Percentages of Firms with Positive Earnings
1985	1434	1034	$110.18	$29.28	$113,925	$27,661	24%	72%
1986	1623	1112	$104.71	$27.68	$116,440	$30,593	26%	69%
1987	2059	1391	$131.48	$25.96	$182,891	$39,646	22%	68%
1988	2433	1659	$139.40	$23.17	$231,258	$45,701	20%	68%
1989	2697	1862	$150.15	$25.30	$279,586	$55,739	20%	69%
1990	3052	1985	$147.08	$24.47	$291,947	$67,785	23%	65%
1991	3556	2278	$134.64	$18.02	$306,717	$67,862	22%	64%
1992	3855	2542	$100.41	$16.31	$255,242	$62,985	25%	66%
1993	4105	2775	$93.55	$16.29	$259,602	$68,260	26%	68%
1994	4823	3404	$94.21	$16.07	$320,702	$77,988	24%	71%
1995	5519	4108	$100.96	$16.42	$414,763	$93,489	23%	74%
1996	6459	4820	$95.82	$15.85	$461,852	$103,298	22%	75%
1997	6997	5152	$95.12	$15.11	$490,042	$105,465	22%	74%
1998	8047	5853	$89.01	$11.12	$520,984	$129,383	25%	73%
1999	9128	6403	$89.66	$10.58	$574,067	$146,900	26%	70%
2000	10837	8476	$88.16	$9.45	$747,261	$146,287	20%	78%
2001	12407	9610	$51.97	$5.75	$499,430	$168,785	34%	78%
2002	13388	10067	$42.84	$5.21	$431,260	$164,275	38%	75%
2003	13895	10472	$76.33	$6.76	$799,326	$204,540	26%	75%
2004	14928	11163	$98.57	$9.49	$1,100,321	$280,971	26%	75%
2005	15714	12051	$112.94	$9.53	$1,361,028	$338,286	25%	77%
2006	17106	13253	$120.03	$9.71	$1,590,736	$436,806	28%	78%

Table 4: Means and medians of dividend payout ratios (mean=mn, median=md), classified by the legal system of countries included

	Civil Law		Common Law		Civil Law and Common Law		Civil Law/Common Law and Customary Law		Civil Law/Common Law, Muslim Law and Customary Law	
	Mn	**Md**	**Mn**	**Md**	**Mn**	**Md**	**Mn**	**Md**	**Mn**	**Md**
1985	43%	42%	36%	33%	52%	54%	49%	44%	51%	50%
1986	39%	37%	39%	37%	47%	43%	43%	43%	50%	46%
1987	43%	40%	35%	33%	30%	29%	43%	39%	42%	38%
1988	37%	34%	33%	31%	37%	35%	37%	33%	39%	32%
1989	39%	37%	33%	31%	34%	30%	40%	33%	33%	31%
1990	42%	38%	39%	36%	46%	45%	37%	34%	29%	26%
1991	40%	37%	44%	40%	49%	45%	41%	37%	33%	28%
1992	44%	40%	42%	40%	49%	49%	39%	38%	33%	28%
1993	38%	34%	35%	32%	48%	44%	35%	30%	34%	32%
1994	34%	31%	36%	32%	44%	41%	38%	33%	33%	30%
1995	35%	31%	36%	33%	40%	39%	39%	35%	30%	25%
1996	36%	33%	40%	36%	39%	36%	37%	34%	29%	25%
1997	38%	34%	38%	35%	38%	38%	36%	32%	30%	26%
1998	36%	33%	40%	38%	30%	26%	37%	31%	31%	27%
1999	36%	30%	40%	37%	34%	33%	34%	29%	29%	24%
2000	36%	31%	42%	38%	34%	31%	35%	29%	30%	25%
2001	38%	34%	43%	41%	36%	31%	37%	33%	32%	27%
2002	39%	35%	43%	38%	37%	33%	36%	30%	33%	28%
2003	40%	37%	44%	39%	37%	34%	35%	31%	33%	28%
2004	38%	34%	42%	38%	41%	38%	35%	31%	31%	26%
2005	37%	34%	43%	40%	40%	39%	36%	33%	33%	28%
2006	36%	32%	43%	39%	42%	41%	35%	32%	33%	28%

Table 5-A: Median values of the characteristics of payers and non-payers

Average firm size, and ratios of aggregate earnings, investment, firm value, and liabilities to aggregate assets and book equity, for different dividend groups and for new lists

A_t, BE_t, ME_t , $L_t = A_t - BE_t$, and $V_t = L_t + ME_t$ are assets, book common equity, market value of common equity, book liabilities, and total market value, at the end of fiscal year t. E_t ,Y_t ,D_t , and RD_t are earnings before interest but after taxes, after-tax earnings to common stock, dividends, and R&D expenditures for fiscal year t. Investment, dA_t, is $A_t - A_{t-1}$. The ratios here are ratios of year t aggregate values of the variables for the firms in a group, averaged over the years in a period. Results are shown for all firms and for firms grouped according to dividend status. Results are also shown for dividend payers and non-payers.

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
E_t/A_t																						
All Firms	8.56	8.36	9.11	9.63	9.09	8.23	7.35	7.25	7.08	7.57	7.59	7.39	6.95	6.82	6.71	5.86	4.64	4.24	4.82	5.54	5.62	6.21
Payers	8.64	8.57	9.53	10.07	9.52	8.88	8.06	7.86	7.84	8.01	8.16	8.01	7.57	7.87	7.88	7.37	6.42	6.34	6.83	7.55	7.70	8.12
Non-Payers	4.88	3.98	5.96	4.74	5.05	3.25	3.37	3.67	3.36	4.84	4.57	4.20	3.91	3.03	3.17	1.96	-1.05	-1.60	-0.19	0.72	0.03	1.20
Never Payers		3.15	4.82	4.01	4.46	3.48	3.04	3.27	3.01	4.69	4.81	4.11	3.61	2.72	2.68	1.88	-0.83	-3.36	-0.81	0.38	-0.19	0.04
Former Payers		7.23	16.72	5.70	7.42	1.55	3.19	3.84	3.64	3.97	3.22	3.42	3.28	4.21	4.04	2.42	1.71	1.48	0.93	2.30	2.69	2.49
Y_t/BE_t																						
All Firms	14.02	14.02	16.03	17.50	15.66	13.08	11.22	10.85	10.77	11.98	12.18	11.43	11.23	9.91	9.96	9.21	6.46	6.25	8.00	9.81	10.01	10.90
Payers	14.34	14.34	16.54	18.14	16.56	14.52	12.53	11.93	12.05	13.35	13.58	12.90	12.61	13.01	13.05	12.80	10.80	10.94	12.37	14.27	14.71	15.14
Non-Payers	5.28	4.89	7.07	5.34	4.36	0.33	-0.01	2.91	2.33	5.95	3.95	3.90	3.56	0.18	1.24	0.19	-7.22	-7.35	-4.17	-1.11	-2.49	-0.03
Never Payers		1.68	4.43	2.06	3.58	2.22	-1.06	1.63	1.07	5.29	4.00	3.75	3.14	0.20	0.36	-0.55	-7.32	-10.45	-5.06	-1.89	-3.15	-2.79
Former Payers		5.77	45.59	-0.41	4.36	-7.02	-2.74	1.09	1.57	3.26	1.02	1.37	2.05	0.03	1.91	1.83	-2.50	-0.99	-2.94	2.16	1.94	2.71
dA_t/A_t																						
All Firms		25.88	22.27	15.94	9.09	12.87	11.02	5.36	6.67	11.82	14.14	0.04	-5.92	3.24	6.31	7.43	-5.11	4.78	11.37	12.75	5.43	11.38
Payers		26.11	22.43	16.68	9.20	13.31	11.70	6.18	7.94	12.36	14.59	0.22	-5.61	2.59	6.91	7.85	-3.78	6.20	12.60	13.48	5.58	11.14
Non-Payers		22.63	16.14	7.51	8.48	8.80	0.26	-4.47	-7.44	8.27	10.34	-0.88	-7.41	4.80	4.54	6.11	-8.38	2.07	8.58	10.77	4.96	12.11
Never Payers		21.85	11.75	7.82	6.72	7.83	3.99	-2.97	-5.55	8.11	10.27	-0.51	-8.15	1.86	2.93	3.33	-9.60	0.73	7.84	9.11	3.21	10.58
Former Payers		23.31	15.28	4.30	7.40	9.10	-7.70	-11.1	-11.7	5.83	11.22	-8.88	-13.8	1.59	1.45	5.08	-9.13	2.09	4.94	7.44	-2.17	6.92

Table 5-A (Continued): Medians values of the characteristics of payers and non-payers

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
V_t/A_t																						
All Firms	1.22	1.37	1.36	1.43	1.51	1.42	1.37	1.23	1.30	1.34	1.24	1.31	1.22	1.10	1.15	1.12	1.07	1.06	1.13	1.21	1.26	1.35
Payers	1.23	1.38	1.38	1.44	1.51	1.42	1.38	1.25	1.31	1.35	1.24	1.31	1.20	1.09	1.13	1.10	1.06	1.07	1.12	1.20	1.23	1.31
Non-Payers	0.96	1.17	1.22	1.31	1.57	1.41	1.15	1.09	1.20	1.28	1.28	1.36	1.32	1.11	1.19	1.18	1.08	1.04	1.14	1.25	1.34	1.44
Never Payers		1.08	1.06	1.24	1.36	1.40	1.23	1.13	1.23	1.25	1.24	1.38	1.28	1.15	1.15	1.10	1.06	1.03	1.12	1.21	1.30	1.43
Former Payers		1.22	1.09	1.37	1.25	1.26	0.96	0.99	1.13	1.19	1.20	1.07	1.07	0.95	0.99	1.02	0.99	0.95	1.01	0.99	1.01	1.03
RD_t/A_t																						
All Firms	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Payers	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Non-Payers	0.02	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.01
Never Payers		0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02
Former Payers		0.02	0.00	0.05	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01
A_t																						
All Firms	394	448	369	334	341	308	282	268	277	300	313	254	222	185	166	136	101	104	111	116	112	115
Payers	405	463	395	375	370	345	326	315	321	341	349	292	267	232	228	213	183	179	194	215	214	220
Non-Payers	297	244	160	99	136	130	96	102	109	146	161	126	104	82	72	61	42	42	42	41	39	42
Never Payers		368	307	147	108	164	103	96	105	117	154	157	119	113	78	74	50	40	42	44	40	43
Former Payers		748	236	100	131	138	154	196	162	220	415	211	155	137	159	141	95	94	99	98	90	93
L_t/A_t																						
All Firms	0.37	0.38	0.38	0.38	0.38	0.39	0.40	0.40	0.40	0.42	0.42	0.43	0.42	0.43	0.45	0.48	0.49	0.50	0.50	0.51	0.51	0.51
Payers	0.38	0.39	0.39	0.39	0.39	0.40	0.40	0.41	0.41	0.43	0.43	0.43	0.42	0.43	0.45	0.46	0.47	0.49	0.50	0.50	0.50	0.49
Non-Payers	0.28	0.29	0.28	0.31	0.30	0.29	0.32	0.30	0.32	0.33	0.38	0.41	0.44	0.45	0.47	0.51	0.52	0.51	0.51	0.54	0.55	0.56
Never Payers		0.28	0.26	0.28	0.30	0.29	0.30	0.31	0.31	0.35	0.35	0.40	0.43	0.43	0.45	0.49	0.51	0.52	0.52	0.53	0.54	0.57
Former Payers		0.24	0.27	0.38	0.34	0.24	0.34	0.23	0.29	0.26	0.28	0.33	0.41	0.34	0.39	0.38	0.41	0.46	0.39	0.46	0.47	0.47

Table 5-B: The relative importance of dividend paying firms as measured by the percentage of aggregate values accounted for by the dividend payers

A_t, BE_t, ME_t, $L_t = A_t - BE_t$, and $V_t = L_t - ME_t$ are assets, book common equity, market value of common equity, book liabilities, and total market value at the end of fiscal year t. $dA = A_t - A_{t-1}$ is the change in assets in fiscal year t. E_t *and* Y_t are earnings before interest but after taxes and after-tax earnings to common stock for fiscal year t. dT_t is the change in treasury stock. The table shows average values for the indicated periods of the year t as percentages of the aggregate values of the variables (sums over all firms in the sample) accounted for by firms that pay dividends.

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
E_t	87	92	78	88	90	94	90	88	84	78	84	83	85	86	84	90	97	97	89	93	95	94
dA_t	-	80	52	81	88	88	89	75	159	80	81	-23	60	86	75	88	-386	98	93	85	109	92
A_t	77	79	70	78	79	82	78	74	77	76	76	77	80	84	85	86	88	85	85	84	90	90
V_t	79	80	77	79	77	80	28	76	77	76	76	77	79	84	84	85	88	86	85	85	90	90
BE_t	80	82	64	81	84	82	80	81	80	76	78	78	78	79	81	84	86	85	86	88	90	90
ME_t	85	84	83	82	75	78	14	82	79	77	77	78	78	83	81	84	87	87	86	88	90	89
L_t	75	78	72	77	78	82	78	72	76	76	75	77	81	85	87	87	89	86	84	83	90	90
dT_t	-	100	100	68	138	95	107	61	65	118	84	94	112	80	28	83	100	93	408	96	100	94

Table 5-C: The proportion of payers across size deciles (1 = the smallest, 10 = the largest decile group, sorted by total market values of the firm)

Year	Decile	Total	Payers	% of payers	Year	Decile	Total	Payers	% of payers	Year	Decile	Total	Payers	% of payers
1985	1	143	91	64%	1995	1	551	260	47%	2006	1	1710	363	21%
1985	2	143	108	76%	1995	2	552	305	55%	2006	2	1711	647	38%
1985	3	144	112	78%	1995	3	552	331	60%	2006	3	1711	759	44%
1985	4	143	119	83%	1995	4	552	388	70%	2006	4	1710	846	49%
1985	5	144	131	91%	1995	5	552	389	70%	2006	5	1711	893	52%
1985	6	143	132	92%	1995	6	552	407	74%	2006	6	1711	983	57%
1985	7	144	137	95%	1995	7	552	422	76%	2006	7	1710	1015	59%
1985	8	143	138	97%	1995	8	552	435	79%	2006	8	1711	1087	64%
1985	9	144	139	97%	1995	9	552	442	80%	2006	9	1711	1133	66%
1985	10	143	139	97%	1995	10	552	488	88%	2006	10	1710	1395	82%

Table 6: The proportion of payers across industries

SIC Code	Average Percentage of Payers		Change in the Percentage of Payers
	1985–1989	2002–2006	
10	76%	14%	-62%
12	100%	55%	-45%
13	62%	28%	-34%
14	83%	29%	-54%
15	90%	64%	-26%
16	80%	69%	-11%
17	88%	66%	-22%
20	94%	74%	-20%
21	100%	80%	-20%
22	94%	52%	-42%
23	97%	63%	-34%
24	89%	55%	-34%
25	96%	59%	-37%
26	95%	67%	-27%
27	97%	71%	-26%
28	88%	54%	-35%
29	81%	79%	-3%
31	67%	55%	-11%
32	92%	67%	-25%
33	85%	65%	-20%
34	89%	67%	-22%
35	84%	59%	-25%
37	92%	70%	-21%
40	90%	72%	-17%
41	100%	74%	-26%
44	77%	67%	-9%
45	79%	54%	-24%
46	80%	62%	-18%
47	82%	68%	-14%
48	87%	43%	-43%
49	100%	74%	-26%
51	93%	70%	-23%
52	89%	84%	-5%
53	91%	72%	-19%
54	91%	77%	-15%
55	79%	70%	-9%
56	86%	56%	-30%
57	69%	64%	-5%
58	83%	55%	-28%
59	86%	55%	-31%
70	93%	55%	-39%
73	69%	35%	-35%
75	80%	56%	-24%
80	59%	33%	-26%
81	0%	38%	38%
83	92%	49%	-43%
84	40%	50%	10%
86	20%	100%	80%
89	100%	35%	-65%
91	14%	48%	34%
95	0%	25%	25%
96	90%	90%	0%
99	90%	32%	-58%

Table 7: Logit regression results. These results are estimated separately for each year *t* of the 1985–2006 period for (i) firms that paid dividends in year *t*-1 (Dividend Payers), (ii) firms that have Never Paid as of year *t*-1, and (iii) firms that did not pay in *t*-1 but did pay in an earlier year (Former Payers). The dependent variable is 1 in year *t* if a firm pays dividends and zero otherwise. The explanatory variables are the percentage of firms with the same or lower market capitalization (NYP_t), the market-to-book ratio(V_t/A_t), the rate of growth of assets (dA_t/A_t), and profitability (E_t/A_t). The table shows means (across years) of the regression intercepts and slopes, and *t*-statistics for the means, defined as the mean divided by its standard error (the times-series standard deviation of the regression coefficient divided by the square root of the number of years in the period).

	Average Coefficient					t-statistic				
	Intercept	**NYP_t**	**V_t/A_t**	**dA_t/A_t**	**E_t/A_t**	**Intercept**	**NYP_t**	**V_t/A_t**	**dA_t/A_t**	**E_t/A_t**
1986	-0.34	0.04	0.00	-1.54	5.74	-1.91	10.60	0.09	-3.69	4.98
1987	-1.04	0.04	0.00	-0.32	7.65	-5.42	11.51	0.10	-0.95	5.33
1988	-0.63	0.04	0.00	-0.21	5.33	-4.02	12.00	0.08	-0.55	5.17
1989	-0.45	0.03	0.00	-0.71	5.50	-3.37	12.56	0.12	-2.21	6.17
1990	-0.43	0.03	0.00	-0.89	8.95	-3.43	11.28	0.17	-2.56	9.30
1991	-0.57	0.03	0.00	-0.26	5.34	-5.03	14.08	0.22	-1.14	7.21
1992	-0.64	0.03	0.00	-0.71	6.39	-6.18	14.70	0.27	-3.13	9.13
1993	-0.56	0.03	0.00	-0.15	5.60	-5.81	14.46	0.24	-1.38	8.98
1994	-0.26	0.02	0.00	-0.19	5.37	-2.69	10.58	0.28	-3.49	9.39
1995	-0.57	0.02	0.00	-1.27	5.50	-6.94	15.73	0.28	-5.96	11.76
1996	-0.66	0.02	0.00	-2.08	6.04	-8.77	17.27	0.30	-12.05	13.35
1997	-0.83	0.02	0.00	-1.77	5.45	-11.85	18.60	0.32	-14.74	15.38
1998	-0.98	0.02	0.00	-1.82	6.65	-14.35	18.63	0.33	-16.46	20.34
1999	-1.08	0.02	0.00	-1.91	6.61	-16.88	18.98	0.45	-14.65	20.33
2000	-1.03	0.02	0.00	-0.34	3.52	-17.95	21.71	-0.80	-4.25	16.40
2001	-1.27	0.02	0.00	-0.80	4.54	-22.18	26.27	-0.85	-8.66	22.18
2002	-1.35	0.02	0.00	0.00	3.82	-24.98	28.00	-0.80	0.31	20.96
2003	-1.42	0.02	0.00	-0.14	5.12	-26.57	28.36	0.79	-1.66	23.29
2004	-1.52	0.03	0.00	-0.43	2.84	-29.69	33.84	0.95	-5.47	17.01
2005	-1.52	0.03	0.00	-0.79	5.48	-30.03	33.11	1.12	-8.98	25.29
2006	-1.51	0.03	0.00	-1.50	5.47	-29.69	35.44	1.20	-16.67	26.56

Table 8: Estimates from the logit regressions on the effect of changing characteristics on the percentage of firms paying dividends

We use all firms for each year of the 1985–95 base period to estimate logit regressions that explain whether a firm pays dividends. The explanatory variables are profitability (E_t/A_t), the growth rate of assets (dA_t/A_t), the market-to-book ratio (V_t/A_t), and the percent of firms with the same or lower market capitalization (NYP_t). Firms is the number of firms in the sample for a year or the average for a period. Payers is the number (or average number) of dividend payers. Actual% is the percent of payers (the ratio of payers to firms, times 100). The Expected% of payers for a year *t* is estimated by applying the average logit regression coefficients for 1985–95 to the values of the explanatory variables for each firm for year *t*, summing over firms, dividing by the number of firms, and then multiplying by 100. The evolution of Expected% measures the effects of changing characteristics on the percent of dividend payers. Expected-Actual measures the effect of propensity to pay. We use V_t/A_t and dA_t/A_t to control for investment opportunities. There are two sets of results: one with both the market-to-book ratio and the growth rate of assets as proxies for investment opportunities and another with the latter measure only.

				V_t / A_t and dA_t / A_t		dA_t / A_t	
	Firms	**Payers**	**Actual %**	**Expected %**	**Expected-Actual**	**Expected %**	**Expected-Actual**
1985–95	5732	4002	70%				
1996	6459	4425	69%	99%	31%	94%	26%
1997	6997	4642	66%	90%	24%	99%	33%
1998	8047	4951	62%	90%	29%	98%	37%
1999	9128	5282	58%	93%	36%	98%	40%
2000	10837	5882	54%	96%	42%	91%	36%
2001	12407	6427	52%	99%	47%	91%	39%
2002	13388	6843	51%	92%	40%	93%	42%
2003	13895	7208	52%	92%	40%	99%	47%
2004	14928	7809	52%	91%	39%	98%	46%
2005	15714	8367	53%	95%	42%	94%	41%
2006	17106	9121	53%	90%	37%	91%	37%

Table 9: Percentages of dividend payers in 27 portfolios formed on size, profitability, and either market-to-book ratio or investment outlays.

	Investment Opportunities represented by Vt/At								
	Low Et/At			Medium Et/At			High Et/At		
	Low	Vt/At	High	Low	Vt/At	High	Low	Vt/At	High
					Small Firms				
1985–1995	44%	52%	50%	55%	58%	52%	74%	73%	69%
1996	57%	50%	33%	61%	64%	46%	74%	70%	59%
1997	46%	55%	36%	68%	67%	49%	88%	82%	56%
1998	37%	41%	31%	28%	39%	25%	66%	61%	47%
1999	37%	40%	26%	28%	36%	25%	66%	54%	50%
2000	40%	35%	22%	23%	30%	16%	59%	49%	43%
2001	33%	30%	15%	5%	23%	8%	44%	46%	41%
2002	26%	27%	12%	10%	10%	7%	34%	43%	28%
2003	39%	29%	14%	14%	12%	8%	48%	45%	33%
2004	39%	30%	15%	20%	20%	6%	48%	46%	31%
2005	37%	40%	16%	19%	9%	3%	46%	48%	32%
2006	36%	33%	13%	26%	21%	8%	57%	51%	40%
					Medium Firms				
1985–1995	77%	85%	69%	84%	74%	67%	81%	82%	70%
1996	78%	83%	45%	76%	69%	55%	74%	73%	65%
1997	75%	82%	41%	84%	72%	46%	83%	74%	59%
1998	73%	76%	45%	71%	65%	44%	79%	67%	62%
1999	75%	69%	42%	65%	57%	46%	72%	70%	62%
2000	59%	60%	31%	56%	51%	42%	65%	69%	67%
2001	58%	54%	31%	51%	46%	36%	69%	73%	61%
2002	57%	52%	29%	41%	45%	28%	67%	67%	60%
2003	69%	44%	29%	61%	46%	30%	79%	73%	57%
2004	67%	53%	28%	59%	49%	23%	78%	68%	56%
2005	70%	58%	28%	52%	52%	21%	79%	71%	54%
2006	67%	56%	25%	54%	49%	22%	80%	68%	57%
					Large Firms				
1985–1995	88%	92%	88%	93%	91%	83%	92%	90%	81%
1996	81%	87%	67%	89%	85%	65%	87%	86%	69%
1997	87%	83%	60%	84%	80%	65%	84%	78%	64%
1998	87%	80%	52%	77%	71%	65%	79%	77%	66%
1999	83%	80%	39%	71%	72%	59%	76%	77%	63%
2000	66%	61%	22%	81%	80%	65%	76%	74%	66%
2001	67%	56%	20%	77%	77%	61%	79%	76%	67%
2002	46%	53%	55%	77%	73%	64%	76%	75%	68%
2003	66%	58%	34%	79%	73%	57%	83%	79%	67%
2004	67%	58%	31%	80%	77%	59%	82%	81%	68%
2005	69%	56%	24%	83%	81%	60%	83%	84%	69%
2006	67%	51%	23%	84%	78%	61%	82%	80%	75%

Table 9 (Continued): Percentages of dividend payers in 27 portfolios formed on size, profitability, and either market-to-book ratio or investment outlays.

	Investment Opportunities Proxied by Vt/At								
	Low Et/At			Medium Et/At			High Et/At		
	Low	dAt/At	High	Low	dAt/At	High	Low	dAt/At	High
					Small Firms				
1985–1995	37%	44%	64%	48%	55%	61%	65%	76%	74%
1996	43%	39%	46%	51%	59%	53%	74%	62%	58%
1997	30%	47%	50%	71%	68%	45%	75%	72%	67%
1998	26%	37%	46%	23%	30%	37%	50%	65%	53%
1999	18%	36%	45%	34%	30%	25%	57%	63%	47%
2000	18%	32%	40%	25%	23%	17%	45%	53%	48%
2001	14%	18%	35%	12%	18%	8%	39%	42%	46%
2002	9%	19%	25%	11%	13%	5%	24%	29%	40%
2003	9%	24%	30%	11%	13%	8%	37%	42%	39%
2004	8%	24%	34%	15%	14%	10%	31%	45%	39%
2005	15%	29%	34%	4%	14%	6%	38%	44%	37%
2006	8%	25%	31%	16%	17%	14%	49%	48%	43%
					Medium Firms				
1985–1995	66%	79%	81%	72%	78%	71%	74%	81%	74%
1996	53%	82%	58%	63%	68%	61%	74%	73%	63%
1997	46%	74%	60%	69%	70%	53%	70%	83%	58%
1998	45%	70%	64%	71%	54%	50%	76%	69%	60%
1999	38%	61%	65%	72%	55%	41%	74%	76%	55%
2000	31%	56%	49%	46%	52%	45%	70%	74%	61%
2001	29%	55%	48%	33%	43%	47%	61%	72%	66%
2002	20%	49%	47%	37%	41%	33%	53%	68%	66%
2003	16%	54%	47%	37%	47%	39%	55%	72%	69%
2004	25%	60%	43%	34%	34%	43%	59%	70%	63%
2005	27%	62%	45%	32%	44%	34%	65%	69%	61%
2006	27%	58%	41%	42%	34%	35%	71%	67%	59%
					Large Firms				
1985–1995	83%	92%	92%	87%	91%	86%	87%	94%	80%
1996	73%	89%	69%	80%	82%	70%	84%	86%	67%
1997	70%	86%	64%	79%	86%	63%	81%	85%	61%
1998	69%	84%	57%	77%	77%	61%	82%	83%	61%
1999	45%	78%	57%	67%	74%	59%	77%	80%	60%
2000	44%	58%	33%	70%	77%	71%	76%	82%	61%
2001	39%	50%	35%	77%	75%	62%	81%	79%	64%
2002	45%	50%	58%	76%	72%	64%	75%	73%	69%
2003	33%	48%	55%	59%	68%	68%	71%	77%	72%
2004	38%	52%	47%	60%	71%	71%	74%	79%	72%
2005	39%	54%	38%	74%	77%	66%	83%	83%	70%
2006	43%	47%	35%	84%	71%	65%	82%	82%	73%

Table 10: Effects of changing characteristics and propensity to pay on the percentages of firms paying dividends. Estimated from 27 portfolios formed on size, profitability (Et/At) and either market-to-book ratio (Vt/At) or investment outlays (dAt/At)

			V_t / A_t		dA_t / A_t	
	Number of Firms	**Actual Percentage**	**Expected Percentage**	**Expected- Actual**	**Expected Percentage**	**Expected- Actual**
1985–95	35156	78%				
1996	6459	69%	78%	9%	78%	9%
1997	6997	66%	78%	12%	78%	12%
1998	8047	62%	78%	16%	78%	17%
1999	9128	58%	78%	20%	78%	20%
2000	10837	54%	78%	23%	78%	23%
2001	12407	52%	78%	26%	78%	26%
2002	13388	51%	78%	27%	78%	27%
2003	13895	52%	78%	26%	78%	27%
2004	14928	52%	78%	25%	78%	26%
2005	15714	53%	78%	24%	78%	25%
2006	17106	53%	78%	24%	78%	25%