Preferences for dividends and stock returns around the world

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Abstract

We find strong international evidence favoring dividend payouts as a salient stock characteristic affecting future stock returns. We find that dividend-paying stocks outperform non-dividend-paying stocks globally by 0.58% per month, adjusting for exposure to global and regional risk factors. The degree of dividend payers' outperformance relative to non-dividend payers is unrelated to tax rates on dividends. We show that the dividend premium comes from the payers' superior performance during ex-dividend months and the inflated ex-dividend month return partially reverses in the following month. The dividend premium co-moves across countries, especially between countries where ex-dividend dates are clustered in the same calendar month, and it is higher following market downturns. Collectively, our evidence points to dividend premium reflecting investor demand for dividends, particularly during dividend payment months.

Keywords: Dividend premium; Return comovement; International studies; Asset pricing

JEL classifications: G12, G35, N20

1. Introduction

In the perfect world of Black and Scholes (1974), dividend payouts do not matter to stock valuations because the aggregate supply of dividends matches the aggregate demand for dividend income from investors. One stream of research posits a positive relation between dividends and future stock returns. Fama and French (1998, p.821) find that changes in dividends positively predict future firm valuation and conclude that "dividends have information about value missed by earnings, investment, and debt".[1] A prominent explanation for the positive relation is tax-based. Litzenberger and Ramaswamy (1979) and Sialm (2009) argue that past dividend yields positively predict the future stock returns of a firm because the tax rate on dividends is higher than capital gains tax.[2] On the other hand, Christie (1990) and Naranjo, Nimalendran, and Ryngaert (1998) find that the magnitude of the positive dividend yield–return is too large to be explained by the "tax penalty" argument. While majority of the research is U.S.-centric, others tend to be country specific. Frank and Jaganathan (1998) and Lemmon and Nguyen (2015) find a positive dividend-stock return relation using Hong Kong stocks, where dividends and capital gains are not taxed. Recent work, beginning with Hartzmark and Solomon (2013), pivots the search for an explanation to the strong positive return in the dividend month. Hartzmark and Solomon (2013, 2022) argue that the high dividend month returns reflect prices pressure from dividend seeking investors.

[1] The literature on the information content of dividend *changes* resort to theories that dividend changes signal future cash flows (e.g. Miller and Scholes (1982) and Baker, Mendel, and Wurgler (2016)). The evidence, however, is mixed. Grullon et al. (2005) find that dividend changes contain no incremental information about future earnings changes. Amihud and Li (2006) document that the information content of dividend announcements declines as holdings by institutional investors increase. In contrast, Ham, Kaplan, and Leary (2020) report that dividend changes contain information about highly persistent changes in future economic income.

[2] The tax-based explanation is partially supported by some empirical studies. Litzenberger and Ramaswamy (1980) find a statistically significant positive relationship between past dividend yields and future stock returns, which they interpret as supportive evidence for the tax-based capital asset pricing model (CAPM). Sialm (2009) finds that tax burdens (i.e., weighted average taxes paid on dividends and capital gains) have a positive effect on asset returns in the U.S. from the 1920s to 1990, after which this positive relationship disappears. Thus, Sialm (2009) suggests that the tax-based explanation for the superior performance of dividend-paying stocks does not hold after 1990 in the U.S.

In this paper, we use a broad set of 44 stock markets to comprehensively analyze the effect of dividend payouts on future stock returns. The international setting provides a heterogeneous set of markets and sheds new light on the issue. We take a simple empirical approach to examine the relation between corporate dividends and the cross-section of stock returns. Our measure is based on the difference in stock returns between dividend payers and nonpayers, which we label as the dividend premium. First, we examine if there is a significant dividend premium in global markets. Second, we investigate the commonality in dividend premium across countries and investigate potential sources for the dividend premium, including taxes, risk, and its relation to the dividend month.

We start by presenting the propensity for companies to pay dividends across countries and over time around the world. Figure 1 shows that the percentage of listed firms that pay dividends is stable across emerging and developed countries. The pattern is similar when we compute the relative market value of corporations that pay any dividend (see Figure 1, Panel B).[3] The cross-country similarity in the propensity to pay dividends is intriguing and suggests potentially common drivers of the pricing of dividends, despite differences in tax, regulatory and information environment. Hence, the international stock markets provide a rich setting to explore the implications of dividends for stock valuation.

Next, we document new, robust international evidence of higher expected returns for dividend-paying stocks compared with non-dividend-paying stocks. Specifically, we find that stocks that pay dividends in the prior year (referred to as dividend payers or simply payers)

[3] The higher market capitalization represented by dividend payers compared with non-dividend payers is consistent with the well-known observation that larger companies are more likely to pay dividends than smaller ones (e.g., Fama and French (2001)). There is a decline in the percentage of dividend payers after 2000s, consistent with the disappearing dividends phenomenon in the U.S. reported in Fama and French (2001).

outperform stocks that do not pay dividends (or nonpayers) in the subsequent year. We define the dividend premium as difference in future returns of the portfolio of payers and nonpayers in country *c*, in month *m* as $PMN_{c,m}$. We find an average dividend premium (*PMN*) of 0.34% per month across the 44 stock markets from 1993 to 2018. The dividend premium is not explained by differences in factor risk exposure: the mean *PMN* is 0.58% per month (t-statistic = 9.19) after adjusting for exposure to a 10-factor model containing global and regional market excess return, size, value, momentum, and liquidity factors.

The positive dividend premium in the international sample is highly robust. The risk-adjusted dividend premium exists across emerging and developed countries, and across sub-periods (the 1990s, 2000–2009, and 2010–2018). The positive dividend premium is present among large and small firms, value and growth firms and within the same industry and country. The findings are also significant in within-country Fama–MacBeth cross-sectional regressions, controlling for other firm characteristics that explain the cross-section of returns, including firm size, book-to-market ratio, momentum, short-term reversal, market risk, idiosyncratic volatility, asset growth and earnings announcement events. We also find that the highest dividend yield stocks outperform the lowest dividend yield stocks internationally.

We revisit the tax-based explanation for the dividend premium and conclude that tax alone cannot fully explain our findings. First, we find that cross-country differences in *PMN* are unrelated to country-level differences in taxes on dividends and capital gains.[4] Second, we find a positive dividend premium of about 0.9% per month in Hong Kong, where dividend income and capital gains are not taxed. Third, we find that the positive return difference between the highest

[4] While marginal investors' tax rates on dividend and capital gains are not available, we condition our analyses on large shocks to a country's dividend tax rate. We find that the risk-adjusted *PMN* does not change around these events, confirming that tax alone cannot fully explain the positive dividend premium.

and lowest dividend yield portfolios is too large relative to the differential taxes on dividend income and capital gain. Overall, we rule out taxes as the primary source of the dividend premium.

To identify possible source of outperformance of dividend paying stocks, we explore the impact of dividend month. We perform three sets of analyses. Firstly, we conduct a cross-sectional comparison of characteristic-adjusted monthly stock returns between past payers predicted to go ex-dividend in the month and other past payers not predicted to do so. We observe that the former group outperforms the latter group by 35.8 basis points per month across the global sample. This outperformance increases to 45.2 basis points per month in a Fama-MacBeth analysis, where we control for firm characteristics. Running the Fama-MacBeth analysis for each stock market separately, we find that the outperformance persists in 70% of the 44 markets studied. Furthermore, we document evidence of subsequent return reversal (-55.3 basis points) in the month immediately following the predicted ex-dividend month across global markets.

Secondly, we undertake a time-series comparison of stock returns within the same firm across different calendar months of the year. Specifically, we compare average monthly returns in months when firms are predicted to pay dividends with those in non-dividend months. Our findings reveal a significant disparity, with dividend payers realizing notably higher returns during their predicted ex-dividend months compared to other months, a distinction of 52 basis points, aligning with Hartzmark and Solomon (2013). Notably, the monthly return for prior dividend payers escalates from 0.94% in non-dividend months to 1.47% during their predicted ex-dividend months. In addition, we employ an OLS regression using a firm-month dataset, where we control for firm*year fixed effects to isolate month return variations within a year for each firm. Our OLS analysis underscores a robust outperformance during anticipated ex-dividend months, registering at 0.895% per month. Additionally, we observe a subsequent reversal post the anticipated ex-

dividend month, quantified at -29.3 basis points across the full global sample. Neither risk exposure nor tax-related hypotheses suffice to explain the markedly higher returns in dividend months. Notably, the elevated monthly returns during anticipated ex-dividend months prevail across most countries.

Thirdly, we present daily characteristic-adjusted returns during periods surrounding ex-dividend dates. Specifically, we calculate stocks' characteristic-adjusted returns on the dividend announcement day, the interim period (spanning from one day after the announcement to one day before the ex-day, inclusive), the ex-dividend day itself, and the subsequent 40 days. Our findings reveal that stock returns exhibit positivity on the ex-dividend day (71.5 basis points) and during the interim period (1.12 percentage points), only to transition to negativity in the 40-day window following the ex-dividend date (-40.8 basis points). This outcome validates an inflated return preceding the ex-dividend date, which experiences partial reversal thereafter. In summary, these three analyses underscore that the dividend premium is concentrated in the ex-dividend month, suggesting that investor demand for dividends serves as a significant driver of higher returns for dividend payers.

We now delve into the role of market-level characteristics in understanding the dividend premium. Initially, recognizing the significance of ex-dividend months in our previous analysis, we aggregate the occurrences of ex-dividend months at the country level and employ it to forecast the future dividend premium. We anticipate that the dividend premium would be more pronounced in months when a majority of firms in the country are expected to go ex-dividend. To illustrate this concept, we devise a straightforward trading strategy: longing dividend payers and shorting non-payers, then scrutinizing the payoff during calendar months when a substantial number of stocks are projected to go ex-dividend. Remarkably, this strategy yields markedly higher monthly

returns of 0.41% during the two calendar months when most stocks in the country are predicted to pay dividends.

Additionally, we find evidence that the dividend premium is related to variation in investors' preference for dividends. Fuller and Goldstein (2011) and Hameed and Xie (2019) show that the demand for dividend stocks is higher when the equity market performs poorly. Hence, we explore the time-variation in dividend premium following downturns in the country index and global market portfolios. Consistent with the dividend premium reflecting demand for dividends, we find higher *PMN* returns following low country and global market returns.

Next, we examine commonality of dividend premium across countries. We report a novel finding that country-level dividend premium significantly comove with the dividend premium in other countries. After controlling for the effect of global and regional risk factors, we find that the dividend premium in a country loads significantly on the average global and regional dividend premium, signifying commonality in return premium for dividends. In addition, we find that the dividend premium in a country has a stronger comovement with the global dividend premium during months when the distribution of ex-dividend months is similar across countries. Moreover, the country level dividend premium continues to be larger following low global market returns and low returns on the regional size factor after controlling for the co-movement in global dividend premium. Overall, we find that the investor demand for dividends is globally correlated, and this correlation is amplified by similar timing of ex-dividend of payers across countries.

Our paper contributes to the fundamental question of whether dividend matters for stock valuation. We document a strong and robust positive impact of dividend payments on future stock returns using comprehensive international stock market data. Our evidence points to non-tax-based explanations for the premium for dividends. We show that the dividend premium reflects the

demand for dividend as espoused by Hartzman and Solomon (2013, 2022). Our findings add to the recent work by Atmaz and Basak (2022), who develop a model in which investors require a lower risk premium to hold no-dividend versus dividend-paying stocks in a consumption-based equilibrium framework. In their model, stocks that do not pay dividends have lower average returns than comparable stocks that pay dividends. Atmaz and Basak (2022, p. 547) state that the "price of no-dividend stocks is driven by their estimated pseudo-dividend, which does not contribute directly to aggregate consumption and hence comoves less with aggregate consumption compared with dividend-paying stocks." Our evidence suggests that there is a time-varying component to the dividend premium related to the demand for dividends.

Our paper provides new evidence on the dividend clientele hypothesis. Denis and Osobov (2008) reject the dividend clientele hypothesis using data for five non-U.S. countries (Canada, the U.K., Germany, France, and Japan), while Lee et al. (2006) find evidence for the dividend clientele effect in Taiwan. Bailey (1988) find that cash-dividend shares are sold at a premium relative to the stock-dividend shares of the same firm in Canada. Our results point to a strong investor demand for dividends worldwide. The advantage of our approach is that we quantify the price impact of the dividend preference in an international setting.

The remainder of the paper is organized as follows. Section 2 discusses related literature. Section 3 presents the pricing of dividends in global markets and our empirical analyses of the tax and non-tax factors affecting the dividend premium. Section 4 presents the results of our analysis of the effect of ex-dividend month on monthly stock returns. Section 5 presents the effect of market-level ex-dividend clustering and market returns on dividend premium. Section 6 presents the comovement of dividend premiums across countries. We conclude the paper in Section 7.

2. Literature review

2.1. Dividends and asset pricing

Black and Scholes (1974, p. 1) argue that dividends do not predict stock returns, stating that "it is not possible to demonstrate, using the best available empirical methods, that the expected returns on high yield common stocks differ from the expected returns on low yield common stocks either before or after taxes." In contrast, Litzenberger and Ramaswamy (1980) find a statistically significant positive relationship between past dividend yields and future stock returns, which they interpret as support for the tax-based CAPM. Miller and Scholes (1982) criticize the interpretation of the positive dividend–return relationship based on differential tax rates. Miller and Scholes (1982, p. 1118) comment that "any yield-related effects associated with such measures must arise from sources other the long-term tax differential" and argue that the relationship may arise due to the dividend announcement effect (i.e., an information effect). Both Christie (1990) and Naranjo, Nimalendran, and Ryngaert (1998) find a positive effect of dividend yields on stock returns, but they conclude that the magnitude of the positive dividend yield–return is too large to fit the "tax penalty" explanation. Boudoukh et al. (2007) find a positive, although weak, relationship between dividend yields and future stock returns, but they argue that total payout yield (the sum of dividend and repurchase yields) has a stronger predictive ability than dividend yields in both the time series and the cross-section of equity returns, consistent with information effects. There is no consensus in the literature on whether the dividend–return relationship holds in an era with diminished tax differentials or in regions where the tax effect does not apply at all (e.g., Hong Kong and Singapore).[5]

[5] In the U.S., the tax differential was 18.6% in 2002 (i.e., 38.6% for dividends minus 20% for capital gains), but it fell to zero in 2003 due to the Jobs and Growth Tax Relief Reconciliation Act of 2003. In Hong Kong and Singapore, the tax differential equals zero because neither dividend income nor capital gains income is taxed.

A few potential explanations exist for the sign of the dividend premium via indirect channels. The dividend premium may be related to the "lottery stocks" and "financial distress" puzzles. For instance, we find that nonpayers exhibit more lottery-like features (e.g., higher idiosyncratic risk and skewness) than payers. The lottery puzzle documented in the literature indicates that lottery stocks have lower returns, implying that nonpayers have lower average returns than payers. However, Hoberg and Prabhala (2009) show that low-risk (high-risk) firms pay more (fewer) dividends, and a premium for holding riskier stocks implies a negative dividend premium. The financial distress risk anomaly indicates a negative relationship between distress risk and stock returns (e.g., Lamont, Polk, and Saa-Requejob, 2001; Gao, Parsons, and Shen, 2018), implying that dividend payers outperform no-dividend stocks. However, Livdan, Sapriza, and Zhang (2009) show that more financially constrained firms are riskier and earn higher expected stock returns than less financially constrained firms. As dividend payers are less financially constrained (Kaplan and Zingales, 1997), it also suggests a negative dividend premium.

In addition to the general relationship between dividends and asset prices, the seasonality of distribution events and their implications for stock prices attract academic attention. Hartzmark and Solomon (2013) and Bessembinder and Zhang (2015) show that dividend distributions can be anticipated based on historical distributions for U.S. firms. Hartzmark and Solomon (2013) find that stocks have higher abnormal returns in months when they are predicted to pay ordinary cash dividends (i.e., have ex-dividend days in the month) and that this effect is subsequently reversed. They find that a portfolio that buys all stocks expected to issue dividends in a month earns an abnormal return of 41 basis points in that month. Hartzmark and Solomon (2013) interpret this positive abnormal return as a consequence of price pressure from dividend-seeking investors who purchase stocks before the predicted ex-days. Bessembinder and Zhang (2015) document

recurrences of four distribution events, namely cash dividend increases, stock dividends, special dividends, and stock splits based on announcement dates. They find that purchasing firms with high predicted probabilities for these distributions earn significant abnormal monthly returns. For example, they show that portfolios formed on the basis of a high estimated probability of dividend increases, stock dividends, special dividends, and stock splits generate average portfolio returns ranging from 1.3% to 1.6%, 1.2% to 2.5%, 1.6% to 2.4%, and 0.9% to 2.0% per month, respectively. Unlike Hartzmark and Solomon (2013), however, Bessembinder and Zhang (2015) find that the positive abnormal returns in months with predicted distribution events are not subsequently reversed; hence, they attribute these returns to the information effects of announcements.

2.2. Dividend clientele effect in an international setting

Denis and Osobov (2008) cast doubt on the dividend clientele hypothesis by showing that dividend payouts are not affected by the market-level dividend premium, i.e., the difference in prices of dividend-paying and non-dividend-paying stocks, for five non-U.S. countries (Canada, the U.K., Germany, France, and Japan). Lee et al. (2006) find evidence of a tax-induced dividend clientele effect in one market (Taiwan). Ferreira, Massa, and Matos (2010) find that foreign institutional ownership is negatively associated with the likelihood of a firm paying dividends and the size of its dividend payments. The more (less) significant the tax disadvantage of dividends to international investors and the higher (lower) the transaction costs related to repatriating and reinvesting dividends, the more (less) international investors will push for reduced dividends. Golubov et al. (2020) focus on merger-induced changes to shareholder composition based on 5,366 global mergers and acquisitions (M&As) in which the acquirer and target are from various

countries, including the U.S. They study how acquirers change their dividend policies after inheriting shareholders from the target firms in the M&As. They find that acquirer firms actively cater to new shareholders' preference for dividends inherited from the target firms after M&As, supporting the dividend clientele argument. However, because half of the sample firms in Golubov et al. (2020) are U.S. firms, it is unclear whether the dividend clientele effect they document is generalizable to non-U.S. firms.

These conflicting conclusions in the literature mainly result from differences in sample coverage and empirical approaches. The argument for a dividend clientele effect involves two general assumptions: first, firms actively cater to investors' preference for dividends; second, investors view stocks' dividend payouts as a salient characteristic and invest in firms with dividends close to their preferred level. In this paper, we provide fresh evidence of the dividend clientele effect in an international setting, focusing on investors' selection of firms based on their current dividend status. We find that the dividend factor drives stock returns globally. We argue that the cross-country return comovement reflects a time-varying preference for dividends and carries a premium. The underlying dividend clientele effect could be driven by investors' desire for current income, investor age, the opportunity set of investable assets, tax rates on dividends, information implied by dividends, and other factors.[6] We do not ascribe the global dividend factor to any single cause, leaving the search for the sources of the dividend clientele effect to future research.

[6] Theoretical studies attribute investor clientele's strong or weak preference for dividends to investor characteristics, such as tax status, age, income, and risk preferences, or to investor choice behaviour (Miller and Modigliani, 1961; Elton and Gruber, 1970; Shefrin and Statman, 1984; Allen, Bernardo, and Welch, 2000). Empirical evidence in the U.S. market relates the dividend clientele effect to investors' tax status (Poterba, 2004; Graham and Kumar, 2006; Desai and Jin, 2011; Kawano, 2014), investors' age (Becker, Ivkovic, and Weisbenner, 2011), institutional investment style (Hotchkiss and Lawrence, 2007), and investor sentiment (Baker and Wurgler, 2004), among other factors.

3. The pricing of dividends in global markets

3.1 Sample construction and calculation of monthly dividend premium for each country

For all of our sampled market except the U.S., we gather financial data from Datastream and WorldScope. Our U.S. data are gathered from the Center for Research in Security Prices (CRSP), and we only include common shares defined by the CRSP share code 10 or 11. Only country-years with at least 50 firms and including both dividend nonpayers and payers are included in our sample. We cover 44 countries/financial markets, including the U.S., over 26 years, from 1993 to 2018. The sample consists of 18 emerging and 26 developed markets (classified based on per capita gross national income by the World Bank, similar to Griffin, Kelly, and Nardari (2010) and Amihud, Hameed, Kang, and Zhang (2015)). Following Amihud et al. (2015), the sample covers three regions: the Americas (seven countries, comprising Argentina, Brazil, Canada, Chile, Mexico, Peru, and the U.S.), the Asia-Pacific (15 countries/regions, comprising Australia, China, Hong Kong, India, Indonesia, Japan, Malaysia, New Zealand, Pakistan, the Philippines, Singapore, South Korea, Sri Lanka, Thailand, and Taiwan), and Europe (22 countries, comprising Austria, Belgium, Cyprus, Denmark, Egypt, Finland, France, Germany, Greece, Israel, Italy, the Netherlands, Norway, Poland, Portugal, Romania, South Africa, Spain, Sweden, Switzerland, Turkey, and the U.K.).[7]

Table 1 presents country-level descriptive statistics for all of the firms in our sample. The sample covers the period from 1993 to 2018, although the starting year varies across countries. The yearly average number of firms in each market ranges from 62 in Portugal to 4,447 in the U.S. and the unique number of firms in each market ranges from 121 in Argentina to 14,441 in the

[7] Europe regions include two African (Egypt, South Africa) and two Asian (Israel, Turkey) markets that are close to Europe.

U.S. On average, 53.69% of firms are dividend payers, with a wide variation across countries, ranging from 21% in Canada to 83% in Japan. In contrast, a much smaller percentage (12%) of firms repurchase stocks.

We use monthly returns to calculate the dividend premium. Following Amihud et al. (2015), to deal with data errors in Datastream for all countries except the U.S., we set monthly returns as missing if they are above 500% or if they are above 300% and are reversed within the following month. All returns are converted into U.S. dollars using the corresponding exchange rates. In each market *c*, stocks are grouped into payer and nonpayer portfolios based on whether they paid cash dividends in fiscal year *t*-1. Then, we calculate the value-weighted average stock returns for payer and nonpayer portfolios in months *m* from July of year *t* to June of year *t*+1. We use the stocks' capitalization at the end of the previous month as weights. The dividend premium for each country-month is constructed as the difference in returns on the portfolio return of dividend payers and non-payers, denoted as $PMN_{c,m}$.

We calculate the risk-adjusted dividend premium (PMN_Alpha_c) for each country *c* from a regression of $PMN_{c,m}$ on risk factors. The risk factors comprise market excess returns (*RM*), a size factor (the difference between small and big firm portfolios, denoted by *SMB*), a value factor (the difference between high and low book-to-market portfolios, denoted by *HML*), a momentum factor (the difference between high and low prior return portfolios, denoted by *MOM*), and an illiquidity factor (the difference between illiquid and liquid portfolios, denoted by *IML*). Following Bekaert, Hodrick, and Zhang (2009), we use global and regional factors rather than country factors in our main analyses. Following Amihud et al. (2015), who document illiquidity premiums around the world, we include global and regional *IML* in our model. The regression model is specified as follows.

$$PMN_{c,m} = PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}MOMg_m$$
$$+\beta_{5c}IMLg_m + \beta_{6c}RMreg_{c,m} + \beta_{7c}SMBreg_{c,m} + \beta_{8c}HMLreg_{c,m}$$
$$+\beta_{9c}MOMreg_{c,m} + \beta_{10c}IMLreg_{c,m} + \varepsilon_{c,m}. \quad (1)$$

In the model, subscripts *c* and *m* denote country and month, respectively, and subscripts for the common return factors *g* and *reg* denote global and regional factors, respectively. We first calculate monthly factors for each market and then use them as an input to calculate global and regional factors. A country's *RM* factor is calculated as its value-weighted market return (in U.S. dollars) in excess of the one-month U.S. Treasury bill rate. We construct each country's *SMB* and *HML* factors following the methodology in Fama and French (1993). First, stocks in each country are divided into two equally sized groups based on the median of market capitalization at the end of June of the year. Each size portfolio is further divided into three groups based on the book-to-market ratio (*BTM*) of equity, which is equal to the book value of equity (*BE*) at the end of the previous fiscal year scaled by the equity market value (*ME*) at the end of the previous calendar year. We use the 30th and 70th percentiles of *BTM* as breakpoints to generate the three *BE/ME* groupings. Thus, we have 6 (2 x 3) portfolios ranked on *SIZE* and *BTM*. Then, a country's *SMB* factor is the difference between the value-weighted average returns of the two size-based portfolios (*Small* minus *Big*), and *HML* is the difference between the value-weighted average returns of the two extreme *BTM* portfolios across the two size portfolios.

A country's *MOM* is constructed using six value-weight portfolios formed on size and past returns between months 2 and 12 before the current month (i.e., months -2 to -12, skipping month -1). The portfolios, which are formed monthly, are the intersections of two portfolios formed on size (*ME*) and three portfolios formed on the prior 2- to 12-month return. The monthly size breakpoint is the median of *ME*. The prior 2- to 12-month return breakpoints are the 30th and 70th

percentiles. *MOM* is the average return on the two high prior return portfolios minus the average return on the two low prior return portfolios. To calculate the illiquidity factor (*IML*), stocks are sorted at the beginning of month *t* into three portfolios by the standard deviation of their daily return over a three-month period, months *t*-3 to *t*-1. Within each volatility portfolio, stocks are sorted into five equal portfolios based on Amihud's (2002) illiquidity measure calculated over the same three-month period. Then, average returns are calculated for each double-sorted portfolio for month *t*+1. To average returns, we use value weightings, based on the stock's market capitalization at the end of the previous month for each month. The liquid (illiquid) stock portfolio return is the average of the portfolio returns on the three most (least) liquid portfolios across the three volatility-sorted portfolios. *IML* is the illiquid-minus-liquid portfolio return.

Next, we calculate global (*RMg*, *SMBg*, *HMLg*, *MOMg*, and *IMLg*) and regional (*RMreg*, *SMBreg*, *HMLreg*, *MOMreg*, and *IMLreg*) factors. The global market factor *RMg* is the return on the Morgan Stanley Capital International global index in excess of the U.S. one-month Treasury bill rate. The returns on the global factors *SMBg*, *HMLg*, *MOMg*, and *IMLg* are the monthly value-weighted averages of each country's *SMB*, *HML*, *MOM*, and *IML* factors, using the stock market capitalization (in U.S. dollar terms) at the end of the previous month as each country's weight. The regional factors *RMreg*, *SMBreg*, *HMLreg*, *MOMreg*, and *IMLreg* are constructed in the same way for each region. Then, we use the residuals (plus intercept) from regressing each regional factor on its corresponding global factor as independent variables in our regressions. As we noted previously, there are three regions: the Americas, the Asia-Pacific, and Europe.

3.2 The dividend return premium: PMN

Panel A of Table 2 presents the difference in returns between dividend payers and

nonpayers, PMN_c, and the risk-adjusted difference (PMN_Alpha_c) estimated from equation (1). A positive *PMN* of a country in a month means that past dividend payers in the country outperform past nonpayers. Across all stock markets, the mean long–short portfolio return, PMN_c, is 0.34% per month or 4.08% per year and is positive and significant (t-statistic = 6.27). Moreover, 82% of the markets have a positive PMN_c, significantly different from the chance result of 50% (p-value < 0.001). With regard to the risk-adjusted dividend premium, PMN_Alpha_c, the mean is positive and significant at 0.58% or 6.9% per annum (t-statistic = 9.19) and 95% of the markets have a positive PMN_Alpha_c. The positive alpha from the long–short portfolio comes from the superior performance of the dividend payers, with an alpha of +0.31% (t-statistic = 4.68), and the underperformance of the nonpayers, at -0.27% (t-statistic = -3.55). We further calculate PMN_Alpha_c driven by capital gain components (*PMN_Alpha(Capital Gain)*): the mean of *PMN_Alpha(Capital Gain)* is 0.4% (t-statistic = 7.07). These results imply that the positive *PMN* cannot be completely explained by investors' ignoring dividends when evaluating returns. The evidence suggests that dividend payers earn an economically significant premium over nonpayers in our international sample.

The results are highly robust to a series of checks. The findings remain unchanged after we split markets into emerging and developed markets. In Panel B of Table 2: the monthly mean risk-adjusted return on payers minus nonpayers is positive and significant at 0.56% (t-statistic = 4.97) in emerging markets and 0.59% (t-statistic = 7.94) in developed markets. Figure 2 presents the dividend premium (*PMN*) and risk-adjusted dividend premium (*PMN_Alpha*) by market.

3.3. Robustness tests: Expected return on dividend payers

In Table A2 in the appendix, we report several robustness checks. We find that the positive

premium for dividend-paying stocks is robust to following empirical strategies: (1) we report *PMN* and *PMN_Alpha* in each country and find that *PMN* and (*PMN_Alpha*) are positive and significant in most countries in our sample, i.e., 82% (95%) of the countries; (2) we find that dividend return premium is positive for most calendar months, i.e., *PMN_Alpha* is positive in all calendar months except January; (3) we calculate dividend premium within each industry to rule out the fact that our main results are driven by clustering of payers in certain industries and we still find strong result of positive dividend premium; (4) the positive dividend premium is robust to alternative factor models (CAPM model, Fama-French three-factor model, Fama-French five-factor model, and seven-factor model (i.e., Fama-French five factors, momentum factor, and liquidity factor). (5) the positive dividend premium exists in the large stocks with market capitalization greater than the median of the country; (6) the positive dividend premium still holds when we compare dividend payer with nonpayers identified with a propensity score matching (PSM) procedure; (7) the positive dividend premium holds in each of three decades in our sample period. In summary, these tests indicate robust evidence of the prevalence of dividend return premium around the world. The dividend payers outperform the non-payers, and the positive dividend premium is economically and statistically significant.

3.4 The effect of dividends on monthly stock returns

In this section, we use monthly individual stock returns and employ the Fama–MacBeth (1973) cross-sectional regression approach to estimate the effect of dividend status on monthly stock return using the following model.

$$\begin{aligned} RET_{c,i,m} = \beta_0 + \beta_1 Payer_{c,i,t-1}\left(DivYld_{c,i,t-1}\right) + \beta_2 SIZE_{c,i,m-1} + \beta_3 BTM_{c,i,m-1} \\ +\beta_4 RET_{c,i,m-12\ to\ m-2} + \beta_5 RET_{c,i,m-1} + \beta_6 BETA_{c,i,m-24\ to\ m-1} \\ +\beta_7 Idiovol_{c,i,m-24\ to\ m-1} + \beta_8 TAG_{c,i,t-1} + \beta_9 EarnAnn_{c,t,m} + \varepsilon_{c,i,m}, \end{aligned} \quad (2)$$

RET is a stock's monthly return times 100. $Dividend_{c,i,t-1}$ is either $Payer_{c,i,t-1}$ or $DivYld_{c,i,t-1}$. $Payer_{c,i,t-1}$ equals one if firm *i* from country *c* reports cash dividends in the most recent fiscal year prior to month *m*, and zero otherwise. *SIZE* is the natural logarithm of stocks' latest market capitalization before month *m*. *BTM* is the latest book-to-market ratio before month *m*. $RET_{c,I,m-1}$ is the lag one-month return. $RET_{c,I,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for two years ending in month *m*-1 with at least 52 weeks of observations. *Idiovol* is the idiosyncratic return volatility of weekly returns for two years ending in month *m*-1 with at least 52 weeks of observations. *TAG* is the total asset growth rate, defined as the percentage change in total assets from fiscal year *t*-1 to fiscal year *t*. *Dum(EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise.

We use the Fama–Macbeth procedure to estimate the coefficients for each country *c* (based on all firm-month observations in the country). Finally, we report the mean of coefficients of the same variable across 44 markets.

Table 3 reports the results (i.e., cross-sectional means for 44 markets). Panel A shows the effect of the dividend indicator $Payer_{c,i,t-1}$ ($DivYld_{c,i,t-1}$) on monthly stock returns for the global markets (all 44 markets). In our analysis of the 44 global markets, the cross-country mean coefficient of $Payer_{c,i,t-1}$, dividend premium (β_1), is 0.463, which is positive and significant (t-statistic = 10.699) after controlling for other firm characteristics. More importantly, 97.73% of the markets have positive coefficients—a proportion significantly different from the chance result of 50% (p-value < 0.001). The results imply that past dividend payments have strong predictive power for future stock returns. Regarding the control variables, the coefficient of *SIZE* is negative and significant (-0.08, t-statistic = -3.919), consistent with the size effect (i.e., big firms earn lower

return relative to small firms.). The coefficient of *BTM* is positive and significant (0.078, t-statistic = 3.86). We also find a momentum effect, indicated by the significant positive coefficient on $RET_{c,i,m\text{-}12\ to\ m\text{-}2}$ (see Jegadeesh and Titman, 1993; Griffin, Ji, and Spencer, 2003). The coefficient on *Idiovol* is negative and significant (-8.119, t-statistic = -4.97), consistent with the findings in Amihud (2002) and Ang, Hodrick, Xing, and Zhang (2009). The coefficient on *TAG* is -0.13, which is negatively significant (t-statistic = -2.894). We find similar results using $DivYld_{c,i,t-1}$ instead of $Payer_{c,i,t-1}$.

Panel B shows the effect of the dividend indicator $Payer_{c,i,t-1}$ on monthly stock returns separately for two subsamples: 26 developed markets and 18 emerging markets. The mean coefficient of $Payer_{c,i,t-1}$ remains significant and positive for the developed and emerging markets. We find that 96.15% and 100% of the developed and emerging markets, respectively, have positive coefficients—both significantly different from the chance result of 50% (p-value < 0.001). Overall, these findings are consistent with international asset pricing studies (Hou, Karolyi, and Kho, 2011; Amihud et al. 2015).

Table A3 in the appendix presents the Fama–Macbeth results estimated for each country. We use either an indicator for dividend payer ($Payer_{c,i,t-1}$) or the firm's dividend yield ($DivYld_{c,i,t-1}$.) as the key independent variable (both variables are measured prior to the timing of the dependent variable, i.e., monthly stock returns). We use the same set of control variables as in the previous analyses and report the coefficient of *Payer* estimated for each country in column 2. We find a strong positive relationship between the dividend payer indicator and stock return in almost all of the countries/markets, including markets with zero tax on dividends (e.g., Singapore). We report the mean of coefficient across all markets in the last row, which is 0.463 (t=10.699). We report the coefficient of *DivYld* estimated for each country in column 4, and document similar

findings. The coefficients of the control variables are omitted for brevity.

3.5 Cross-section of returns on portfolios sorted by dividend yields

Next, we analyze if the level of dividend yield also affects stock returns in the cross-section. In June of each year, we classify stocks into six portfolios based on their lagged dividend yields. The first portfolio contains all the zero-dividend stocks. The remaining dividend-paying stocks are divided into 5 portfolios according to their level of dividend yield. We calculate value-weighted returns and dividend yields for these portfolios. The returns are computed on a monthly basis, and portfolio dividend yields are updated annually (Sialm, 2009; Lemmon and Nguyen, 2015).

Panel A of Table 4 reports the average dividend yield (in the portfolio formation year and the year following portfolio formation) and the abnormal portfolio returns (based on CAPM and 10-factor model). First, dividend payers demonstrate high persistence, as high (low) dividend stocks continue to pay high (low) dividends in the following year. Interestingly, zero dividend stocks in the prior year start to pay some dividends in the following year, on average. More importantly, we find a monotonic positive relationship between dividend yields and abnormal returns at the portfolio level. The firms in the highest dividend quintile outperform those in the lowest dividend quintile by 0.44% per month (t-statistic = 2.85) in the 10-factor model in equation (1). The degree to which the high dividend stocks outperform other stocks is even more significant when we compare the highest dividend payers and nonpayers: the monthly alpha increases to 0.82% per month (t-statistic = 5.34). Hence, there is substantive global evidence of a positive relationship between dividend yield and future stock returns.[8]

[8] In unreported tables, we form portfolios based on the sign of the change in dividend yield and find firms with positive change in dividend yield in the past outperform other firms that experience decreased dividend yields. In particular,

If the return difference between the highest dividend decile and the lowest dividend quintile (0.44% per month in the 10-factor model) is fully explained by the tax effect, we can compute the implied difference between tax rates on dividend income and capital gains. In particular, the return difference in these portfolios' annual return should equal to the dividend yield (i.e., dividend per share scaled by stock price) multiplied by the difference in the tax rate on dividend income and the tax rate on capital gains. Since the difference in the dividend yields (in the subsequent year) between high and low yield portfolios is 4.11%, the implied difference in tax rates on dividend income and capital gains is 128%. This estimated value of the differential tax rates is too high to attribute the dividend premium to tax effects.[9]

Next, we examine the potential drivers of cross-country differences in the effect of dividend on stock returns. Specifically, we regress the portfolio returns on its dividend yields and the interaction of dividend yields with country-specific factors, controlling for the global and regional risk factors in equation (1) and country, year fixed effects. In Panel B of Table 4, Model 1 confirms the finding in Panel A of a strong positive relationship between lagged dividend yield and stock portfolio returns in a regression. In Model 3, shown in Panel B, we interact dividend yields with *TaxCost*, the difference in tax rates on dividend income and capital gains. We find an insignificant interaction effect with tax costs, suggesting that differential tax rates do not explain the abnormal returns associated with dividend payers.

4. Dividend Premium and Dividend Month Returns

we start with stocks paying dividends in year t-2 and group these stocks into payers with increasing dividend yields and payers with decreasing dividend yields from year t-2 to year t-1. Then, we calculate the raw and risk-adjusted dividend premium between the firms that increase dividend yield and firms that decrease dividend yield (IMD, IMD_Alpha). IMD_Alpha is significantly positive.

[9] The annualized difference in stock returns divided by the difference in yield is (0.44% *12) / 4.11% = 128%.

Hartzmark and Solomon (2013) find that returns are higher in months when firms are expected to pay dividends (i.e., months when stocks go ex-dividend). Harris, Samuel, and Solomon (2015) find that dividend-seeking investors buy shares before the ex-dividend date, creating a temporary upward price pressure on dividend stocks. As Hartzmark and Solomon (2013, 2022) argue, if investors favor dividend payments, their purchase of dividend stocks is likely to create price pressure during the month in which dividends are paid (they define the dividend payment month as the month in which the ex-dividend day falls).

We analyze whether the higher return on dividend payers that we document depends on dividend months (i.e., months when stocks are predicted to go ex-dividend). We conduct four sets of tests: first, whether the higher returns on past dividend payers are realized in months when the stocks are predicted to go ex-dividend; second, whether differences in returns hold between months when firms are predicted to pay dividends and other months of the year; third, examining daily characteristic-adjusted returns in periods around dividend months; fourth, whether investors make money from a naïve trading strategy of purchasing past dividend payers in certain calendar months.

4.1 Inflated stock returns in predicted ex-dividend month – cross-sectional comparison

In this section, we conduct a cross-sectional comparison of monthly returns for predicted payers and other stocks in the same month. The intuition of this analysis is to conduct a cross-sectional comparison of past payers' returns in month *m*, when some of them are predicted to go ex-dividend in the month while other past payers are not. We restrict the analysis to past payers to facilitate a comparison within the dividend sector in the same month.

First, we report the results of characteristic-adjusted monthly stock return based on predicted dividend payment. In each month, stocks are grouped into *PredExDiv* and *NPredExDiv* based on whether they are predicted to have ex-dividend date in the month or not. In each group, stock's adjusted monthly return is calculated by taking the stock's return and subtracting the returns of a portfolio matched on tertiles (quintiles for U.S. sample) of market capitalization, book-to-market ratio and momentum. Portfolio return (*PortRet[E]* or *PortRet[NE]*) is the value weighted average of all stocks' adjusted return in the group, and we also calculate the difference between *PortRet[E]* and *PortRet[NE]*. We next calculate the mean of these three variables across all firm-month observations in the market. In the final step, we report cross-market mean and T-statistics of these three variables for all markets, developed, and emerging markets. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%).

In Panel A of Table 5, we find that the cross-market mean of *PortRet[E]* is 0.38% (t-statistics = 3.68) and is significantly positive. The magnitude of cross-market mean of *PortRet[NE]* is smaller but still positively significant (0.03%, t-statistics = 2.18). More importantly, the difference between *PortRet[E]* and *PortRet[NE]* is 0.36% (t-statistics = 3.32) and is significantly positive, suggesting that payers predicted to go ex-dividend in one month exhibit higher return than other payers not to have ex-dividend in the same month. The findings remain unchanged after we split markets into emerging and developed markets.

Next, we use Fama-Macbeth regression to examine the effect of predicted dividend payment on monthly return. We estimate the following model:

$$\begin{aligned} RET_{c,i,m} = {} & \beta_0 + \beta_1 EXVAR + \beta_2 SIZE_{c,i,m-1} + \beta_3 BTM_{c,i,m-1} \\ & + \beta_4 RET_{c,i,m-12\ to\ m-2} + \beta_5 RET_{c,i,m-1} + \beta_6 BETA_{c,i,m-24\ to\ m-1} \\ & + \beta_7 Idiovol_{c,i,m-24\ to\ m-1} + \beta_8 TAG_{c,i,t-1} + \beta_9 EarnAnn_{c,t,m} + \varepsilon_{c,i,m}, \end{aligned} \quad (3)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. *RET* is a stock's monthly return times 100. $EXVAR$ is either $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$ or $AfterPredExDiv_{i,m-13}$. $ExDiv_{i,m-12}$ is an indicator variable that equals one if firm *i* has ex-dividend date in month *m*-12, and zero otherwise. To examine return after and before the ex-dividend month, we are interested in the coefficient of $AfterPredExDiv_{i,m-13}$ ($BeforePredExDiv_{i,m-1}$), which indicates whether *m* is the month immediately following (before) the firm *i*'s predicted ex-dividend month (i.e., the indicator equals one if the firm has ex-dividend date in month *m*-13 (*m*-11), and zero otherwise). The control variables are same as equation (2).

We run Fama-Macbeth regression for past payers in each country and obtain one coefficient specific to the country for each variable. Then we report the cross-market mean and T-statistics (based on 44 observations, each corresponding to one country) of coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%). The results reported in Panel B shows that the coefficient on $BeforePredExDiv_{i,m-1}$ and $ExDiv_{i,m-12}$ are 0.39% (t-statistics=5.57) and 0.45% (t-statistics=3.25), both are significantly positive, suggesting that monthly returns for predicted payers are higher than other stocks in the same month. In addition, the coefficient on $AfterPredExDiv_{i,m-13}$. is -0.55% with t-statistics equals to -1.77, which is significantly negative, indicating monthly returns for predicted payers are lower than other stocks in the month following ex-dividend month. These findings remain unchanged after we split markets into emerging and developed markets. [10]

[10] In unreported Fama-Macbeth regression analysis, we find that the dividend month effect is stronger when market volatility is lower or when the prevailing dividend premium is higher.

4.2 Inflated stock returns in predicted ex-dividend month – time-series comparison

Hartzmark and Solomon (2013) and Bessembinder and Zhang (2015) show that dividend distributions can be anticipated based on historical distributions for U.S. firms. We examine if the dividend month returns holds in our global setting, explains the dividend premium and explore any cross-country differences. We follow Hartzmark and Solomon (2013) to identify a firm's predicted dividend month for U.S. firms. I.e., A predicted dividend month has a quarterly or unknown dividend 3, 6, 9, or 12 months ago, a semi-annual dividend 6 or 12 months ago, or an annual dividend 12 months ago for U.S. sample. For non-U.S. sample, due to lack of information about dividend frequency (i.e., quarterly, annual), we identify a firm's predicted dividend month based on whether the firm has ex-dividend 12 months ago (same calendar month in the prior year).

We start by focusing on the returns on past payers in dividend and non-dividend months. For each firm-month (*m*), we classify it into the ex-div-month group if the firm paid dividends twelve months ago (*m*-12), otherwise we classify it into the "Other months" group. We focus on past payers (i.e., paid dividends in the previous year) only and conduct the comparison for each market separately.

For each firm in each year, we first calculate the average monthly return for ex-div-months (Ret_m [E]), average monthly return in other months in the same year (Ret_m[O]), and their difference at firm-year level. We next calculate the mean of these three variables across all firm-year observations in the market. In the final step, we report cross-market mean and T-statistics of these three variables for all markets, developed, and emerging markets. Panel A, Table 6 shows that the cross-market average monthly return for ex-div-months (other months) is 1.47% (0.94%). The difference is 0.52% with t-statistics equals 3.35, suggesting that the return in ex-div-months is significantly higher than that in other months for dividend payers. The findings remain unchanged

after we split markets into emerging and developed markets. However, the global evidence is mainly driven by developed markets, where the return difference between ex-div-months and other months is 0.82% with t-statistics equals to 3.91.

Panel B of Table 6 presents the OLS regression based on past dividend payers in all countries. The intuition of this analysis is to conduct a time-series comparison of past payers' returns in year *t*, when payers are predicted to go ex-dividend in some months but not in other months in year *t*. We restrict the analysis to past payers, and we rely on *firm*year fixed effects* in the regression to facilitate the comparison of monthly returns in different months of the same firm in the same year. We run the OLS regression for each financial market (using all firm-year observations in the market), and report the statistics (i.e., mean, median) of 44 coefficients for each variable.

There are three key indicators in this analysis. To analyze the inflated returns in months when past payers are predicted to pay dividends, we are interested in the coefficient of $ExDiv_{i,m-12}$ (which has been defined previously, i.e., an indicator variable that equals one if firm *i* has ex-dividend date in month *m*-12, and zero otherwise.) To examine return after and before the ex-dividend month, we are interested in the coefficient of $AfterPredExDiv_{i,m-13}$ ($BeforePredExDiv_{i,m-1}$), which indicates whether *m* is the month immediately following (before) the firm *i*'s predicted ex-dividend month (i.e., the indicator equals one if the firm has ex-dividend date in month *m*-13 (*m*-11), and zero otherwise). The regression model is specified as follows,

$$RET_{c,i,m} = \beta_0 + \beta_1 EXVAR + \beta_2 SIZE_{c,i,m-1} + \beta_3 RET_{c,i,m-12\ to\ m-2} + \beta_4 RET_{c,i,m-1} + \beta_5 BETA_{c,i,m-24\ to\ m-1} + \beta_6 Idiovol_{c,i,m-24\ to\ m-1} + \beta_7 EarnAnn_{c,t,m} + Firm * Year + \varepsilon_{c,i,m}, \quad (4)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. $EXVAR$ is either $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$ or $AfterPredExDiv_{i,m-13}$. The definition of $BeforePredExDiv_{i,m-1}$,

$ExDiv_{i,m-12}$ and $AfterPredExDiv_{i,m-13}$. are the same as equation (3) and the control variables are same as equation (2) except *BTM* and *TAG* because we control for firm*year fixed effects. Standard errors are clustered by firm. We run OLS regression for past payers in each market and report the cross-market mean and T-statistics of coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%).

The results reported in Panel B of Table 6 shows that the coefficient on $BeforePredExDiv_{i,m-1}$ and $ExDiv_{i,m-12}$ are 1.13% (t-statistics=5.72) and 0.89% (t-statistics=6.59), both are significantly positive, suggesting that firms' returns are significantly higher in (before) predicted ex-dividend month (based on a comparison of monthly returns in year *t* of for past payers, i.e., firms that paid dividend in *t*-1). However, the coefficient on $AfterPredExDiv_{i,m-13}$ is -0.29% with t-statistics equal to -2.46, which is significantly negative, indicating a subsequent return reversal after the predicted ex-dividend month. These findings remain unchanged after we split markets into emerging and developed markets.

4.3 Daily abnormal returns around dividend months

We follow Hartzmark and Solomon (2013) to examine daily characteristic-adjusted returns in periods around dividend months. The purpose is to check whether the inflated return and subsequent reversal hold when we conduct the analysis based on the exact date of ex-dividends. Using daily return helps us investigate the dividend return premium more precisely. Each adjusted return takes the company's stock return and subtracts the returns of a portfolio matched on tertiles (quintiles for US setting) of market capitalization, book-to-market ratio and momentum. This table presents the average returns in each period: the announcement day, the interim period (one day

after announcement to one day before the ex-day, inclusive), the ex-dividend day, and the 40 days after the ex-dividend day. We first take the average for these returns by market and then report the cross-market mean and T-statistics of these variables. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%).

The results in Table 7 show that the daily abnormal returns in dividend announcement date (0.29%, t-statistics=7.77) and ex-dividend date (0.72%, t-statistics=8.32) are significantly positive. More importantly, the magnitude of daily abnormal returns in ex-dividend date is larger than that in dividend announcement date. The average daily abnormal returns in interim period are also significant and positive (1.12%, t-statistics=13.99). However, the average daily abnormal returns in the 40 days after the ex-dividend day are significantly negative (-0.41%, t-statistics=-6.04). These results further confirm our results reported in Tables 5 and 6.

5. The effect of market-level ex-dividend clustering and market returns on dividend premium

This section presents a cross-country joint analysis of the calendar effect of dividend status on monthly stock returns arising from the date when firms pay dividends. The framework of dividend-specific demand-based asset pricing (see Hartzmark and Solomon (2013, 2022)) allows us to estimate the within-year variation in returns on dividend payers when most firms in the country go ex-dividend. We conjecture that if a large number of firms have an ex-dividend day in a given month (i.e., clustering in the month), investors are likely to invest their capital in these expected dividend stocks, generating upward price pressure for dividend payers. Meanwhile, if investors' total capital is constant, we may infer that investors withdraw capital from the non-dividend sector

in such months, generating downward price pressure on zero-dividend stocks. The major innovation of analysis in this subsection (which differs from Hartzmark and Solomon (2013, 2022) is the idea of market-level ex-dividend date clustering, which refers to months in which most firms are expected to go ex-dividend. Then we use the occurrence of market-level ex-dividend clustering in a month to predict dividend portfolio's excess return (*PMN*) in the same calendar month in the subsequent year. Compared with firm-level predicted ex-dividend months, the market-level clustering of ex-dividend date exhibits strong stickiness (i.e., cluster in the same month across different years) in the same country, making it an easier input for ordinary shareholders to form dividend related trading strategies.

We first document that ex-dividend dates' clustering varies across our sample countries in Table A10 in the appendix. For example, Japanese firms' ex-dividend dates cluster in one single month, March, when 59.86% of public firms go ex-dividend. In contrast, U.S. firms' ex-dividend dates cluster in a few months, with most (21.88%) firms go ex-dividend in May, followed by August (21.56%).

Next, we investigate how the predicted ex-dividend date clustering and the lagged market return affect the risk-adjusted dividend premium (*PMN_Alpha*). In this analysis, we retain one observation for a country in a month and estimate the following specification.

$$PMN\_Alpha_{c,m} = \mu_0 + \mu_1 ExDiv\_Cluster_{c,m-12} + \mu_2 MktRet_{c,m-1} + \mu_3 MktRet_{c,m-12,m-2} + \mu_4 GlobalRet_{c,m-1} + \mu_5 GlobalRet_{c,m-12,m-2} + \mu_6 IRUS_{c,m-1} + \mu_7 MktCap_{c,t-1} + \mu_8 PerGDP_{c,t-1} + \mu_9 DivIntsy\%_{c,t-1} + \varepsilon_{c,m}. \quad (5)$$

c, *t*, and *m* denote the country, year, and month, respectively. The dependent variable is the risk-adjusted difference in return on dividend payers and nonpayers in month *m*, PMN_Alpha_m.

$ExDiv\_Cluster_{c,m-12}$ represents the market-level clustering of ex-dividend dates of country

c's stocks in month *m*-12. We create three measures to quantify this market-level clustering of ex-dividend dates. The first measure is, $Ex\text{-}DivPct_{c,m-12}$, the fraction of the country's public firms with ex-dividend dates in month *m*-12 scaled by the number of all public firms in the country *c* in the same month. We also generate two related indicator variables to identify the calendar month (s) in which most stocks go ex-dividend (i.e., with the largest ex-dividend date clustering). $Dum(High\ ExDiv)_{c,m-12}$ equals one if month *m*-12 ranks as the highest or the second highest month (among all months in the same calendar year) in the country *c* based on $Ex\text{-}DivPct_{c,m-12}$, and zero otherwise. $Dum(Peak\ Ex\text{-}div)_{c,m-12}$ equals one if month *m*-12 ranks as the month with the highest fraction of firms going ex-dividend (among all months in year *t*-1) in country *c.* and zero otherwise.

Table 8 reports the estimates of equation (5). In odd columns, we control for country*year fixed effects so that our proxy for the ex-dividend clustering compares months when most payers go ex-dividend with other months in the same year. In even columns, we change the fixed effect to country fixed effects and year fixed effects to allow for including additional country-year-level control variables. In columns 1 and 2 of Table 8, we report results when we measure the predicted ex-dividend clustering with a continuous variable ($Ex\text{-}DivPct_{c,m-12}$). We find a significantly positive impact of the predicted clustering of ex-dividend dates in a month on the *PMN_Alpha* in the same month. In column 3, we find that *Dum(High Ex-div)* has a positive coefficient, 0.41% (t-statistic = 3.49), indicating that the dividend premium (payer minus nonpayer) is 0.41% higher in months that are predicted to have a large fraction of firms paying out dividends.

We also find that the lagged one-month return has a significant negative effect on the risk-adjusted dividend premium, as indicated by the significant negative coefficients on $MktRet_{(m-1)}$ and $GlobalRet_{(m-1)}$, which suggest that poor local and global market conditions predict higher risk-

adjusted dividend premiums than is the case for good market conditions. These results indicate that market downturns increase the relative performance of dividend payers. In column 4, we control for country + year fixed effects so that we can control for additional country-year level variables in the regressions (e.g., *MktCap*, *PerGDP*, *PayerFrac*), and our findings remain unchanged.

In columns 5 to 6, we present results based on another indicator variables which provide alternative definitions of months when most firms pay out dividends: $Dum(Peak\ Ex\text{-}div)_{c,m\text{-}12}$. We find a significant positive coefficient using the other indicators of high ex-dividend clustering in *m*-12, confirming that the dividend premium is higher (lower) in months that are expected to be associated with a large (small) fraction of ex-dividend date events.

In an unreported analysis, we find that the abnormally high dividend premium in months with high ex-dividend day clustering also holds with the following alternative specifications: (1) using ex-post measure $Dum(High\ ExDiv)$ instead of predicted intensity, i.e., whether the current month *m* is the highest peak in the country-year; and (2) dropping global returns from the regressions or using country fixed effects.

6. Comovement of dividend premiums across countries

The results reported so far provide strong evidence of higher expected returns for dividend payers compared with nonpayers globally and indicate that this premium is concentrated in months when most firms pay dividends. A natural question is whether there is a common source of variation in this premium globally. We investigate the global cross-country comovement of dividend return premiums, i.e., the extent to which each country's dividend return premium covaries with the global and regional average dividend return premiums. We augment equation (1)

by adding *PMNg* and *PMNreg* and specify the following regression model.

$$PMN_{c,m} = Alpha_{c,m} + \beta_1 PMNg_m + \beta_2 PMNreg_m + \beta_3 RMg_m + \beta_4 SMBg_m + \beta_5 HMLg_m + \beta_6 MOMg_m + \beta_7 IMLg_m + \beta_8 RMreg_{c,m} + \beta_9 SMBreg_{c,m} + \beta_{10} HMLreg_{c,m} + \beta_{11} MOMreg_{c,m} + \beta_{12} IMLreg_{c,m} + \varepsilon_{c,m}. \quad (6)$$

PMNg and *PMNreg* are the monthly averages of the global and regional premiums, respectively. *PMNreg* is orthogonalized to *PMNg*. Country *c* is excluded from the average when we calculate *PMNg* and *PMNreg*. We expect to find that $\beta_1 > 0$ and $\beta_2 > 0$ if there is commonality in the dividend return premiums. The coefficients are estimated by ordinary least squares (OLS).

Panel A of Table 9 presents the estimated results. Consistent with our previous findings, the constant is positive and significant in all columns, confirming the existence of the dividend return premium. In columns (4) – (6), the coefficients on *PMNg* and *PMNreg* are positive and significant, implying that the dividend premiums of individual countries are driven by the global and regional dividend premiums. In particular, the coefficient on *PMNg* is 62.64, with a t-statistic of 18.29, and the coefficient on *PMNreg* is 18.79, with a t-statistic of 5.44, in column (6). Overall, the results in Table 9 show that a country's dividend return premium covaries with both the global average dividend return premium and its region's average dividend return premium.

As the importance of ex-dividend dates in dividend payers' excess returns (see Hartzmark and Solomon (2013, 2022)), we explore whether the comovement of dividend premiums across countries is affected by similarities in the monthly distributions of ex-dividend dates across countries. We construct two moderators that measure how close one country's monthly distribution is to those of other countries. We first calculate the similarity of the distributions of ex-dividend dates of a pair of countries (c_1, c_2) in each year, which captures the similarity of market-level clustering of ex-dividend dates. In particular, the similarity between a country-pair in a year is the

cosine similarity of the two countries' ex-dividend date vectors. A country's ex-dividend date vector, which captures the distribution of ex-dividend dates over a year, consists of 12 cells and is updated every year. Each cell equals the number of ex-dividend dates of all payers in one calendar month scaled by all ex-dividend dates in the whole calendar year. Then, for each country in a year, we take the equally weighted average of its cosine similarity with all other countries in the full sample (in the same region) as its global (regional) similarity score, i.e., *Global_Similarity* (*Regional_Similarity*).

In Panel B of Table 9, we interact *Global_Similarity* (*Regional_Similarity*) with *PMNg* (*PMNreg*). The positive coefficient on *PMNg*Global_Similarity* (*PMNg*Regional_Similarity*) indicates that the comovement of a country's dividend premium with the global (regional) dividend premium is stronger if the country's ex-dividend date distribution is closer to those of other countries. In other words, the comovement of PMN is stronger for two countries with a higher similarity of market-level clustering of ex-dividend dates in months within a year, confirming the importance of market-level clustering we documented earlier. Overall, our finding broadly supports the importance of time-varying demand for dividends prior to ex-dividend dates on payers' excess returns (see Hartzmark and Solomon (2013, 2022)).

7. Conclusion

In this paper, we find strong international evidence favoring dividend payouts as a salient stock characteristic affecting expected stock returns. We find that dividend-paying stocks outperform non-dividend-paying stocks by an average of 0.58% per month in 44 countries and regions, adjusting for exposure to global and regional risk factors. The degree of dividend payers' outperformance relative to non-dividend payers is unrelated to local tax rates on dividends.

Dividend payers exhibit superior performance in months when they are predicted to go ex-dividend while the inflated return is partially reversed in the following month. The inflated return in ex-dividend months is stronger in countries with lower market volatility or higher dividend premium in the past. The majority of the dividend premium is earned during the ex-dividend months. The country-level clustering of ex-dividend dates in a calendar month has a positive impact on dividend premium in the month. Investors can profit by longing (shorting) dividend (non-) payers in months when most stocks in the country are predicted to go ex-dividend. The dividend premium is higher (lower) following poor (good) market performance, and covaries across countries. This evidence emphasizes the importance of a (time-varying) preference for dividends in driving average stock returns and global return comovement.

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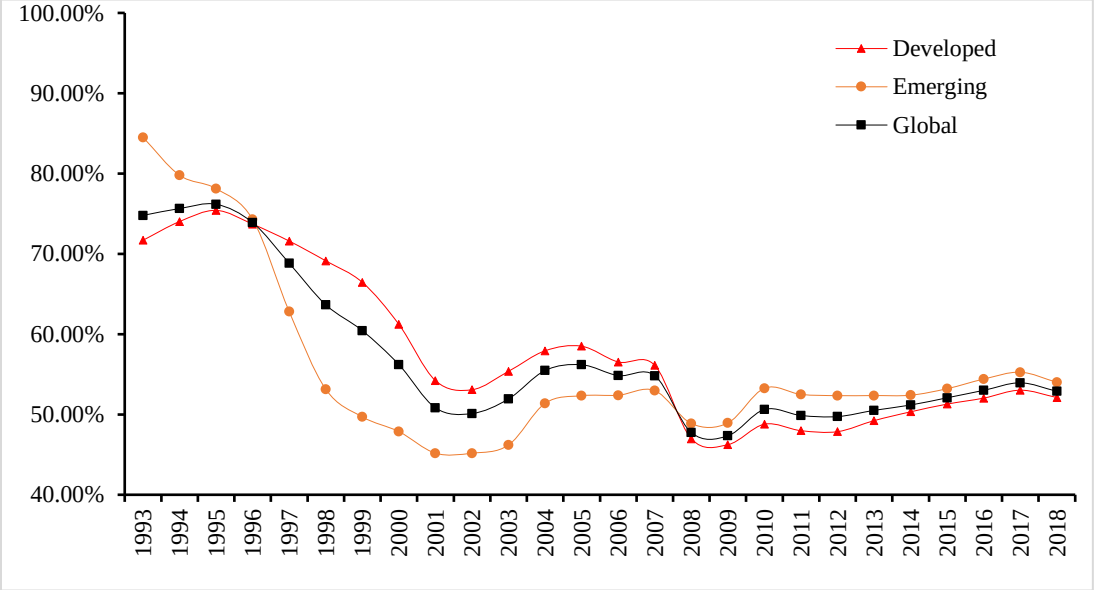
Figure 1: Percentage of firms that pay dividends at the regional level

Panel A: This figure presents the percentage of firms that pay dividends at the regional and global level each year. We first calculate the percentage of firms that pay dividends in each market and then take average at regional and global levels.



Panel B: This figure presents the *market-value weighted* percentage of firms that pay dividends at the regional and global level each year, i.e., the sum of market capitalization of payers scaled by the total market value of all firms in the region. We first calculate the percentage of firms that pay dividends in each market and then take average at regional and global levels.

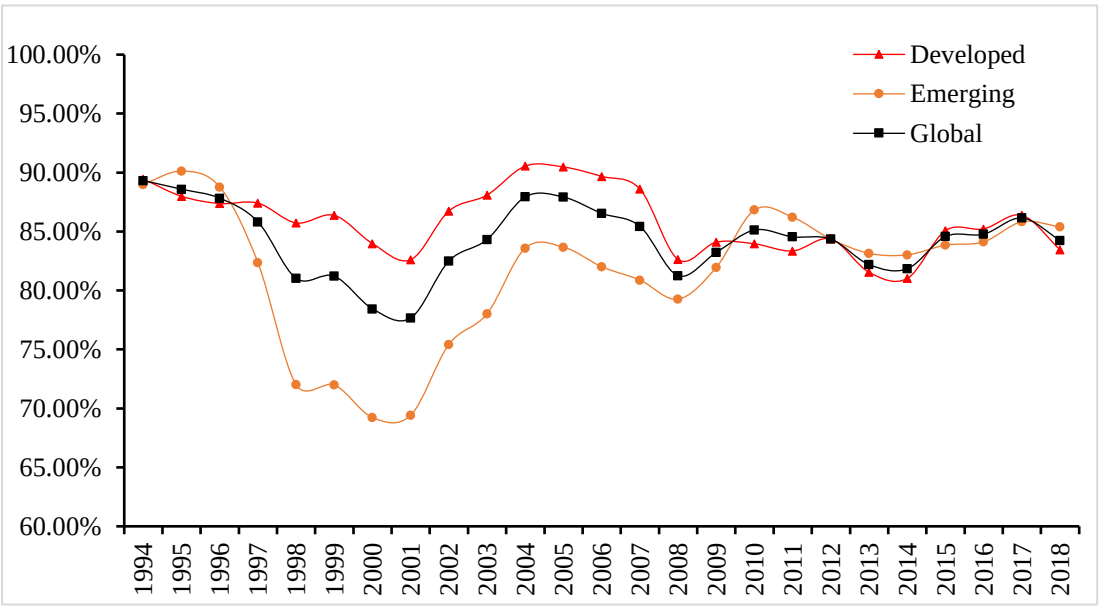
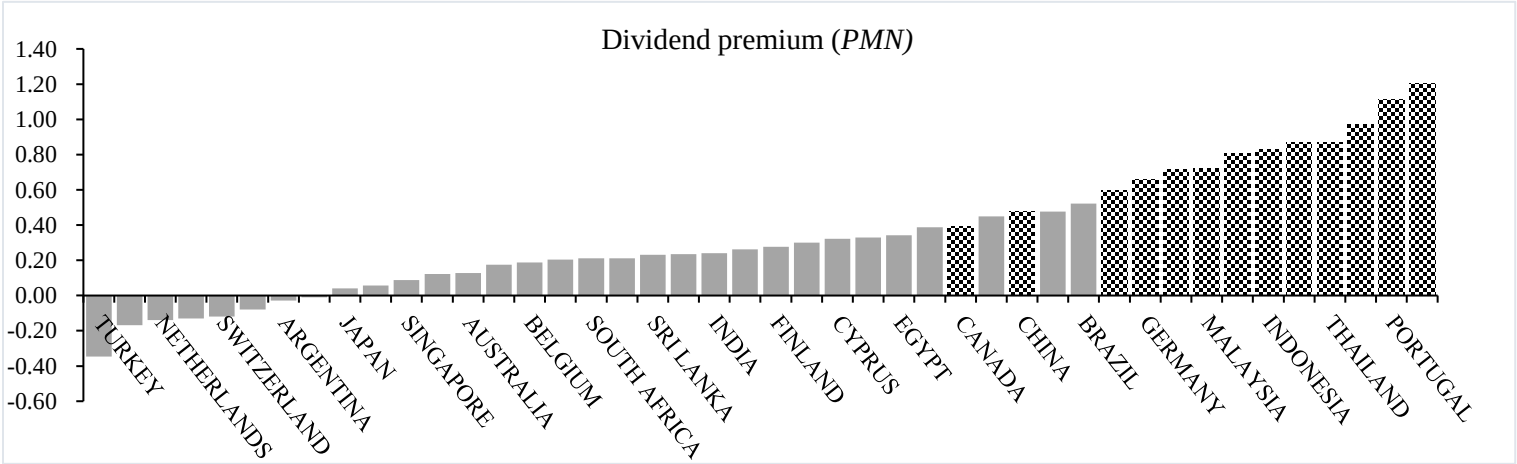


Figure 2: Dividend premium and risk-adjusted dividend premium by market

This figure presents the dividend premium (*PMN*) and risk-adjusted dividend premium (*PMN_Alpha*) by market. *PMN* and *PMN_Alpha* is listed from lowest to highest from left to right. Chessboard bar indicates that the value is significantly positive.

Panel A: Dividend premium by market



Panel B: Risk-adjusted dividend premium by market

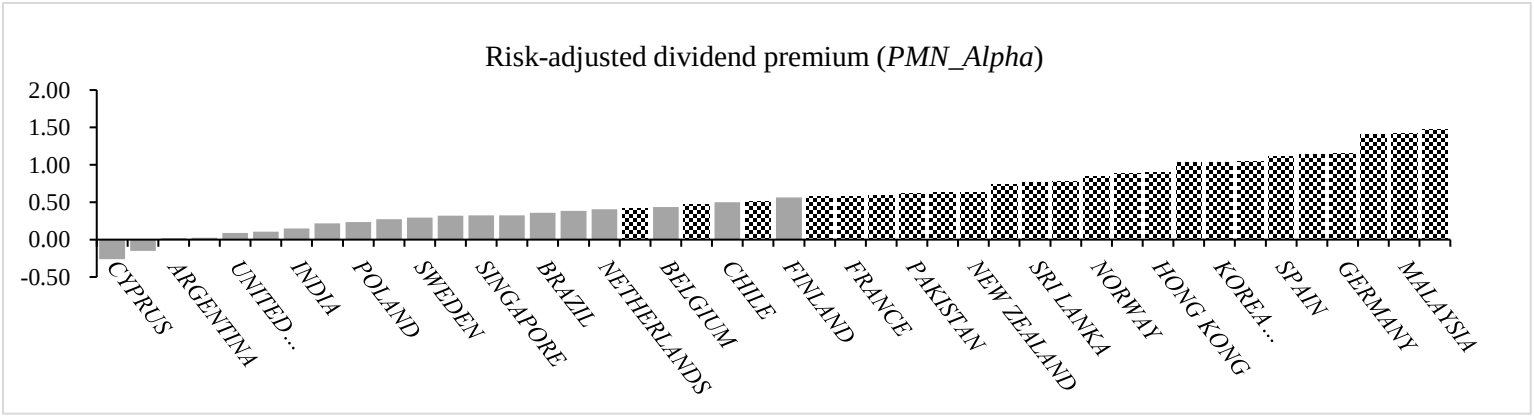


Table 1: Distribution of dividend payers across markets

This table presents the statistics of firms that pay dividends and make stock repurchases in each market. *Starting year* is the year from which the data are available for each market. *Average number of firms* is the average number of firms in the market (averaged across years), and *Number of unique firms* is the total number of unique firms that satisfy the data filter requirements over the entire sample period. We only keep market-years with at least 50 stocks and include both dividend payers and non-payers. *% of payers* is the proportion of firms that pay dividends in a year (averaged across years). *% of repurchasers* is the percentage of firms that make stock repurchases in a year (averaged across years). *% of payers and repurchasers* is the percentage of firms that both pay dividends and make stock repurchases in a year (averaged across years). The sample period is from January 1993 to December 2018 and there are 44 markets in our sample.

Nation	**Starting year**	**Average number of firms**	**Number of unique firms**	**% of Payers**	**% of Repurchasers**	**% of Payers and Repurchasers**
ARGENTINA	1999	77	121	39.58	4.09	2.27
AUSTRALIA	1993	1,210	3,143	32.77	7.91	5.59
AUSTRIA	1993	88	193	68.73	10.64	7.98
BELGIUM	1993	128	276	68.36	14.91	12.30
BRAZIL	1994	268	580	62.04	15.61	13.32
CANADA	1993	1,670	4,947	21.31	11.56	6.84
CHILE	1993	163	283	76.01	3.00	2.19
CHINA	1996	1,978	4,788	59.96	1.75	1.05
CYPRUS	2006	114	168	23.40	1.82	1.08
DENMARK	1993	177	371	56.51	19.91	13.21
EGYPT	2006	127	216	51.94	5.28	2.67
FINLAND	1993	120	257	74.39	13.46	11.54
FRANCE	1993	705	1,668	59.19	16.65	11.87
GERMANY	1993	580	1,114	57.67	6.75	4.87
GREECE	1993	232	451	47.14	8.10	3.48
HONG KONG	1993	872	1,797	47.02	10.47	7.52
INDIA	1993	1,349	3,633	52.99	4.30	2.82
INDONESIA	1993	329	676	44.33	3.41	2.46
ISRAEL	1998	346	730	35.99	9.33	4.74
ITALY	1993	245	606	60.41	14.64	10.29
JAPAN	1993	3,318	5,508	83.49	30.11	27.63
KOREA (SOUTH)	1993	1,122	2,724	55.93	20.40	13.39
MALAYSIA	1993	738	1,402	58.39	12.49	9.72
MEXICO	1994	101	237	46.54	28.31	18.35
NETHERLANDS	1993	171	402	64.32	22.90	17.92
NEW ZEALAND	1997	114	266	63.99	11.18	8.95
NORWAY	1993	160	473	51.60	14.88	9.77
PAKISTAN	1998	156	325	63.64	0.61	0.27
PERU	2000	119	202	52.06	3.23	2.61
PHILIPPINES	1993	194	316	36.71	9.80	6.44
POLAND	1998	293	714	31.69	8.53	3.56
PORTUGAL	1993	62	149	52.81	19.68	14.59

ROMANIA	2006	119	159	31.22	2.66	1.62
SINGAPORE	1993	449	996	62.24	9.27	7.43
SOUTH AFRICA	1993	304	896	60.95	16.33	13.59
SPAIN	1993	152	364	61.73	30.46	20.63
SRI LANKA	2006	212	263	62.95	1.81	1.49
SWEDEN	1993	347	1,025	50.82	8.66	6.67
SWITZERLAND	1993	252	493	67.25	35.04	26.29
TAIWAN	1994	1,078	2,260	62.59	11.22	8.06
THAILAND	1993	449	915	65.55	1.81	1.34
TURKEY	1996	254	477	35.19	2.37	0.91
UNITED KINGDOM	1993	1,694	4,942	63.07	17.87	14.85
UNITED STATES	1993	4,447	14,441	37.72	29.91	16.47
Mean		**616**	**1,499**	**53.69**	**12.12**	**8.65**

Table 2: The dividend premium in global markets

Panel A presents the cross-market average of the market-level monthly dividend premium PMN_c, i.e., the difference between the return on the portfolio of dividend payers ($PRET_c$) and the return on the portfolio of nonpayer stocks ($NRET_c$) within market *c*. For each market-month, stocks are grouped into payer and nonpayer portfolios based on whether they have paid cash dividends in year *t*-1. Next, we calculate the *value-weighted* average stock returns for payer ($PRET_c$) and nonpayer portfolios ($NRET_c$) in month *m* from July of year *t* to June of year *t*+1, using the stock's market capitalization at the end of the previous month as its weight. We further calculate *PMN* driven by capital gains using the same method. *PMN(Capital gains)* are the payer-minus-nonpayer portfolios driven by capital gains. PMN_Alpha_c is the risk-adjusted dividend premium for each market *c* obtained from a 10-factor model. $PRET\_Alpha_c$ and $NRET\_Alpha_c$ are the risk-adjusted excess return on the payer and nonpayer portfolios, respectively. *PMN_Alpha(Capital gains)* are the risk-adjusted excess return on the payer-minus-nonpayer portfolios driven by capital gains. The risk-adjusted portfolio returns are obtained as the intercept from a regression of the corresponding raw portfolio returns (i.e., $PMN_{c,m}$, $PRET_{c,m}$, $NRET_{c,m}$, $PMN(Capital\ gains)_{c,m}$) on global and regional common risk factors using the following equation. For example, PMN_Alpha_c is estimated with following regression:

$$PMN_{c,m} = PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}MOMg_m + \beta_{5c}IMLg_m + \beta_{6c}RMreg_{c,m} + \beta_{7c}SMBreg_{c,m} + \beta_{8c}HMLreg_{c,m} + \beta_{9c}MOMreg_{c,m} + \beta_{10c}IMLreg_{c,m} + \varepsilon_{c,m}, \quad (1)$$

where *c* and *m* denote the market and month, respectively. RMg_m is the return on the Morgan Stanley Capital International global index in excess of the one-month U.S. Treasury bill rate, and $SMBg_m$ is the global *Small*-minus-*Big* factor, the average (weighted by the market's market capitalization) of the 44 markets' size factors. $HMLg_m$, $MOMg_m$, and $IMLg_m$, which are similarly constructed, are the high-minus-low book-to-market factor, momentum factor, and illiquidity factor, respectively. The regional factors $RMreg_{c,m}$, $SMBreg_{c,m}$, $HMLreg_{c,m}$, $MOMreg_{c,m}$, and $IMLreg_{c,m}$ are constructed in the same way for each region. Then, we use the residuals (plus intercept) from regressing each regional factor on its corresponding global factor. There are three regions: the Americas, the Asia-Pacific, and Europe (includes two African and two Asian markets that are related to Europe). The time-series means of $PMN_{c,m}$ *and* PMN_Alpha_c ($PRET_c$, $NRET_c$, $PMN(Capital\ gains)_{c,m}$, $PRET\_Alpha_c$, $NRET\_Alpha_c$, and *PMN_Alpha(Capital gains))* are calculated for each market. Panel A presents the cross-market average statistics of these variables, and the t-statistics. The p-value is the significance level of the test at which the values of $PMN_{c,m}$, PMN_Alpha_c ($PRET_c$, $NRET_c$, $PMN(Capital\ gains)_{c,m}$, $PRET\_Alpha_c$, $NRET\_Alpha_c$, and *PMN_Alpha(Capital gains))*, are equally likely to be positive or negative (i.e., a probability of 50%). All returns are in U.S. dollars and in percentage.

Panel A: Means of *PMN and PMN_Alpha*

Dividend premium in Global markets	N	Mean	T-statistics	Median	Percent positive	P-value
Panel A.1. Monthly raw returns						
PRET	44	0.831	19.367	0.831	97.73%	0.000
NRET	44	0.490	7.019	0.550	86.36%	0.000
PMN	44	0.341	6.267	0.269	81.82%	0.000
Panel A.2. Monthly alphas						
PRET_Alpha	44	0.309	4.685	0.263	88.64%	0.000
NRET_Alpha	44	-0.267	-3.553	-0.218	31.82%	0.999
PMN_Alpha	44	0.576	9.191	0.537	95.45%	0.000
PMN_Alpha(Capital Gain)	44	0.399	7.069	0.354	84.09%	0.000

Panel B: Dividend premium in emerging vs developed

Panel A.3. Emerging market						
PMN	18	0.387	5.080	0.365	88.89%	0.000
PMN_Alpha	18	0.558	4.974	0.456	94.44%	0.000
Panel A.4. Developed markets						
PMN	26	0.309	4.063	0.208	76.92%	0.000
PMN_Alpha	26	0.588	7.940	0.568	96.15%	0.000

Table 3: The effect of dividends on monthly stock returns – Fama–MacBeth regression

This table presents the effect of the lagged dividend status indicator (or dividend yield) on monthly stock returns. We estimate the following model:

$$RET_{c,i,m} = \beta_0 + \beta_1 Payer_{c,i,t-1}(DivYld_{c,i,t-1}) + \beta_2 SIZE_{c,i,m-1} + \beta_3 BTM_{c,i,m-1} + \beta_4 RET_{c,i,m-12\ to\ m-2} + \beta_5 RET_{c,i,m-1} + \beta_6 BETA_{c,i,m-24\ to\ m-1} + \beta_7 Idiovol_{c,i,m-24\ to\ m-1} + \beta_8 TAG_{c,i,t-1} + \beta_9 EarnAnn_{c,t,m} + \varepsilon_{c,i,m}, \quad (1)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. $Payer_{c,i,t-1}$ is equal to 1 if the month falls into fiscal year *t*-1 in which the firm pays cash dividends, and zero otherwise. *DivYld* is equal to the dividend per share scaled by the end-of-year price (*DivYld* equals zero for firms without dividend payments). *SIZE* is the natural logarithm of a stock's latest market capitalization before month *m*. *BTM* is the latest book-to-market ratio before month *m*. $RET_{c,i,m-1}$ is the lagged one-month return. $RET_{c,i,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for 2 years ending in month *m*-1, with at least 52 weeks included. *Idiovol* is the idiosyncratic return volatility from weekly returns for 2 years ending month *m*-1, with at least 52 weeks included. *TAG* is the total asset growth rate, defined as the percentage change in total assets from fiscal year *t*-1 to fiscal year *t*. *Dum*(*EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise. We run Fama-Macbeth regression in each market and report the cross- market mean and T-statistics of coefficients on $Payer_{c,i,t}$ and $DivYld_{c,i,t-1}$. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%). Panel A reports the coefficients of $Payer_{c,i,t}$ and $DivYld_{c,i,t-1}$, respectively. Panels B reports the coefficients of $Payer_{c,i,t-1}$ by developed markets and emerging markets.

Panel A: The effect of dividend status on monthly stock returns

	N	*Payer*	*SIZE*	*BTM*	$RET_{(-12,-2)}$	$RET_{(-1)}$	*BETA*	*Idiovol*	*TAG*	*Dum(EarnAnn)*	*Constant*
Mean	44	0.463	-0.080	0.078	0.686	-4.016	-0.154	-8.119	-0.130	0.248	0.989
T-statistics	44	10.699	-3.919	3.861	7.323	-8.389	2.462	-4.971	-2.894	2.359	6.251
Median	44	0.446	-0.070	0.089	0.835	-3.947	-0.080	-8.986	-0.119	0.260	0.880
Percentage (+)	44	97.73%	13.64%	81.82%	84.09%	15.79%	40.91%	13.64%	25.00%	77.27%	88.64%
P-value	44	0.000	1.000	0.000	0.000	1.000	0.970	1.000	0.998	0.000	0.000

	N	*DivYld*	*SIZE*	*BTM*	$RET_{(-12,-2)}$	$RET_{(-1)}$	*BETA*	*Idiovol*	*TAG*	*Dum(EarnAnn)*	*Constant*
Mean	44	7.621	-0.059	0.073	0.648	-4.062	-0.152	-8.491	-0.104	0.247	1.017
T-statistics	44	8.790	-2.960	3.395	6.393	-8.481	-2.481	-5.252	-2.266	2.248	6.664
Median	44	7.572	-0.064	0.085	0.759	-3.935	-0.085	-10.375	-0.085	0.277	0.892
Percentage (+)	44	93.18%	25.00%	84.09%	79.55%	11.36%	40.91%	13.64%	34.09%	79.55%	90.91%
P-value	44	0.0000	1.0000	0.0000	0.0000	1.0000	0.9610	1.0000	0.9830	0.0000	0.0000

Panel B: The effect of dividend status on monthly stock returns - developed VS emerging

Developed markets	N	*Payer*	*SIZE*	*BTM*	$RET_{(-12, -2)}$	$RET_{(-1)}$	*BETA*	*Idiovol*	*TAG*	*Dum(EarnAnn)*	*Constant*
Mean	26	0.422	-0.055	0.067	0.933	-4.177	-0.225	-8.741	-0.133	0.289	0.940
T-statistics	26	7.006	-1.794	2.189	8.480	-8.982	-2.615	-3.496	-2.426	1.748	4.349
Median	26	0.409	-0.047	0.089	1.093	-4.309	-0.128	-8.986	-0.179	0.444	0.803
Percentage(+)	26	96.15%	15.38%	76.92%	92.31%	7.69%	38.46%	7.69%	19.23%	84.62%	96.15%
P-value	26	0.000	1.000	0.002	0.000	1.000	0.993	1.000	0.994	0.000	0.000

Emerging markets	N	*Payer*	*SIZE*	*BTM*	$RET_{(-12, -2)}$	$RET_{(-1)}$	*BETA*	*Idiovol*	*TAG*	*Dum(EarnAnn)*	*Constant*
Mean	18	0.523	-0.116	0.095	0.330	-3.783	-0.052	-7.221	-0.127	0.189	1.062
T-statistics	18	8.798	-5.407	4.092	2.613	-3.877	-0.599	-4.079	-1.614	1.888	4.514
Median	18	0.462	-0.152	0.092	0.346	-2.340	-0.044	-9.509	-0.065	0.085	1.065
Percentage(+)	18	100.00%	11.11%	83.33%	72.22%	16.67%	44.44%	22.22%	33.33%	66.67%	77.78%
P-value	18	0.000	1.000	0.002	0.028	0.999	0.711	0.996	0.878	0.231	0.001

Table 4: Portfolios formed based on dividend yields – Moderating impact of taxes

This table reports additional tests of returns for six portfolios formed based on dividend yields. In Panel A, stocks are grouped into 6 portfolios based on dividend yields in fiscal year *t*-1 in each market *c*, one zero yield and five positive yield quintiles. We calculate the value-weighted average dividend yields in each portfolio, as reported in columns (2) and (3), and the portfolio dividend yields are updated annually. Then, we calculate the value-weighted average stock returns for each portfolio in months *m* from July in *t* to June in *t*+1. We use a stock's capitalization at the end of the previous month as its weight. The abnormal return for each portfolio is calculated using the CAPM (equation 1) and the 10-factor model (equation 2), as follows.

$$PTFRET_{c,p,m} = Alpha_{c,p} + \beta_{1c}RMg_m + \beta_{2c}RMreg_{c,m} + \varepsilon_{c,p,m}, \quad (1)$$

$$\begin{aligned} PTFRET_{c,p,m} = Alpha_{c,p} &+ \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}MOMg_m \\ &+\beta_{5c}IMLg_m + \beta_{6c}RMreg_{c,m} + \beta_{7c}SMBreg_{c,m} + \beta_{8c}HMLreg_{c,m} \\ &+\beta_{9c}MOMreg_{c,m} + \beta_{10c}IMLreg_{c,m} + \varepsilon_{c,p,m}, \end{aligned} \quad (2)$$

c, *p*, and *m* denote the market, portfolio, and month, respectively. RMg_m is the return on the Morgan Stanley Capital International global index in excess of the one-month U.S. Treasury bill rate, and $SMBg_m$ is the global average of the *Small*-minus-*Big* factor (weighted by each market's market capitalization) of the 44 markets' size factor. $HMLg_m$, $MOMg_m$, and $IMLg_m$ are the similarly constructed high-minus-low book-to-market factor, momentum factor, and illiquidity factor, respectively. The regional factors $RMreg_{c,m}$, $SMBreg_{c,m}$, $HMLreg_{c,m,}$ $MOMreg_{c,m}$, and $IMLreg_{c,m}$ are constructed in the same way for each region, and then we use the residuals (plus intercept) from regressing each regional factor on its corresponding global factor. There are three regions: the Americas, the Asia-Pacific, and Europe (extended). We first calculate the time-series average of abnormal return for each portfolio in each market and then present the cross-market average of the market-portfolio-level abnormal return, reported in columns (4) and (6), with the corresponding t-statistics reported in columns (5) and (7).

In Panel B, we present the multivariate analysis of portfolio dividend yield and portfolio return at portfolio-month level using the following model.

$$\begin{aligned} PTFRET_{c,p,m} = \beta_0 &+ \beta_{1c}DivYld_{c,p,m} * Moderator + \beta_{2c}Moderator + \beta_{3c}DivYld_{c,p,m} \\ &+\beta_{4c}RMg_m + \beta_{5c}RMg_m + \beta_{6c}SMBg_m + \beta_{7c}HMLg_m + \beta_{8c}MOMg_m \\ &+\beta_{9c}IMLg_m + \beta_{10c}RMreg_{c,m} + \beta_{11c}SMBreg_{c,m} + \beta_{12c}HMLreg_{c,m} \\ &+\beta_{13c}MOMreg_{c,m} + \beta_{14}IMLreg_{c,m} + \varepsilon_{c,p,m}. \end{aligned} \quad (3)$$

We first estimate equation (3) using either 6 portfolios or 5 positive dividend yields portfolios without moderator variables, and we report the results in columns (1) and (2). Then, we use *TaxCost* as the moderator variable in column (3). *TaxCost* equals the difference in tax rates on dividends and long-term capital gains (tax rates data are collected from OECD following prior literature). We use OLS to estimate equation (3) and control for country, year fixed effects. Standard errors are clustered at the monthly level. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Returns and dividend yield for six portfolios

Portfolio	Annual dividend yield		Monthly abnormal returns (%)			
	Prior year	Subsequent year	CAPM		10 factors	
			Mean	T-value	Mean	T-value
No dividend	0.000	0.519	-0.227	-2.89**	-0.683	-6.44***
Lowest yield quintile	1.139	1.542	0.001	0.020	-0.307	-2.82***
Quintile 2	2.238	2.460	0.090	1.060	-0.165	-1.74***
Quintile 3	3.333	3.282	0.274	4.55***	0.005	0.05**
Quintile 4	4.786	4.260	0.301	6.60***	0.023	0.330
Highest yield quintile	7.640	5.654	0.349	4.71***	0.135	1.220
Highest - No dividend		5.135	0.575***		0.818***	
T-value			5.33		5.34	
Highest - Lowest		4.113	0.347***		0.442***	
T-value			3.40		2.85	

Panel B: Effect of a portfolio's dividend yield on its return (portfolio-month level regression)

	(1)	(2)	(3)
		$PTFRET_m$	
Sample used=	All six portfolios	Only five portfolios that pay dividends (i.e.,*DivYld>0)*	All six portfolios
DivYld	0.0981***	0.0906***	0.0959***
	(7.80)	(7.00)	(4.95)
TaxCost			-0.2483
			(-0.58)
*DivYld*TaxCost*			0.0371
			(0.42)
Controls	Yes	Yes	Yes
Country and year FE	Yes	Yes	Yes
N	69546	57955	38310
R-sq	0.359	0.358	0.478

Table 5: Inflated stock returns in predicted ex-dividend month (cross-sectional comparison of monthly returns for predicted payers and other stocks in the same month)

This table presents the abnormal returns in predicted dividend months. In **Panel A**, we report the results of characteristic-adjusted monthly stock return based on predicted dividend payment. In each month, stocks are grouped into *PredExDiv* and *NPredExDiv* based on whether they are predicted to have ex-dividend date in the month or not. A predicted dividend month has a quarterly or unknown dividend 3, 6, 9, or 12 months ago, a semi-annual dividend 6 or 12 months ago, or an annual dividend 12 months ago for U.S. sample. For non-U.S. sample, due to lack of information about dividend frequency (i.e., quarterly, annual), we identify a firm's predicted dividend month based on whether the firm has ex-dividend 12 months ago (same calendar month in the prior year). In each group, stock's adjusted monthly return is calculated by taking the stock's return and subtracting the returns of a portfolio matched on tertiles (quintiles for U.S. sample) of market capitalization, book-to-market ratio and momentum. Portfolio return (*PredExDiv_Ret* or *NPredExDiv_Ret*) is the value weighted average of all stocks' adjusted return in the group, and we also calculate the difference between *PredExDiv_Ret* and *NPredExDiv_Ret*. We next calculate the mean of these three variables across all firm-month observations in the market. In the final step, we report cross-market mean and T-statistics of these three variables for all markets, developed, and emerging markets. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%). **Panel B** presents the Fama-Macbeth regression for past payers in all markets. We estimate the following model:

$$\begin{aligned} RET_{c,i,m} = {} & \beta_0 + \beta_1 EXVAR + \beta_2 SIZE_{c,i,m-1} + \beta_3 BTM_{c,i,m-1} \\ & + \beta_4 RET_{c,i,m-12\ to\ m-2} + \beta_5 RET_{c,i,m-1} + \beta_6 BETA_{c,i,m-24\ to\ m-1} \\ & + \beta_7 Idiovol_{c,i,m-24\ to\ m-1} + \beta_8 TAG_{c,i,t-1} + \beta_9 EarnAnoDate_{c,t,m} + \varepsilon_{c,i,m}, \end{aligned} \quad (1)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. $ExDiv_{i,m-12}$ is an indicator variable that equals one if a firm *i* is predicted to pay dividend in month *m* based on its ex-dividend records 12 months ago (the indicator equals one if firm *i* has ex-dividend date in month *m*-12), and zero otherwise. $AfterPredExDiv_{i,m-13}$ ($BeforePredExDiv_{i,m-1}$) indicates whether *m* is the month immediately following (before) the firm *i*'s predicted ex-dividend month, i.e., the indicator equals one if the firm has ex-dividend date in month *m*-13 (*m*-11), and zero otherwise. *SIZE* is the natural logarithm of a stock's latest market capitalization before month *m*. *BTM* is the latest book-to-market ratio before month *m*. $RET_{c,i,m-1}$ is the lagged one-month return. $RET_{c,i,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for 2 years ending in month *t*-1, with at least 52 weeks included. *Idiovol* is the idiosyncratic return volatility from weekly returns for 2 years ending month *t*-1, with at least 52 weeks included. *TAG* is the total asset growth rate, defined as the percentage change in total assets from fiscal year *t*-1 to fiscal year *t*. *Dum*(*EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise. We run Fama-Macbeth regression for past payers in each markets and report the cross-market mean and T-statistics of coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-}$

$_{12}$, *AfterPredExDiv*$_{i,m-13}$. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%).

Panel A: Cross-market mean of returns of two portfolios formed by predicted dividend status

Global markets	N	Mean	T-statistics	Median	Percent positive	P-value
Market-level PortRet [E]	44	0.383	3.677	0.342	81.82%	0.000
Market-level PortRet [NE]	44	0.025	2.181	0.014	56.82%	0.083
Diff in Port. Ret [E]-[NE]	44	0.358	3.318	0.291	77.27%	0.001
Emerging markets						
Market-level PortRet [E]	18	0.313	3.653	0.367	83.33%	0.006
Market-level PortRet [NE]	18	0.024	1.116	0.018	55.56%	0.306
Diff in Port. Ret [E]-[NE]	18	0.290	3.028	0.348	77.78%	0.014
Developed markets						
Market-level PortRet [E]	26	0.431	2.583	0.275	80.77%	0.006
Market-level PortRet [NE]	26	0.026	1.980	0.009	57.69%	0.137
Diff in Port. Ret [E]-[NE]	26	0.405	2.365	0.212	76.92%	0.010

Panel B: Cross-market mean of coefficients obtained from Fama–MacBeth based on past dividend payers

Global markets	N	Mean	T-statistics	Median	Percent positive	P-value
BeforePredExDiv$_{i,m-11}$	44	0.388	5.574	0.440	79.55%	0.000
ExDiv$_{i,m-12}$	44	0.452	3.245	0.341	70.45%	0.000
AfterPredExDiv$_{i,m-13}$	44	-0.553	-1.771	-0.273	20.45%	1.000
Emerging markets						
BeforePredExDiv$_{i,m-11}$	18	0.374	3.480	0.447	88.89%	0.006
ExDiv$_{i,m-12}$	18	0.386	3.606	0.405	72.22%	0.005
AfterPredExDiv$_{i,m-13}$	18	-0.074	-0.921	-0.113	33.33%	0.694
Developed markets						
BeforePredExDiv$_{i,m-11}$	26	0.398	4.275	0.440	73.08%	0.001
ExDiv$_{i,m-12}$	26	0.498	2.206	0.255	69.23%	0.008
AfterPredExDiv$_{i,m-13}$	26	-0.885	-1.702	-0.306	11.54%	1.000

Table 6: Inflated stock returns in predicted ex-dividend month (time-series comparison of monthly returns for the same firm in the same year)

This table presents evidence of inflated returns in months when past payers are predicted to pay dividends and the subsequent return reversal. **Panel A** reports the average monthly returns in months when firms are predicted to pay dividends and the rest months of the year. For each firm-month (*m*), we classify it into the ex-div-month group if the firm paid dividends twelve months ago (*m*-12), otherwise we classify it into the "Other months" group. We focus on past payers (i.e., paid dividends in the previous year) only and conduct the comparison for each market separately. For each firm in each year, we first calculate the average monthly return for ex-div-months (Ret_m [E]), average monthly return in other months in the same year (Ret_m[O]), and their difference at firm-year level. We next calculate the mean of these three variables across all firm-year observations in the market. In the final step, we report cross-market mean and T-statistics of these three variables for all markets, developed, and emerging markets. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%). **Panel B** presents the OLS regression coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$, and estimated by following model,

$$RET_{c,i,m} = \beta_0 + \beta_1 EXVAR + \beta_2 SIZE_{c,i,m-1} + \beta_3 RET_{c,i,m-12\ to\ m-2} + \beta_4 RET_{c,i,m-1} + \beta_5 BETA_{c,i,m-24\ to\ m-1} + \beta_6 Idiovol_{c,i,m-24\ to\ m-1} + \beta_7 EarnAnn_{c,t,m} + Firm * Year + \varepsilon_{c,i,m}, \quad (1)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. $EXVAR$ is either of $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$ and $AfterPredExDiv_{i,m-13}$. $ExDiv_{i,m-12}$ is an indicator variable that equals one if a firm *i* is predicted to pay dividend in month *m* based on its ex-dividend records 12 months ago (the indicator equals one if firm *i* has ex-dividend date in month *m*-12), and zero otherwise. $AfterPredExDiv_{i,m-13}$ ($BeforePredExDiv_{i,m-1}$) indicates whether *m* is the month immediately following (before) the firm *i*'s predicted ex-dividend month, i.e., the indicator equals one if the firm has ex-dividend date in month *m*-13 (*m*-11), and zero otherwise. *SIZE* is the natural logarithm of a stock's latest market capitalization before month *m*. $RET_{c,i,m-1}$ is the lagged one-month return. $RET_{c,i,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for 2 years ending in month *t*-1, with at least 52 weeks included. *Idiovol* is the idiosyncratic return volatility from weekly returns for 2 years ending month *t*-1, with at least 52 weeks included. *Dum*(*EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise. We control for firm*year fixed effects and hence the model does not include *BTM* and *TAG*. Standard errors are clustered by firm. We run OLS regression for past payers in each market and report the cross-market mean and T-statistics of coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%).

Panel A: Cross-market mean of past payers' returns in ex-dividend months and other months

Global markets	N	Mean	T-statistics	Median	Percent positive	P-value
Market-level Ret_m [E]	44	1.466	9.688	1.469	95.45%	0.000
Market-level Ret_m [O]	44	0.942	25.162	0.957	100.00%	0.000
Diff in Ret [E]-[O]	44	0.523	3.352	0.490	77.27%	0.001
Emerging markets						
Market-level Ret_m [E]	18	1.095	5.423	1.001	88.89%	0.000
Market-level Ret_m [O]	18	1.000	12.412	1.003	100.00%	0.000
Diff in Ret [E]-[O]	18	0.095	0.480	0.248	72.22%	0.396
Developed markets						
Market-level Ret_m [E]	26	1.723	8.508	1.580	100.00%	0.000
Market-level Ret_m [O]	26	0.903	30.495	0.901	100.00%	0.000
Diff in Ret [E]-[O]	26	0.820	3.906	0.783	80.77%	0.000

Panel B: OLS regression based on past dividend payers – Cross-market mean of coefficients

Global markets	N	Mean	T-statistics	Median	Percent positive	P-value
$BeforePredExDiv_{i,m-11}$	44	1.133	5.719	0.844	0.818	0.000
$ExDiv_{i,m-12}$	44	0.895	6.591	0.886	0.864	0.000
$AfterPredExDiv_{i,m-13}$	44	-0.293	-2.463	-0.308	0.364	0.971
Emerging markets						
$BeforePredExDiv_{i,m-11}$	18	0.990	2.722	0.759	0.778	0.001
$ExDiv_{i,m-12}$	18	0.520	4.202	0.746	0.778	0.004
$AfterPredExDiv_{i,m-13}$	18	-0.416	-2.154	-0.475	0.389	0.936
Developed markets						
$BeforePredExDiv_{i,m-11}$	26	1.231	5.458	1.615	0.846	0.000
$ExDiv_{i,m-12}$	26	1.155	5.782	1.190	0.923	0.000
$AfterPredExDiv_{i,m-13}$	26	-0.208	-1.372	-0.236	0.346	0.872

Table 7: Daily abnormal returns around dividend months

This table examines daily characteristic-adjusted returns in periods around dividend months. Each adjusted return takes the company's stock return and subtracts the returns of a portfolio matched on tertiles (quintiles for US setting) of market capitalization, book-to-market ratio and momentum. This table presents the average returns in each period: the announcement day, the interim period (one day after announcement to one day before the ex-day, inclusive), the ex-dividend day, and the 40 days after the ex-dividend day. We first take the average for these return by market and then report the cross-market mean and T-statistics of these variables. The p-value is the significance level of the test at which the values of these variables are equally likely to be positive or negative (i.e., a probability of 50%).

Global markets	N	Mean	T-statistics	Median	Percent positive	P-value
Announcement	44	0.285	7.769	0.295	97.73%	0.000
Ex-day	44	0.715	8.319	0.648	93.18%	0.000
Interim period	44	1.117	13.994	1.045	100%	0.000
40 days after ex-day	44	-0.408	-6.035	-0.343	13.64%	1.000
Emerging markets						
Announcement	18	0.220	3.667	0.187	94.44%	0.000
Ex-day	18	0.770	5.104	0.856	88.89%	0.001
Interim period	18	1.138	8.458	1.210	100%	0.000
40 days after ex-day	18	-0.344	-3.528	-0.296	16.67%	0.997
Developed markets						
Announcement	26	0.331	7.334	0.303	100.00%	0.000
Ex-day	26	0.678	6.558	0.622	96.15%	0.000
Interim period	26	1.103	11.024	0.917	100%	0.000
40 days after ex-day	26	-0.452	-4.866	-0.426	11.54%	0.999

Table 8: The effect of market-level ex-dividend intensity on dividend premiums

This table presents the determinants of *PMN_Alpha* using the following specification:

$$PMN\_Alpha_{c,m} = \mu_0 + \mu_1 ExDiv\_Cluster_{c,m-12} + \mu_2 MktRet_{c,m-1} + \mu_3 MktRet_{c,m-12,m-2} + \mu_4 GlobalRet_{c,m-1} + \mu_5 GlobalRet_{c,m-12,m-2} + \mu_6 IRUS_{c,m-1} + \mu_7 MktCap_{c,t-1} + \mu_8 PerGDP_{c,t-1} + \mu_9 DivIntsy\%_{c,t-1} + \varepsilon_{c,m,} \quad (1)$$

where *c*, *t*, and *m* denote market, year, and month, respectively. *ExDiv_Cluster*$_{c,m-12}$ is the market-level clustering of ex-dividend dates in the month *m*-12. We create three measures to quantify the clustering. *Ex-DivPct*$_{c,m-12}$ is the fraction of the market's firms with ex-dividend dates in month *m-12* scaled by the number of all firms in the market in the same month. $Dum(High\ ExDiv)_{c,m-12}$ equals one if month *m*-12 ranks as the highest or the second highest month (among all months in the same calendar year) in the market *c* based on *Ex-DivIntsy*$_{c,m-12}$, and zero otherwise. $Dum(Peak\ ExDiv)_{c,m-12}$ equals one if month *m*-12 ranks as the highest month (among all months in the same year) in the market *c* based on *Ex-DivPct*$_{c,m-12}$, and zero otherwise. *MktRet*$_{c,m-1}$(*GlobalRet*$_{c,m-1}$) is the lagged one-month market (global) return and *MktRet*$_{c,m-12,m-2}$ (*GlobalRet*$_{c,m-12,m-2}$) is the compounded market (global) return from *m*-12 to *m*-2. Control variables include the monthly U.S. interest rate (*IRUS*), the market capitalization to GDP ratio (*MktCap*), the natural logarithm of GPD per capita (*PerGDP*), and the percentage of firms that pay dividends in a year in the market (*PayerFrac*). We use OLS to estimate the coefficients. T-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
			PMN_Alpha$_m$			
Ex-DivPct$_{m-12}$	2.212***	2.027***				
	(3.73)	(3.44)				
Dum(High Ex-Div)$_{m-12}$			0.410***	0.411***		
			(3.49)	(3.51)		
Dum(Peak Ex-Div)$_{m-12}$					0.367**	0.350**
					(2.31)	(2.21)
MktRet$_{m-1}$	-3.277***	-3.364***	-3.267***	-3.343***	-3.277***	-3.351***
	(-3.49)	(-3.66)	(-3.48)	(-3.64)	(-3.49)	(-3.65)
MktRet$_{m-12,m-2}$	-0.513	-0.452*	-0.505	-0.453*	-0.494	-0.448*
	(-1.36)	(-1.93)	(-1.34)	(-1.94)	(-1.31)	(-1.92)
GlobalRet$_{m-1}$	-3.785***	-3.699***	-3.759***	-3.692***	-3.756***	-3.686***
	(-3.18)	(-3.12)	(-3.15)	(-3.11)	(-3.15)	(-3.11)
GlobalRet$_{m-12,m-2}$	0.038	-0.018	0.030	-0.017	0.011	-0.031
	(0.09)	(-0.05)	(0.07)	(-0.05)	(0.03)	(-0.09)
IRUS$_{m-1}$	-0.580	0.402	-0.554	0.410	-0.492	0.499
	(-0.05)	(0.04)	(-0.05)	(0.04)	(-0.05)	(0.05)
MktCap$_{t-1}$		0.009		0.009		0.009
		(1.36)		(1.31)		(1.31)
PerGDP$_{t-1}$		-0.000		-0.000		-0.000
		(-0.43)		(-0.43)		(-0.43)
DivIntsy$_{t-1}$		-1.364**		-1.145**		-1.146**
		(-2.54)		(-2.15)		(-2.15)
Constant	-0.425	1.090	-0.385	0.868	-0.350	0.913
	(-0.31)	(0.77)	(-0.28)	(0.61)	(-0.26)	(0.65)
Fixed effects	Market *year	Market +year	Market *year	Market +year	Market *year	Market +year
N	10241	10241	10241	10241	10241	10241
R-sq	0.108	0.023	0.108	0.023	0.107	0.022

Table 9: Comovment of dividend premiums across markets

This table presents the comovement of dividend premiums across markets. Panel A reports the coefficients estimated from OLS regressions of the monthly dividend premium for market *c* in month *m* ($PMN_{c,m}$) on the global and regional dividend premiums and other factors. The regression model is specified as follows.

$$PMN_{c,m} = Alpha_{c,m} + \beta_1 PMNg_m + \beta_2 PMNreg_m + \beta_3 RMg_m + \beta_4 SMBg_m + \beta_5 HMLg_m + \beta_6 MOMg_m + \beta_7 IMLg_m + \beta_8 RMreg_{c,m} + \beta_9 SMBreg_{c,m} + \beta_{10} HMLreg_{c,m} + \beta_{11} MOMreg_{c,m} + \beta_{12} IMLreg_{c,m} + \varepsilon_{c,m}, \quad (1)$$

PMNg and *PMNreg* are the monthly averages of the respective premiums across all markets (global) and across the markets in the region, respectively. There are three regions: the Americas, the Asia-Pacific, and Europe (extended). *PMNreg* is orthogonalized to *PMNg*. Market *c* is excluded from the average when calculating *PMNg* and *PMNreg*. In Panel B, we construct two moderators to measure how close the monthly distribution of ex-dividend dates of payers in one market is to that of other markets. In particular, we first calculate the similarity of ex-dividend date distributions between a pair of markets (c_1, c_2) in a year. Then, for each market in a year, we take the equally weighted average of its similarity scores with all other markets in the world (in the same region) as its global (regional) similarity score, *Global_Similarity* (*Regional_Similarity*). t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Concurrent determinants of PMN (e.g., PMN in other markets)

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Dependent Var.=				PMN_m		
Alpha	0.541***	0.544***	0.535***	0.194***	0.196***	0.190***
	(9.74)	(9.70)	(9.38)	(3.36)	(3.35)	(3.19)
PMNg				62.917***	62.781***	62.643***
				(18.38)	(18.33)	(18.29)
PMNreg				19.923***	19.496***	18.798***
				(5.80)	(5.67)	(5.44)
RMg	-18.719***	-18.212***	-17.291***	-7.143***	-6.800***	-6.084***
	(-15.04)	(-14.47)	(-10.37)	(-5.18)	(-4.90)	(-3.46)
SMBg	-0.131	-0.071	-0.037	-0.047	-0.006	0.017
	(-0.59)	(-0.32)	(-0.17)	(-0.22)	(-0.03)	(0.08)
HMLg	0.426**	0.465**	0.489**	0.236	0.263	0.281
	(2.01)	(2.18)	(2.29)	(1.13)	(1.25)	(1.34)
MOMg		-0.253	-0.239		-0.219	-0.210
		(-1.39)	(-1.31)		(-1.22)	(-1.17)
IMLg			0.334			0.370
			(0.18)			(0.21)
Rmreg	-6.848***	-6.431**	-5.597**	-5.390**	-5.112**	-4.580*
	(-2.61)	(-2.44)	(-2.10)	(-2.07)	(-1.97)	(-1.74)
SMBreg	-7.446***	-7.262***	-7.589***	-3.278***	-3.148***	-3.403***
	(-6.93)	(-6.74)	(-7.00)	(-3.03)	(-2.91)	(-3.12)
HMLreg	2.437***	2.528***	2.563***	1.583**	1.658**	1.698**
	(3.57)	(3.70)	(3.75)	(2.34)	(2.45)	(2.51)
MOMreg		0.997***	0.995***		0.747**	0.751**
		(2.65)	(2.65)		(2.02)	(2.02)
IMLreg			7.439***			5.336**

			(2.93)			(2.13)
N	11888	11888	11888	11888	11888	11888
R-sq	0.022	0.023	0.023	0.051	0.052	0.052

Panel B: The moderating effect of similarity of ex-dividend date distribution on PMN comovement

	(1)	(2)	(3)
		PMN_m	
Alpha	0.348***	0.338***	0.317***
	(3.43)	(3.30)	(3.07)
*PMNg*Global_Similarity*	42.952**	40.597**	41.638**
	(2.18)	(2.05)	(2.11)
*PMNg*Regional_Similarity*	36.273**	36.171**	35.895**
	(2.12)	(2.11)	(2.10)
Global_Similarity	-0.608	-0.537	-0.522
	(-1.15)	(-1.01)	(-0.98)
Regional_Similarity	0.044	0.030	0.058
	(0.11)	(0.07)	(0.14)
PMNg	50.149***	50.534***	50.144***
	(8.51)	(8.57)	(8.50)
PMNreg	15.681***	15.311***	14.357**
	(2.68)	(2.62)	(2.45)
RMg	-7.813***	-7.473***	-6.403***
	(-5.10)	(-4.84)	(-3.28)
SMBg	-0.142	-0.097	-0.062
	(-0.59)	(-0.40)	(-0.25)
HMLg	0.095	0.124	0.150
	(0.41)	(0.53)	(0.64)
MOMg		-0.200	-0.189
		(-0.98)	(-0.92)
IMLg			0.616
			(0.31)
Rmreg	-6.018**	-5.741**	-5.045*
	(-2.08)	(-1.98)	(-1.72)
SMBreg	-2.180*	-2.073*	-2.439**
	(-1.83)	(-1.74)	(-2.03)
HMLreg	1.072	1.136	1.202
	(1.44)	(1.53)	(1.62)
MOMreg		0.708*	0.718*
		(1.71)	(1.74)
IMLreg			7.560***
			(2.72)
N	9998	9998	9998
R-sq	0.050	0.050	0.051

Online Appendix for "Preferences for dividends and stock returns around the world"

Data Sources and Descriptive Statistics

1. Datastream

a) Daily stock returns

To reduce the influence of data errors in Datastream, we apply several filters following the method of Amihud et al. (2015). Daily returns from Datastream are set as missing if they are greater than 200% or if $(1+r_{i,d})*(1+r_{i,d-1})-1<=50\%$, where $r_{i,d}$ is the return of stock i on day d and at least either $r_{i,d}$ or $r_{i,d-1}$ is greater than 100%. Datastream reports the stock return index (RI), which controls for stock splits and dividends to the nearest hundredths. Consequently, stock returns computed from the RI measure could round very small returns to zero values. To avoid potential rounding errors, we set daily return to be missing if the RI is less than 0.01.

b) Daily exchange rate for each market

The exchange rate is the rate at which the local currency will be exchanged for one U.S. dollar.

c) Monthly return

Monthly returns are set as missing if they are above 500% or they are above 300% and are reversed within the following month.

d) Monthly market capitalization for each market (country); the data are in the local currency.

2. WorldScope

We collect financial statement and profile data on public companies globally from WorldScope. The primary sample selection procedure (based on Hail, Tahoun, and Wang (2014)) is shown below.

Step	Filter	Sample size
1	Initial sample of fundamental annual from WorldScope	1,458,454
2	Non-missing nation and industry codes	1,338,248
3	Non-missing current and lagged one-year total assets (Item 2999)	1,032,107
4	Observations included only from 1989 to 2019, and if markets have at least 10 firms and 5 dividend payers each year or have 100 observations over the sample period	943,050

3. Data collected from studies and/or publicly available sources

a) Tax rate on dividend and capital gains.

We collect data from Becker, Jacob, and Jacob (2013) and extend the data period to 2020 based on data available from the OECD.

4. Data constructed by us following the literature

a) Monthly market, regional, and global Fama–French three factors (RM, SMB, HML), momentum factor (MOM) and illiquidity risk factor (IML) (following Amihud et al. 2015).

A market's *RM* factor is calculated as its value-weighted market return (in U.S. dollar terms) in excess of the one-month U.S. Treasury bill rate. A market's *SMB* and *HML* factors are constructed

following the methodology in Fama and French (1993). We first divide the stocks in each market at the end of June of each year into two equally sized groups based on the median market capitalization. Then, we divide each size portfolio into three groups based on the value of the book-to-market ratio of equity, in which the equity market value is for the end of the previous calendar year and the book value is for the end of the previous fiscal year. The three *BE/ME* groupings use the 30th and 70th percentiles of all stocks with a positive book value of equity as breakpoints. Thus, we have 6 (2 * 3) portfolios ranked on *SIZE* and *BE/ME*. A market's *SMB* factor is the difference of the value-weighted average returns of the two size-based portfolios (*Small* minus *Big*), and *HML* is the difference between the value-weighted average returns of the two extreme *BE/ME* portfolios across the two size portfolios. A market's *MOM* factor is constructed using six value-weight portfolios formed on size and prior (2-12) returns. The portfolios, which are formed monthly, are the intersections of two portfolios formed on size (market equity, *ME*) and three portfolios formed on prior (2-12) returns. The monthly size breakpoint is the median of market equity. The monthly prior (2-12) return breakpoints are the 30th and 70th percentiles. *MOM* is the average return on the two high prior return portfolios minus the average return on the two low prior return portfolios. To calculate *IML*, we sort stocks at the beginning of month *t* into three portfolios by the standard deviation of their daily return over a three-month period, from month *t*-3 to month *t*-1. Within each volatility portfolio, we sort stocks into five equal portfolios based on the Amihud (2002) illiquidity measure calculated over the same three-month period. Then, we calculate average returns for each of the double-sorted portfolios for months *t*+1. We use the value weighting for each month (the stock's market capitalization at the end of the previous month) to average returns. The liquid (illiquid) stock portfolio return is the average of the portfolio returns on the three most (least) liquid portfolios across the three volatility-sorted portfolios. *IML* is the illiquid-minus-liquid portfolio return. All data are expressed in U.S. dollars.

Then, we calculate global (*RMg*, *SMBg*, *HMLg*, *MOMg*, and *IMLg*) and regional (*rMreg, SMBreg*, *HMLreg, MOMreg,* and *IMLreg*) factors. The global market factor *RMg* is the return on the Morgan Stanley Capital International global index in excess of the one-month U.S. Treasury bill rate. The returns on the global factors *SMBg*, *HMLg*, *MOMg*, and *IMLg* are the monthly value-weighted averages of the markets' *SMB, HML*, *MOM*, and *IML* factors, using each market's stock market capitalization (in U.S. dollar terms) at the end of the previous month as weights. The regional factors *RMreg*, *SMBreg*, *HMLreg, MOMreg*, and *IMLreg* are constructed in the same way for each region, and then we use the residuals (plus intercept) from regressing each regional factor on its corresponding global factor. There are three regions: the Americas, the Asia-Pacific, and Europe.

b) For weekly and daily market, regional, and global Fama–French three factors (RM, SMB, HML), momentum factor (MOM) and illiquidity risk factor (IML).

We use a similar formula to that for the monthly risk factors to construct the daily risk factors.

Appendix

Table A1: Comparison of the lottery-like nature of dividend payers and nonpayers

In this table, we compare the degree to which dividend payers and nonpayers are similar to lottery stocks. Lottery stocks are identified by a composite lottery index (*LIDX*), which is based on three measures: the nominal stock price (*Price*), idiosyncratic skewness (*Skewness*), and idiosyncratic volatility (*Volatility*). The nominal stock price is the closing price on the last trading day of the previous calendar year. Idiosyncratic skewness is the third moment of the residuals obtained by fitting a four-factor model using daily stock returns in the previous year, where the four factors are excess regional market returns, excess global market returns, the squared excess regional market returns, and the squared excess global returns. Idiosyncratic volatility is the standard deviation of residuals from the 10-factor model using daily stock returns in the previous year, where the 10 factors include regional and global *RM*, *SMB*, *HML*, *MOM*, and *IML*. To calculate *LIDX*, in January of each year, we assign all common stocks into 20 groups based on each of the criteria. We conduct three sorting processes and create 60 groups. Group 20 (Group 1) contains the stocks with the highest (lowest) idiosyncratic skewness, highest (lowest) idiosyncratic volatility, or lowest (highest) price. Then, we assign the group numbers of each stock a score between 3 and 60 and standardize this score to a value between 0 and 1 using *LIDX* = (Score–- 3)/(60 – 3). The mean and median of these variables are calculated for each market and the cross-market statistics of these variables are presented in the table for the 44 markets in our sample.

	Nonpayers		Payers		Difference	
Variables	Mean(A)	Median	Mean(B)	Median	Mean(B-A)	T-value
LIDX	0.525	0.527	0.488	0.488	-0.037	-6.104
Skewness	0.775	0.784	0.582	0.534	-0.193	-3.707
Volatility	0.039	0.038	0.022	0.022	-0.017	-11.887
Price	9.192	3.753	12.925	5.401	3.733	1.827

Table A2: Robustness results of dividend premium

In the first robustness test, we report the *PMN* and *PMN_Alpha* in each country (These results are also reported in Figure 2). *PMN* and (*PMN_Alpha*) are positive and significant for 86% (84%) of the countries in our sample. We find that the dividend premium is positive and significant in markets where dividend income and capital gains are taxed at the same rate (e.g., the zero-tax rate in Hong Kong), suggesting that tax-related factors alone cannot explain the positive dividend premium. For example, the risk-adjusted *PMN* per month is a substantial 0.9% (t-statistic = 2.26) in Hong Kong.

In Panels B and C of Table A2, we present dividend return premium by calendar month. *PMN_Alpha* (*PMN*) is usually positive except in *January*. In Panels D to F, we estimate PMN_c and PMN_Alpha_c using the Fama–French 48 industry classification system, which is constructed based on SIC system. We calculate *PMN(FFI)* in each country, month, and industry, then estimate *PMN_Alpha(FFI)* using equation (1) within each country-month-industry. Then, we take the average *PMN(FFI)* and *PMN_Alpha(FFI)* for each country and further calculate the average of *PMN(FFI)* and *PMN_Alpha(FFI)* across our 44 countries. As reported in Panel E, *PMN* and *PMN_Alpha* remain positive and significant. In Panel F, we also calculate the industry average of *PMN(FFI)* and *PMN_Alpha(FFI)* and further calculate the average of *PMN(FFI)* and *PMN_Alpha(FFI)* across our 48 industries (Reported in Panel D). The dividend return premium is still robust.

We also consider the following alternative factor models to estimate PMN_Alpha_c. When we compute using the global and regional market version of CAPM in (2), the estimated mean of PMN_Alpha_c is 0.39% and positive and significant (see Panel G of Table A2). When we use the Fama–French three-factor model in (3), the mean alpha remains positive and significant, at 0.57% per month. Next, we use the Fama–French five-factor model in (4), the mean alpha remains positive and significant, at 0.64% per month. Finally, we expand the Fama-French five-factor model by adding momentum and illiquidity (i.e., seven regional and seven global factors), and the mean alpha remains positive and significant, at 0.7%. Panel H reports PMN and PMN_Alpha conditional on firms' SIZE.

In Panel J, we match each dividend payer with one nonpayer within each market using the propensity score matching (PSM) procedure. Specifically, the control firms for each dividend payer are obtained using a PSM approach matched on the following characteristics: Log Total Assets, Market/Book ratio, Stock Return in Prior One Year, Idiosyncratic Risk, Leverage, and Return on Assets. Then, we calculate the dividend premium using the portfolios after matching. The magnitude of PMN_Alpha_c is smaller but remain positively significant.

In sub-sample analyses, we first divide the sample into three sub-periods: 1993–1999, 2000–2009, and 2010–2018. Panel K shows that the dividend return premium is weak in the early period. For example, the mean of PMN_c in 1993–1999 is 0.17%, which is insignificant, although the mean of PMN_Alpha_c remains positive and significant (0.37%). The dividend premium in the latter two periods remains positive and significant.

In Panel A, we decomposes *PMN* and *PMN_Alpha* by market and reports the mean and t-statistics of $PMN_{c,m}$ and $PMN\_Alpha_{c,m}$ for each of the 44 markets. *PMN_Alpha* is estimated by equation (1).

$$PMN_{c,m} = PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}MOMg_m + \beta_{5c}IMLg_m + \beta_{6c}RMreg_{c,m} + \beta_{7c}SMBreg_{c,m} + \beta_{8c}HMLreg_{c,m}$$

$$+\beta_{9c}MOMreg_{c,m} + \beta_{10c}IMLreg_{c,m} + \varepsilon_{c,m} \quad (1)$$

In Panel B, we first take the average of *PMN* and *PMN_Alpha* in the same calendar month (i.e., from January to December) of all years in each market, and further calculate the mean across 44 markets. The average returns on payers (*P*) and nonpayers (*N*) are also calculated in January ~ December. In **Panel C**, we report returns on payers (*PRET*) and returns on nonpayers (*NRET*) and report the mean of *PRET* and *NRET* from January to December. In **Panel D**, we first calculate *PMN(FFI)* in each market, month, and industry, using the Fama–French 48 industrial classifications. Then, we take the average *PMN(FFI)* and *PMN_Alpha(FFI)* in each industry (reported in **Panel F**) and further calculate the average of *PMN(FFI)* and *PMN_Alpha(FFI)* across 48 industries. In **Panel E**, we report the *PMN* within industry. First, we calculate *PMN(FFI)* in each market, each month, and each Fama–French 48 industry classification. *PMN_Alpha(FFI)* is estimated using equation (1) within each market-month-industry. Second, we take the time-series averages of *PMN(FFI)* and *PMN_Alpha(FFI)* in each market in each industry. Third, we take cross-sectional averages of *PMN(FFI)* and *PMN_Alpha(FFI)* for all industries in a market. Finally, we report the cross-sectional averages of *PMN(FFI)* and *PMN_Alpha(FFI)* across 44 markets.

In **Panel G**, we estimate *PMN_Alpha* using alternative factor models (*PMN* is the same as in Table 2 because it is not sensitive to the factor model). We use the following four models to estimate the alternative *PMN_Alpha*:

$$PMN_{c,m} = PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}RMreg_{c,m} + \varepsilon_{c,m}, \quad (2)$$

$$\begin{aligned} PMN_{c,m} = {} & PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m \\ & +\beta_{4c}RMreg_{c,m} + \beta_{5c}SMBreg_{c,m} + \beta_{6c}HMLreg_{c,m} + \varepsilon_{c,m}, \end{aligned} \quad (3)$$

$$\begin{aligned} PMN_{c,m} = {} & PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}RMWg_m \\ & +\beta_{5c}CMAg_m + \beta_{6c}RMreg_{c,m} + \beta_{7c}SMBreg_{c,m} + \beta_{8c}HMLreg_{c,m} \\ & +\beta_{9c}RMWreg_{c,m} + \beta_{10c}CMAreg_{c,m} + \varepsilon_{c,m}, \end{aligned} \quad (4)$$

$$\begin{aligned} PMN_{c,m} = {} & PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}RMWg_m \\ & +\beta_{5c}CMAg_m + \beta_{6c}MOMg_{c,m} + \beta_{7c}IMLg_{c,m} + \beta_{8c}RMreg_{c,m} + \beta_{9c}SMBreg_{c,m} + \beta_{10c}HMLreg_{c,m} \\ & +\beta_{11c}RMWreg_{c,m} + \beta_{12c}CMAreg_{c,m} + \beta_{13c}MOMreg_{c,m} + \beta_{14c}IMLreg_{c,m} + \varepsilon_{c,m}, \end{aligned} \quad (5)$$

Panel H reports *PMN* and *PMN_Alpha* conditional on firms' *SIZE*. For each market in each month in year *t*, stocks are first grouped into *Big* and *Small* portfolio by the median of market capitalization in last month, and then stocks in *Big* and *Small* portfolio are further grouped into payer and nonpayer portfolios based on whether they have paid cash dividends in year *t*-1. We then obtain 4 (2*2) portfolios with equal number of stocks in each. We then calculate the value-weighted average stock returns for each portfolio in month *m* from July in *t* to June in *t*+1. A stock's capitalization at the end of the previous month is used as weight. $PMN(big)_c$ is time-series average of monthly big-payer-minus-big-nonpayer stock portfolio return of market *c*. $PMN(Sml)_c$ is Small-payer-minus-Small-nonpayer stock portfolio return of market *c*. $PMN\_Alpha(Big)_c$ and $PMN\_Alpha(Sml)_c$ are estimated by equation (1) using $PMN(big)_{c,m}$ and $PMN(Sml)_{c,m}$ as dependent variable, respectively. The cross-market averages of $PMN(big)_c$, $PMN(Sml)_c$, $PMN\_Alpha(Big)_c$ and $PMN\_Alpha(Sml)_c$ are reported in Panel H. In **Panel I**, we match each dividend payer with one nonpayer within each market using the propensity score matching (PSM) procedure. Specifically, the control firms for each dividend payer are obtained using a PSM approach matched on the following characteristics: Log Total Assets, Market/Book ratio, Stock Return in Prior One Year, Idiosyncratic Risk, Leverage, and Return on Assets. Then, we calculate the dividend premium using the

portfolios after matching. In **Panel J**, we report the cross-market averages of PMN_c and PMN_Alpha_c in three sub-periods: 1990–1999, 2000–2009, and 2010–2018.

Panel A: *PMN and PMN_Alpha* by country/market

Nation	**Freq of month**	**PMN (In %)**	**T-Statistics**	**PMN_Alpha(In %)**	**T-Statistics**
ARGENTINA	234	-0.028	-0.069	0.021	0.052
AUSTRALIA	300	0.128	0.471	0.570	2.281
AUSTRIA	300	0.175	0.617	0.627	2.223
BELGIUM	300	0.187	0.620	0.434	1.492
BRAZIL	294	0.522	1.281	0.358	1.194
CANADA	300	0.392	1.653	0.508	2.246
CHILE	300	0.301	0.902	0.501	1.525
CHINA	270	0.477	1.712	0.743	2.882
CYPRUS	150	0.322	0.356	-0.261	-0.292
DENMARK	300	-0.079	-0.312	0.105	0.425
EGYPT	150	0.342	0.815	0.319	0.783
FINLAND	300	0.276	0.614	0.566	1.286
FRANCE	300	0.204	0.830	0.574	2.498
GERMANY	300	0.658	2.549	1.157	4.746
GREECE	300	1.204	2.428	1.405	2.884
HONG KONG	300	0.477	1.146	0.898	2.262
INDIA	300	0.240	0.791	0.147	0.489
INDONESIA	300	0.828	2.000	1.043	2.538
ISRAEL	246	-0.011	-0.038	0.384	1.428
ITALY	300	0.714	2.137	1.034	3.186
JAPAN	300	0.040	0.156	0.468	2.069
KOREA (SOUTH)	300	0.805	2.600	1.035	3.450
MALAYSIA	300	0.723	2.164	1.414	4.400
MEXICO	294	0.597	2.006	0.773	2.608
NETHERLANDS	300	-0.139	-0.432	0.404	1.402
NEW ZEALAND	258	0.212	0.686	0.635	2.035
NORWAY	300	0.329	1.162	0.849	3.342
PAKISTAN	246	0.450	1.211	0.615	1.684
PERU	222	0.867	1.778	1.469	3.078
PHILIPPINES	300	0.235	0.817	0.218	0.784
POLAND	246	0.057	0.236	0.234	0.997
PORTUGAL	276	1.111	3.154	0.884	2.640
ROMANIA	150	0.387	0.975	0.027	0.072
SINGAPORE	300	0.087	0.199	0.323	0.821
SOUTH AFRICA	300	0.212	0.858	0.411	1.693
SPAIN	300	0.972	2.402	1.116	2.798
SRI LANKA	150	0.232	0.633	0.762	2.225
SWEDEN	300	-0.168	-0.519	0.296	0.999
SWITZERLAND	300	-0.119	-0.423	0.274	1.092
TAIWAN	294	0.262	1.057	0.325	1.398
THAILAND	300	0.869	2.911	1.142	3.874
TURKEY	270	-0.347	-0.930	-0.152	-0.417
UNITED KINGDOM	348	0.123	0.548	0.596	2.863
UNITED STATES	348	-0.131	-0.613	0.091	0.506
Mean		0.341		0.576	
T-Statistics		6.268		9.191	
% of positive PMN		81.82%		95.45%	

Panel B: PMN by calendar month

Global markets						
Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value
January						
PMN	44	-0.954	-3.396	-1.273	29.55%	0.998
PMN_Alpha	44	-0.843	-3.476	-0.950	27.27%	0.998
February						
PMN	44	-0.135	-0.618	-0.076	45.45%	0.212
PMN_Alpha	44	0.108	0.527	0.179	54.55%	0.333
March						
PMN	44	0.794	4.951	0.733	75.00%	0.000
PMN_Alpha	44	1.076	6.888	1.119	79.55%	0.000
April						
PMN	44	0.534	3.140	0.725	77.27%	0.007
PMN_Alpha	44	0.975	5.509	1.156	81.82%	0.000
May						
PMN	44	0.354	1.886	0.377	59.09%	0.047
PMN_Alpha	44	0.504	2.667	0.383	61.36%	0.009
June						
PMN	44	0.886	5.347	0.913	77.27%	0.000
PMN_Alpha	44	0.978	5.656	0.869	84.09%	0.000
July						
PMN	44	0.511	2.415	0.444	59.09%	0.032
PMN_Alpha	44	0.809	4.464	0.589	70.45%	0.000
August						
PMN	44	0.037	0.229	-0.050	47.73%	0.121
PMN_Alpha	44	0.085	0.560	0.074	54.55%	0.265
September						
PMN	44	0.751	4.122	0.593	77.27%	0.000
PMN_Alpha	44	0.794	4.290	0.739	77.27%	0.000
October						
PMN	44	0.381	1.962	0.729	65.91%	0.038
PMN_Alpha	44	0.776	3.974	1.031	77.27%	0.001
November						
PMN	44	0.376	2.217	0.404	61.36%	0.025
PMN_Alpha	44	0.746	4.184	0.715	77.27%	0.000
December						
PMN	44	0.558	2.968	0.473	61.36%	0.016
PMN_Alpha	44	0.856	4.535	0.747	72.73%	0.000

Panel C: Monthly returns on payers (*PRET*) and returns on nonpayers (*NRET*) by month

Month	*PRET*	*t-statistic*	*NRET*	*t-statistic*
Jan	0.545	2.448	1.499	4.815

Feb	1.043	5.189	1.178	4.339
Mar	1.588	7.839	0.794	2.927
Apr	3.120	14.248	2.585	11.392
May	-0.263	-1.203	-0.617	-2.258
Jun	-0.070	-0.531	-0.955	-4.859
Jul	1.660	8.758	1.149	4.073
Aug	-1.203	-6.934	-1.240	-4.757
Sep	0.146	0.961	-0.605	-2.317
Oct	0.553	2.911	0.172	0.717
Nov	0.430	2.002	0.053	0.196
Dec	2.440	13.802	1.882	7.232

Panel D: PMN calculated within each FF-48 industry: By industry average

Fama-French industry classification						
Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value
PMN	48	0.318	5.584	0.296	81.25%	0.000
PMN_Alpha	48	1.356	2.053	0.623	79.17%	0.001

Panel E: PMN calculated within each FF-48 industry: market average

Global markets						
Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value
PMN	44	0.891	1.771	0.614	84.09%	0.000
PMN_Alpha	44	0.291	4.790	0.316	75.00%	0.013

Panel F: PMN calculated within each FF-48 industry (descending order based on *PMN*)

FFI48_Name	*FFI48_Code*	*PMN*	*T-Statistics*	*PMN_Alpha*	*T-Statistics*
Agriculture	1	-0.321	-0.243	0.399	1.649
Food Products	2	-0.139	-0.187	0.417	2.145
Candy & Soda	3	0.572	1.735	0.455	1.910
Beer & Liquor	4	-1.851	-1.232	0.591	0.648
Smoke	5	6.681	1.494	0.629	0.681
Recreation	6	0.042	0.076	-0.163	-0.440
Entertainment	7	0.966	1.869	0.597	2.277
Printing and Publishing	8	1.061	1.916	0.574	1.891
Consumer Goods	9	1.374	0.654	0.498	2.062
Apparel	10	1.178	3.088	1.246	2.819
Healthcare	11	-3.704	-1.376	0.230	0.745
Medical Equipment	12	3.437	3.123	1.728	3.631
Pharmaceutical Products	13	5.414	1.127	-0.393	-1.138
Chemicals	14	0.623	1.912	-0.021	-0.104
Rubber and Plastic Products	15	5.534	1.717	-0.025	-0.044
Textiles	16	1.555	2.520	0.525	1.025
Construction Materials	17	0.816	5.373	0.600	3.946
Construction	18	0.666	2.517	0.303	1.768

Steel Works Etc	19	0.322	1.667	0.239	1.383
Fabricated Products	20	-0.892	-1.617	-0.293	-0.569
Machinery	21	1.160	1.902	0.591	2.240
Electrical Equipment	22	-7.071	-1.007	0.055	0.180
Automobiles and Trucks	23	-2.143	-1.351	-0.374	-0.840
Aircraft	24	0.866	1.132	0.592	0.909
Shipbuilding, Railroad Equipment	25	3.304	0.842	0.472	0.668
Defence	26	-0.617	-1.219	0.068	0.326
Precious Metals	27	-0.222	-0.221	-0.024	-0.040
Non-Metallic and Industrial Metal Mining	28	3.385	2.645	0.159	0.475
Coal	29	1.470	1.891	0.623	1.955
Petroleum and Natural Gas	30	0.408	1.804	0.125	0.711
Utilities	31	0.098	0.216	0.170	0.942
Communication	32	0.044	0.115	0.044	0.299
Personal Services	33	0.111	0.063	0.601	1.261
Business Services	34	0.780	1.778	0.151	1.080
Computers	35	0.401	2.156	0.306	2.082
Electronic Equipment	36	0.641	0.531	0.292	1.241
Measuring and Control Equipment	37	0.620	0.663	0.057	0.138
Business Supplies	38	-3.468	-0.937	-0.264	-0.554
Shipping Containers	39	0.705	0.500	-0.132	-0.250
Transportation	40	0.187	1.089	0.193	1.860
Wholesale	41	0.356	2.106	0.333	2.251
Retail	42	0.990	2.037	0.587	1.888
Restaurants, Hotels, Motels	43	0.249	0.593	0.296	0.873
Banking	44	0.527	3.232	0.244	1.810
Insurance	45	0.562	2.288	0.269	1.864
Real Estate	46	1.671	1.381	0.297	2.647
Trading	47	7.158	1.103	0.060	0.147
Other	48	2.385	2.642	1.246	2.471

Panel G: PMN_Alpha using alternative factor models

Global markets Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value
PMN_Alpha (CAMP Model)	44	0.391	7.623	0.316	90.91%	0.000
PMN_Alpha (Fama French 3-factor model)	44	0.572	9.561	0.511	95.45%	0.000
PMN_Alpha (Fama-French 5-factor model)	44	0.644	8.221	0.569	90.91%	0
PMN_Alpha (Fama-French 5-factor, momentum, illiquidity model)	44	0.702	9.287	0.059	97.73%	0

Panel H: PMN conditional on firms' SIZE

Global markets Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value

PMN (Big)	44	0.611	3.674	0.590	77.27%	0.000
PMN_Alpha (Big)	44	0.976	5.793	0.905	86.36%	0.000
PMN (Sml)	44	0.335	1.863	0.459	65.91%	0.056
PMN_Alpha (Sml)	44	0.860	3.887	0.767	79.55%	0.000

Panel I: Means and risk-adjusted means of *PMN* using sample after PSM

Global markets						
Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value
PMN	44	0.089	1.336	0.040	56.82%	0.394
PMN_Alpha	44	0.240	2.805	0.212	63.64%	0.005

Panel J: PMN—sub-period

Dividend return premium						
1993-1999	N	Mean	T-statistics	Median	Percent positive	P-value
PMN	40	0.173	1.220	0.338	56.41%	0.606
PMN_Alpha	40	0.368	2.629	0.529	56.41%	0.076
2000-2009						
PMN	44	0.414	5.241	0.432	72.73%	0.000
PMN_Alpha	44	0.624	8.551	0.715	86.36%	0.000
2010-2018						
PMN	44	0.353	5.069	0.421	72.73%	0.000
PMN_Alpha	44	0.667	9.641	0.750	90.91%	0.000

Table A3: The effect of dividend on monthly returns - by market Fama–MacBeth regression

This table presents the effect of the lagged dividend status indicator (or dividend yield) on monthly stock returns. We estimate the following model:

$$RET_{c,i,m} = \beta_0 + \beta_1 Payer_{c,i,t-1}\left(DivYld_{c,i,t-1}\right) + \beta_2 SIZE_{c,i,m-1} + \beta_3 BTM_{c,i,m-1} + \beta_4 RET_{c,i,m-12\ to\ m-2} + \beta_5 RET_{c,i,m-1} + \beta_6 BETA_{c,i,m-24\ to\ m-1} + \beta_7 Idiovol_{c,i,m-24\ to\ m-1} + \beta_8 TAG_{c,i,t-1} + EarnAnoDate_{c,t,m} + \varepsilon_{c,i,m}, \quad (1)$$

where *c*, *t*, and *m* denote the country, year, and month, respectively. $Payer_{c,i,t-1}$ is equal to 1 if the month falls into fiscal year *t*-1 in which the firm pays cash dividends, and zero otherwise. *DivYld* is equal to the dividend per share scaled by the end-of-year price (*DivYld* equals zero for firms without dividend payments). *SIZE* is the natural logarithm of a stock's latest market capitalization before month *m*. *BTM* is the latest book-to-market ratio before month *m*. $RET_{c,i,m-1}$ is the lagged one-month return. $RET_{c,i,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for 2 years ending in month *t*-1, with at least 52 weeks included. *Idiovol* is the idiosyncratic return volatility from weekly returns for 2 years ending month *t*-1, with at least 52 weeks included. *TAG* is the total asset growth rate, defined as the percentage change in total assets from fiscal year *t*-1 to fiscal year *t*. *Dum*(*EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise. We the coefficients on *Payer* and *DivYld* in each market.

	Payer		*DivYld*	
Nation	Coefficient	t-statistic	Coefficient	T-statistic
ARGENTINA	0.645**	2.44	10.983***	2.78
AUSTRALIA	0.682***	4.05	4.781**	2.42
AUSTRIA	0.343*	1.75	11.236***	3.24
BELGIUM	0.311*	1.81	2.344	1.04
BRAZIL	0.789***	4.83	8.740***	4.47
CANADA	0.388***	2.83	-0.13	-0.08
CHILE	0.34	1.19	10.146***	4.68
CHINA	0.082	0.50	4.034	0.91
CYPRUS	1.430*	1.85	26.313	1.20
DENMARK	0.322**	2.32	9.126***	3.95
EGYPT	0.706**	2.48	10.571***	3.18
FINLAND	0.744***	3.35	7.055**	2.51
FRANCE	0.752***	7.58	11.472***	7.25
GERMANY	0.349***	4.07	3.100**	2.17
GREECE	0.760***	4.12	11.375***	4.75
HONG KONG	0.04	0.26	2.189	1.17
INDIA	0.400**	2.07	8.088*	1.93
INDONESIA	0.460*	1.96	17.128***	7.97
ISRAEL	0.489***	3.02	5.954***	3.33
ITALY	0.406***	3.21	8.869***	3.62
JAPAN	0.062	0.59	2.473	0.83
KOREA (SOUTH)	0.196	1.35	0.686	0.26
MALAYSIA	0.746***	6.87	17.930***	7.84
MEXICO	0.462***	3.02	10.160***	2.76
NETHERLANDS	0.093	0.61	-0.497	-0.22

NEW ZEALAND	0.436	1.53	4.24	1.52
NORWAY	0.221	1.31	1.591	0.72
PAKISTAN	0.462**	2.02	0.984	0.48
PERU	0.932***	4.38	14.466***	5.90
PHILIPPINES	0.621***	3.12	13.313***	3.83
POLAND	0.456***	2.80	6.518**	2.11
PORTUGAL	0.557**	2.13	15.880***	4.10
ROMANIA	0.608*	1.76	10.555**	2.59
SINGAPORE	0.463***	2.80	9.246***	3.95
SOUTH AFRICA	0.978***	5.58	10.577***	5.01
SPAIN	0.557***	4.12	11.797***	4.16
SRI LANKA	0.342	1.21	9.913***	3.32
SWEDEN	0.461***	2.99	3.157	1.30
SWITZERLAND	0.411***	3.69	5.523**	2.57
TAIWAN	0.231*	1.76	5.370*	1.83
THAILAND	0.277*	1.76	3.585**	2.14
TURKEY	0.111	0.55	3.887**	1.98
UNITED KINGDOM	0.436***	5.02	4.924***	3.97
UNITED STATES	-0.173**	-2.15	-4.349***	-2.61
Mean	0.463***		7.621***	
T-Statistics	10.699		8.79	
% of positive PMN	97.73%		93.18%	

Table A4: The effect of predicted ex-dividend date on monthly stock returns (within-year variations of monthly returns for past payers)

This table presents evidence of inflated returns in months when past payers are predicted to pay dividends and the subsequent return reversal. **Panel A** reports the average monthly returns in months when firms are predicted to pay dividends and the rest months of the year. For each firm-month (*m*), we classify it into the ex-div-month group if the firm paid dividends twelve months ago (*m*-12), otherwise we classify it into the "Other months" group. We focus on past payers (i.e., paid dividends in the previous year) only and conduct the comparison for each country separately. For each firm in each year, we first calculate the average monthly return for ex-div-months (Ret_m [E]), average monthly return in other months in the same year (Ret_m[O]), and their difference at firm-year level. In the final step, we report the mean of these three variables across all firm-year observations in the country (we also report the number of firm-year observations used to generate the final statistics in the last column).

Panel B presents the OLS regression coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$, and estimated by following model,

$$RET_{c,i,m} = \beta_0 + \beta_1 EXVAR + \beta_2 SIZE_{c,i,m-1} + \beta_3 RET_{c,i,m-12\ to\ m-2} + \beta_4 RET_{c,i,m-1} + \beta_5 BETA_{c,i,m-24\ to\ m-1} + \beta_6 Idiovol_{c,i,m-24\ to\ m-1} + \beta_7 EarnAnn_{c,t,m} + FirmYear + \varepsilon_{c,i,m}, \quad (1)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. $EXVAR$ is either of $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$ and $AfterPredExDiv_{i,m-13}$. $ExDiv_{i,m-12}$ is an indicator variable that equals one if a firm *i* is predicted to pay dividend in month *m* based on its ex-dividend records 12 months ago (the indicator equals one if firm *i* has ex-dividend date in month *m*-12), and zero otherwise. $AfterPredExDiv_{i,m-13}$ ($BeforePredExDiv_{i,m-1}$) indicates whether *m* is the month immediately following (before) the firm *i*'s predicted ex-dividend month, i.e., the indicator equals one if the firm has ex-dividend date in month *m*-13 (*m*-11), and zero otherwise. *SIZE* is the natural logarithm of a stock's latest market capitalization before month *m*. $RET_{c,i,m-1}$ is the lagged one-month return. $RET_{c,i,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for 2 years ending in month *t*-1, with at least 52 weeks included. *Idiovol* is the idiosyncratic return volatility from weekly returns for 2 years ending month *t*-1, with at least 52 weeks included. *Dum*(*EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise. We control for firm*year fixed effects and hence the model does not include *BTM* and *TAG*. Standard errors are clustered by firm. We run OLS regression for past payers in each market and report the coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$ in each market.

Panel A: Comparison of past payers' returns in two subsets of months – By market results

	Months when firms are predicted to have Ex-dividend events ($ExDiv_{i,m-12}$=1)	Other months ($ExDiv_{i,m-12}$=0)	Diff in Avg Return (Ret_m [E] - Ret_m [O])		
	Mean of Ret_m [E]	Mean of Ret_m[*O*]	Mean	T-value	N
ARGENTINA	0.826	0.579	0.247	0.395	492
AUSTRALIA	0.789	1.188	-0.399***	-3.698	9,251
AUSTRIA	1.665	0.795	0.869***	3.193	1,316
BELGIUM	1.549	0.783	0.766***	3.874	1,929

BRAZIL	2.602	1.285	1.317***	5.974	3,547
CANADA	1.180	0.848	0.329***	4.057	7,883
CHILE	1.702	0.951	0.751***	4.517	2,871
CHINA	-0.056	1.191	-1.247***	-11.675	19,707
CYPRUS	1.169	1.158	0.011	0.008	89
DENMARK	3.149	0.801	2.348***	11.421	2,254
EGYPT	0.060	0.573	-0.513	-0.916	580
FINLAND	2.544	0.892	1.652***	7.170	1,981
FRANCE	1.549	1.026	0.522***	4.766	8,935
GERMANY	0.934	0.778	0.156	1.348	7,335
GREECE	2.101	0.910	1.191***	3.951	2,395
HONG KONG	0.804	1.006	-0.203	-1.633	9,472
INDIA	2.298	1.288	1.010***	8.351	15,942
INDONESIA	1.296	1.010	0.286	1.072	2,941
ISRAEL	1.652	0.851	0.800***	3.188	1,611
ITALY	0.176	0.833	-0.657***	-3.666	3,215
JAPAN	1.122	0.479	0.643***	16.324	62,557
KOREA (SOUTH)	5.065	0.768	4.297***	31.676	13,038
MALAYSIA	0.735	0.721	0.014	0.129	9,770
MEXICO	0.471	1.472	-1.001***	-3.159	974
NETHERLANDS	2.424	0.753	1.671***	8.308	2,450
NEW ZEALAND	2.656	1.027	1.628***	7.054	1,435
NORWAY	2.276	0.912	1.364***	5.347	1,802
PAKISTAN	2.387	1.308	1.079***	3.491	1,582
PERU	1.492	1.408	0.084	0.229	808
PHILIPPINES	1.634	0.971	0.653***	2.151	1,524
POLAND	0.731	0.483	0.248	0.785	1,369
PORTUGAL	1.747	0.857	0.890**	2.154	627
ROMANIA	0.581	1.204	-0.623	-0.749	161
SINGAPORE	0.451	1.039	-0.588***	-3.745	6,386
SOUTH AFRICA	1.489	0.995	0.494***	2.972	4,192
SPAIN	1.131	1.036	0.095	0.535	2,101
SRI LANKA	0.794	0.309	0.485	1.589	924
SWEDEN	3.131	1.060	2.071***	10.779	3,713
SWITZERLAND	1.834	0.911	0.923***	6.634	3,736
TAIWAN	0.648	0.963	-0.315***	-3.142	13,019
THAILAND	1.176	0.977	0.199	1.405	6,456
TURKEY	-0.513	1.269	-1.782***	-4.384	1,624
UNITED KINGDOM	1.610	0.773	0.837***	14.208	25,369
UNITED STATES	1.448	1.027	0.421***	12.753	44,839
Mean	1.47***	0.942***	0.523***		
t-statistic	9.688	25.162	3.352		
% with positive	95.45%	100%	77.27%		

Panel B: OLS regression (Control for firm*year fixed effects) based on past dividend payers – Coefficients for each country

	Before_PredExDiv$_{i,m-11}$		*ExDiv*$_{i,m-12}$		*After_PredExDiv*$_{i,m-13}$	
Nation	Coefficients	T-value	Coefficients	T-value	Coefficients	T-value
ARGENTINA	0.803	1.34	-0.039	-0.06	-0.902	-1.28
AUSTRALIA	1.059***	7.93	-0.356***	-3.16	0.639***	5.8
AUSTRIA	2.595***	8.11	1.741***	5.65	-0.162	-0.58
BELGIUM	1.676***	9.16	1.646***	7.27	-0.515***	-2.85
BRAZIL	0.665***	2.88	1.143***	4.71	-0.790***	-3.66
CANADA	-0.388***	-4.39	0.194**	2.45	0.410***	4.51

CHILE	0.884***	5.22	0.829***	4.44	-0.937***	-5.66
CHINA	1.222***	11.33	-0.348***	-2.95	-1.318***	-11.97
CYPRUS	1.84	1.3	-1.016	-0.64	-1.281	-0.94
DENMARK	1.642***	6.04	2.717***	11.78	0.717***	3.24
EGYPT	-0.342	-0.52	-0.18	-0.34	-1.724***	-3.23
FINLAND	2.390***	8.79	2.664***	10.79	1.492***	5.32
FRANCE	1.720***	15.09	1.508***	12.22	-0.711***	-6.43
GERMANY	2.399***	17.66	1.081***	8.79	-0.700***	-5.83
GREECE	0.630**	2.08	1.298***	4.03	0.661**	2.15
HONG KONG	0.756***	6.66	0.191	1.58	-0.624***	-5.3
INDIA	-0.171	-1.37	0.982***	7.92	0.058	0.48
INDONESIA	0.731***	2.69	0.874***	3.25	-1.465***	-5.06
ISRAEL	0.017	0.08	1.020***	3.95	0.407*	1.85
ITALY	2.595***	14.86	0.218	1.15	-1.335***	-6.95
JAPAN	-0.253***	-4.81	0.769***	19.74	-0.399***	-10.6
KOREA (SOUTH)	-1.377***	-10.89	1.495***	5.02	1.010***	2.83
MALAYSIA	0.786***	7.21	0.153	1.38	-0.619***	-5.49
MEXICO	1.791***	4.95	-0.159	-0.44	0.238	0.7
NETHERLANDS	1.587***	8.95	2.121***	9.87	-0.223	-1.23
NEW ZEALAND	0.074	0.29	1.454***	6.59	0.193	0.81
NORWAY	2.490***	8.52	2.005***	7	-0.041	-0.16
PAKISTAN	-0.465	-1.5	0.957***	3.16	0.560**	2.14
PERU	1.046***	2.98	0.117	0.23	0.253	0.62
PHILIPPINES	1.316***	4.17	1.255***	3.88	-0.583*	-1.93
POLAND	-0.102	-0.32	0.663**	2.01	-0.367	-1.15
PORTUGAL	1.749***	4.39	1.346***	2.84	-0.431	-1.05
ROMANIA	0.728	1.07	0.077	0.1	0.442	0.62
SINGAPORE	2.195***	15.2	0.074	0.46	-0.962***	-6.63
SOUTH AFRICA	0.278	1.28	0.898***	5.58	0.474***	2.76
SPAIN	0.428***	2.67	0.385**	2.05	-1.091***	-6.96
SRI LANKA	0.634*	1.86	0.966***	2.79	0.906***	2.86
SWEDEN	2.865***	14.75	3.496***	16.95	-0.644***	-3.82
SWITZERLAND	2.423***	12.91	1.951***	12.95	0	0
TAIWAN	0.714***	7.18	0.849***	8.28	-1.706***	-17.22
THAILAND	1.361***	8.82	0.948***	7.02	-0.036	-0.27
TURKEY	6.661***	15.67	0.231	0.61	-1.679***	-4.46
UNITED KINGDOM	0.329***	5.22	0.779***	12.69	0.149**	2.48
UNITED STATES	-0.144***	-5.12	0.395***	13.43	-0.248***	-8.31
Mean	1.133***		0.895***		-0.293**	
t-statistic	5.719		6.591		-2.463	
% with positive	81.82%		86.36%		36.36%	

Table A5: Abnormal returns in predicted dividend months – by market results

This table presents the abnormal returns in predicted dividend months. In **Panel A**, we report the results of characteristic-adjusted monthly stock return based on predicted dividend payment. In each month, stocks are grouped into *PredExDiv* and *NPredExDiv* by whether they have predicted dividend payment. A predicted dividend month has a quarterly or unknown dividend 3, 6, 9, or 12 months ago, a semi-annual dividend 6 or 12 months ago, or an annual dividend 12 months ago. In each group, stock's adjusted monthly return is calculated by taking the stock's return and subtracting the returns of a portfolio matched on tertiles (quintiles for US setting) of market capitalization, book-to-market ratio and momentum. Portfolio return (*PredExDiv_Ret* or *NPredExDiv_Ret*) is the value weighted average of all stocks' adjusted return in the group, and we also calculate the difference between *PredExDiv_Ret* and *NPredExDiv_Ret*. We next calculate and report the mean of these three variables across all firm-month observations in the market. **Panel B** presents the Fama-Macbeth regression for past payers in all markets. We estimate the following model:

$$RET_{c,i,m} = \beta_0 + \beta_1 EXVAR + \beta_2 SIZE_{c,i,m-1} + \beta_3 BTM_{c,i,m-1} + \beta_4 RET_{c,i,m-12\ to\ m-2} + \beta_5 RET_{c,i,m-1} + \beta_6 BETA_{c,i,m-24\ to\ m-1} + \beta_7 Idiovol_{c,i,m-24\ to\ m-1} + \beta_8 TAG_{c,i,t-1} + \beta_9 EarnAnoDate_{c,t,m} + \varepsilon_{c,i,m}, \quad (1)$$

where *c*, *t*, and *m* denote the market, year, and month, respectively. $ExDiv_{i,m-12}$ is an indicator variable that equals one if a firm *i* is predicted to pay dividend in month *m* based on its ex-dividend records 12 months ago (the indicator equals one if firm *i* has ex-dividend date in month *m*-12), and zero otherwise. $AfterPredExDiv_{i,m-13}$ ($BeforePredExDiv_{i,m-1}$) indicates whether *m* is the month immediately following (before) the firm *i*'s predicted ex-dividend month, i.e., the indicator equals one if the firm has ex-dividend date in month *m*-13 (*m*-11), and zero otherwise. *SIZE* is the natural logarithm of a stock's latest market capitalization before month *m*. *BTM* is the latest book-to-market ratio before month *m*. $RET_{c,i,m-1}$ is the lagged one-month return. $RET_{c,i,m-12\ to\ m-2}$ is the compounded return from month *m*-12 to month *m*-2. *BETA* is the market beta from weekly returns for 2 years ending in month *t*-1, with at least 52 weeks included. *Idiovol* is the idiosyncratic return volatility from weekly returns for 2 years ending month *t*-1, with at least 52 weeks included. *TAG* is the total asset growth rate, defined as the percentage change in total assets from fiscal year *t*-1 to fiscal year *t*. *Dum*(*EarnAnn)* is an indicator variable that equals 1 when the firm announces earnings report in month *m* and 0 otherwise. We run Fama-Macbeth regression for past payers in each markets and report the coefficients on $BeforePredExDiv_{i,m-1}$, $ExDiv_{i,m-12}$, $AfterPredExDiv_{i,m-13}$ in each market.

Panel A: Abnormal returns in predicted dividend months – by market results

	PredExDiv_Ret [A]	*NPredExDiv_Ret[B]*	*Diff in Avg Return [A]-[B]*		
Markets	Mean	Mean	A-B	T-value	N
ARGENTINA	0.533	0.098	0.435	0.271	19
AUSTRALIA	-0.853	0.181	-1.034	-7.656	287
AUSTRIA	0.093	0.075	0.018	0.048	164
BELGIUM	0.140	0.026	0.114	0.420	252
BRAZIL	0.333	0.022	0.311	1.343	279
CANADA	0.267	-0.003	0.270	2.219	288

CHILE	0.392	-0.101	0.493	2.885	256
CHINA	0.165	-0.017	0.183	0.453	234
CYPRUS	1.483	0.106	1.378	1.044	70
DENMARK	0.832	-0.070	0.906	2.388	248
EGYPT	0.149	0.114	0.035	0.058	115
FINLAND	-0.478	0.002	-0.480	-0.960	172
FRANCE	0.726	-0.044	0.771	2.732	288
GERMANY	0.212	0.059	0.152	0.582	279
GREECE	0.282	0.130	0.142	0.335	256
HONG KONG	0.543	0.007	0.536	2.920	288
INDIA	0.242	0.018	0.225	0.696	286
INDONESIA	0.378	0.217	0.161	0.316	248
ISRAEL	0.787	0.036	0.751	2.685	208
ITALY	-0.095	0.057	-0.152	-0.495	207
JAPAN	-0.503	0.093	-0.596	-3.626	288
KOREA (SOUTH)	0.221	0.175	0.046	0.080	180
MALAYSIA	0.355	-0.029	0.384	2.528	288
MEXICO	-0.175	0.147	-0.322	-0.923	224
NETHERLANDS	0.351	-0.042	0.393	1.215	274
NEW ZEALAND	0.510	-0.066	0.576	3.026	198
NORWAY	1.481	-0.007	1.488	3.094	210
PAKISTAN	0.509	0.053	0.455	1.182	212
PERU	0.021	0.028	-0.007	-0.016	179
PHILIPPINES	-0.566	-0.009	-0.556	-0.856	267
POLAND	0.553	0.018	0.536	0.969	150
PORTUGAL	3.652	-0.007	3.660	2.565	20
ROMANIA	0.935	-0.111	1.046	1.069	36
SINGAPORE	0.075	-0.019	0.094	0.492	288
SOUTH AFRICA	0.786	-0.004	0.791	3.476	288
SPAIN	0.002	0.021	-0.019	-0.098	286
SRI LANKA	0.710	-0.075	0.785	2.089	137
SWEDEN	-0.382	0.010	-0.392	-0.930	244
SWITZERLAND	0.522	0.020	0.501	1.461	286
TAIWAN	0.720	-0.019	0.739	2.148	205
THAILAND	-0.091	0.130	-0.221	-0.727	284
TURKEY	0.406	-0.073	0.479	1.076	135
UNITED KINGDOM	0.502	-0.011	0.513	4.372	336
UNITED STATES	0.121	-0.032	0.154	3.847	336
Mean	0.383***	0.025***	0.358***		
t-statistic	3.677	2.181	3.318		
% with positive	81.82%	56.82%	77.27%		

Panel B: Fama–MacBeth test based on past dividend payers – by market results

	BeforePredExDiv$_{i,m-11}$		*ExDiv*$_{i,m-12}$		*AfterPredExDiv*$_{i,m-13}$	
Nation	Coefficients	T-value	Coefficients	T-value	Coefficients	T-value
ARGENTINA	0.871	1.11	1.285	1.54	0.007	0.01
AUSTRALIA	1.259***	8.19	-0.724***	-6.27	-0.486***	-3.61
AUSTRIA	0.612*	1.72	0.395	1.19	-0.187	-0.70
BELGIUM	-0.03	-0.11	-0.09	-0.33	-0.241	-0.83
BRAZIL	-0.141	-0.61	0.686***	2.90	-0.002	-0.01
CANADA	0.090	0.93	0.437***	4.37	-0.275***	-3.12
CHILE	0.315	1.57	0.589***	3.53	-0.438**	-2.43
CHINA	0.726	1.64	-0.387	-0.83	-0.561	-1.23
CYPRUS	0.434	0.16	5.494*	1.69	-13.774**	-2.23
DENMARK	1.552***	4.64	1.253***	3.93	-0.271	-0.85

EGYPT	0.106	0.21	-0.014	-0.03	0.557	1.18
FINLAND	0.446	1.35	-0.153	-0.55	-0.729**	-2.55
FRANCE	0.609***	3.65	0.931***	5.31	-0.332**	-2.01
GERMANY	0.644***	2.69	-0.159	-0.80	-0.477**	-2.31
GREECE	-0.195	-0.53	0.139	0.35	-0.207	-0.51
HONG KONG	0.566***	4.12	0.296*	1.85	-0.217	-1.30
INDIA	0.764***	3.16	1.081***	4.21	-0.353	-1.61
INDONESIA	0.574	1.47	0.184	0.44	-0.363	-0.92
ISRAEL	-0.544*	-1.66	0.875**	1.97	0.331	0.92
ITALY	0.737***	3.04	-0.027	-0.11	0.252	0.96
JAPAN	0.761***	6.59	-0.767***	-7.98	-1.199***	-12.69
KOREA (SOUTH)	-0.299	-1.10	0.022	0.08	-0.866***	-2.94
MALAYSIA	0.653***	5.78	0.386***	3.92	-0.139	-1.22
MEXICO	0.488*	1.65	-0.006	-0.02	0.304	0.75
NETHERLANDS	0.396	1.43	0.863***	2.88	-0.665***	-3.23
NEW ZEALAND	0.396	1.37	0.645***	2.93	-0.647***	-2.62
NORWAY	0.162	0.41	1.272***	2.88	-0.379	-1.07
PAKISTAN	0.405	1.12	0.414	1.30	-0.009	-0.03
PERU	0.374	1.08	0.019	0.04	0.557	1.25
PHILIPPINES	0.023	0.05	0.751*	1.96	-0.286	-0.66
POLAND	0.611*	1.83	0.398	1.29	-0.291	-0.77
PORTUGAL	-0.175	-0.58	0.234	0.80	-0.210	-0.70
ROMANIA	-1.012	-1.31	0.411	0.59	0.365	0.92
SINGAPORE	0.845***	5.17	-0.013	-0.09	-0.279*	-1.89
SOUTH AFRICA	0.928***	4.95	0.854***	5.21	-0.185	-1.02
SPAIN	0.374**	2.16	0.058	0.33	-0.541***	-3.55
SRI LANKA	0.094	0.29	0.611	1.57	0.067	0.18
SWEDEN	0.549*	1.90	0.124	0.41	-0.968***	-3.13
SWITZERLAND	0.67**	2.33	0.953***	3.86	0.092	0.39
TAIWAN	-0.005	-0.01	-0.198	-0.51	-0.383	-1.47
THAILAND	0.347	1.52	-0.224	-0.82	-0.087	-0.30
TURKEY	0.608	1.60	-0.087	-0.31	-0.473	-1.58
UNITED KINGDOM	0.587***	8.13	0.809***	10.96	-0.175***	-2.73
UNITED STATES	-0.096***	-3.22	0.275***	8.52	-0.179***	-6.22
Mean	0.388***		0.452***		-0.553*	
t-statistic	5.574		3.2445		-1.771	
% with positive	79.55%		70.45%		20.45%	

Table A6: Daily abnormal returns around dividend months – by market results

This table examines daily characteristic-adjusted returns in periods around dividend months. Each adjusted return takes the company's stock return and subtracts the returns of a portfolio matched on tertiles (quintiles for US setting) of market capitalization, book-to-market ratio and momentum. A predicted announcement date is 63 trading days after the previous announcement date. This table presents the average returns in each period: the announcement day, the interim period (one day after announcement to one day before the ex-day, inclusive), the ex-dividend day, and the 40 days after the ex-dividend day. We calculate and report the average for these returns by market.

	Announcement		Ex-day		Predicted announcement day		Interim period		40 days after ex-day	
Nation	Return	T-value	Return	T-value	Return	T-value	Return	T-value	Return	T-value
ARGENTINA	-0.485	-1.132	1.669	2.040	0.073	0.313	1.751	2.191	-0.594	-0.456
AUSTRALIA	0.679	17.863	-0.716	-28.089	-0.016	-0.805	1.579	25.571	-0.549	-6.890
AUSTRIA	0.329	3.328	1.319	12.909	0.024	0.378	0.953	3.609	0.157	0.567
BELGIUM	0.169	2.988	0.543	7.326	0.128	2.627	0.950	4.614	-0.562	-2.412
BRAZIL	0.454	10.737	1.135	19.972	0.012	0.389	0.709	6.390	0.261	1.614
CANADA	0.155	8.538	0.342	23.203	0.037	2.793	0.556	14.576	-0.218	-3.875
CHILE	0.020	0.671	1.473	23.165	0.003	0.141	0.215	1.913	-0.582	-4.353
CHINA	0.327	11.769	-0.158	-5.624	-0.035	-1.625	1.636	17.469	-0.118	-1.099
CYPRUS	0.933	3.110	1.552	3.297	-0.197	-1.036	2.060	2.315	-0.622	-0.653
DENMARK	0.440	5.351	1.155	17.044	-0.013	-0.334	1.207	6.261	-0.775	-4.174
EGYPT	0.197	2.317	0.896	7.725	0.001	0.010	0.517	1.647	-0.822	-1.622
FINLAND	0.135	1.349	0.515	8.398	-0.058	-1.289	0.995	4.513	-0.812	-3.539
FRANCE	0.290	6.346	1.328	23.365	0.016	0.330	2.086	11.859	-0.192	-1.224
GERMANY	0.346	7.206	0.753	13.358	-0.066	-1.937	2.172	14.146	-1.234	-8.222
GREECE	0.583	7.707	1.078	14.106	-0.106	-1.784	0.865	3.768	-0.694	-2.422
HONG KONG	0.299	6.429	0.342	13.073	-0.028	-1.219	1.302	12.653	-0.208	-1.845
INDIA	0.299	9.554	0.850	24.869	0.024	0.949	1.169	12.923	-0.154	-1.223
INDONESIA	0.135	2.192	1.481	18.927	0.030	0.593	0.306	2.020	-0.937	-4.190
ISRAEL	0.660	11.122	0.368	8.814	0.023	0.713	1.209	11.930	0.186	1.205
ITALY	0.130	2.473	0.650	13.843	-0.011	-0.300	0.684	3.716	-0.344	-1.924
JAPAN	0.091	4.743	0.043	2.125	0.038	2.160	0.884	13.091	-0.460	-6.428

KOREA (SOUTH)	0.442	5.136	0.550	7.059	0.096	1.291	1.243	6.711	-1.253	-3.234
MALAYSIA	0.177	7.147	0.474	18.934	0.016	0.730	2.109	27.325	-0.144	-1.606
MEXICO	0.084	1.096	-0.309	-3.760	0.002	0.042	0.363	1.736	0.315	1.116
NETHERLANDS	0.181	2.470	0.618	9.228	-0.063	-1.750	0.826	4.271	-0.511	-3.047
NEW ZEALAND	0.307	6.282	0.874	12.364	-0.096	-2.755	0.767	6.919	-0.578	-4.094
NORWAY	0.428	4.612	1.583	14.769	0.021	0.318	0.553	2.373	-1.791	-5.625
PAKISTAN	0.078	1.494	0.362	5.865	0.041	1.207	1.095	6.566	-0.295	-1.458
PERU	0.113	2.029	0.027	0.288	-0.052	-1.157	0.611	3.130	-0.341	-1.175
PHILIPPINES	0.606	7.415	1.173	12.677	0.054	0.632	1.260	7.116	-0.545	-2.041
POLAND	0.407	4.013	1.175	12.237	-0.200	-2.828	1.882	5.653	-1.345	-3.619
PORTUGAL	0.081	0.622	1.409	3.993	0.088	0.520	0.702	1.942	-0.464	-0.810
ROMANIA	0.062	0.199	1.781	4.416	0.052	0.273	1.246	1.268	-0.213	-0.235
SINGAPORE	0.616	12.244	0.252	6.097	0.074	2.072	1.498	13.249	-0.086	-0.631
SOUTH AFRICA	0.530	11.232	0.862	24.188	-0.017	-0.580	1.340	11.800	-0.297	-2.500
SPAIN	0.089	2.854	0.075	1.891	0.014	0.510	0.845	8.876	-0.330	-2.299
SRI LANKA	0.365	4.320	0.645	8.927	0.050	0.813	1.451	8.204	0.070	0.314
SWEDEN	0.041	0.305	0.552	3.760	0.195	2.260	1.978	7.074	-0.349	-0.943
SWITZERLAND	0.311	5.859	0.896	19.378	-0.069	-2.101	0.725	5.676	-0.392	-2.860
TAIWAN	0.189	6.551	0.702	19.113	-0.004	-0.139	0.880	8.043	0.387	2.536
THAILAND	0.514	13.544	0.022	0.560	0.043	1.707	1.174	14.319	-0.331	-2.845
TURKEY	0.078	0.987	0.293	3.544	0.057	0.907	1.642	5.330	-0.122	-0.372
UNITED KINGDOM	0.569	21.982	0.626	51.824	-0.032	-3.333	0.836	22.037	-0.051	-1.021
UNITED STATES	0.107	22.821	0.214	52.711	0.019	4.565	0.311	25.005	-0.006	-0.340
Mean	0.286***		0.715***		0.004		1.117***		-0.408***	
t-statistic	7.769		8.319		0.350		13.994		-6.035	
% with positive	97.73%		93.18%		61.36%		100%		13.64%	

Table A7: Dividend premium and comovement of premium estimated with returns in local currency

This table reports the coefficients estimated from regressions of monthly dividend premiums for market *c* in month *m* ($PMN_{c,m}$) on the global and regional aggregate dividend premium and other factors. The regression model is specified as follows.

$$PMN_{c,m} = Alpha_{c,m} + \beta_1 PMNg_m + \beta_2 PMNreg_m + \beta_3 RMg_m + \beta_4 SMBg_m + \beta_5 HMLg_m + \beta_6 MOMg_m + \beta_7 IMLg_m + \beta_8 RMreg_{c,m} + \beta_9 SMBreg_{c,m} + \beta_{10} HMLreg_{c,m} + \beta_{11} MOMreg_{c,m} + \beta_{12} IMLreg_{c,m} + \varepsilon_{c,m} \quad (1)$$

All variables are expressed in the local currency. *PMNg* and *PMNreg* are the monthly averages of the respective premiums across all markets (i.e., global) and across the markets in the region, respectively. There are three regions, the Americas, the Asia-Pacific, and Europe (extended). *PMNreg* is orthogonalized to *PMNg*. Market *c* is excluded from the average when we calculate *PMNg* and *PMNreg*. t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
Dependent Var.	*PMN*	*PMN*	*PMN*	*PMN*	*PMN*	*PMN*
Alpha	**0.717*** **	**0.729*** **	**0.732*** **	**0.166*** **	**0.170*** **	**0.166*** **
	(20.97)	**(21.08)**	**(20.35)**	**(4.42)**	**(4.45)**	**(4.22)**
PMNg				51.572***	51.816***	51.841***
				(12.74)	(12.77)	(12.77)
PMNreg				26.285***	25.964***	25.968***
				(8.32)	(8.20)	(8.20)
RMg	-10.833***	-10.517***	-10.840***	-2.732***	-2.535***	-2.333**
	(-12.73)	(-12.20)	(-10.44)	(-3.17)	(-2.91)	(-2.25)
SMBg	-0.195	-0.142	-0.147	-0.008	0.019	0.022
	(-1.22)	(-0.88)	(-0.91)	(-0.05)	(0.12)	(0.14)
HMLg	0.235*	0.270**	0.269**	0.120	0.136	0.136
	(1.75)	(2.01)	(2.00)	(0.93)	(1.05)	(1.05)
MOMg		0.081	0.080		-0.051	-0.049
		(0.75)	(0.74)		(-0.49)	(-0.47)
IMLg			-0.255			0.275
			(-0.28)			(0.32)
RMreg	-3.847**	-3.856**	-4.108**	-2.737	-2.740	-2.652
	(-2.18)	(-2.19)	(-2.28)	(-1.61)	(-1.61)	(-1.53)
SMBreg	-7.095***	-7.055***	-7.016***	-2.412***	-2.369***	-2.385***
	(-10.81)	(-10.73)	(-10.63)	(-3.72)	(-3.64)	(-3.65)
HMLreg	1.743***	1.790***	1.785***	0.751*	0.788*	0.792*
	(4.15)	(4.25)	(4.24)	(1.85)	(1.94)	(1.95)
MOMreg		0.402*	0.403*		0.327	0.328
		(1.71)	(1.71)		(1.44)	(1.44)
IMLreg			-0.969			0.292
			(-0.67)			(0.21)
N	11588	11588	11588	11588	11588	11588
R-sq	0.022	0.023	0.023	0.096	0.097	0.097

Table A8: Dividend premium and differential in tax rates by market

This table reports the effect of the tax rate differential (for dividend income and capital gains income) on the dividend premium. We regress the monthly dividend premium for market *c* in month *m* ($PMN_{c,m}$) on the global and regional risk factors (10 factors in total), and report the coefficient of *TaxCost*. We estimate the regression separately for each market based on monthly data.

$$PMN_{c,m} = \beta_{0c} + \beta_{1c}TaxCost_{c,t-1} + \beta_{2c}RMg_m + \beta_{3c}SMBg_m + \beta_{4c}HMLg_m + \beta_{5c}MOMg_m + \beta_{6c}IMLg_m + \beta_{7c}RMreg_{c,m} + \beta_{8c}SMBreg_{c,m} + \beta_{9c}HMLreg_{c,m} + \beta_{10c}MOMreg_{c,m} + \beta_{11c}IMLreg_{c,m} + \varepsilon_{c,m} \quad (1)$$

TaxCost is calculated as the tax rate on dividends in the market minus the tax rate on capital gains. The coefficients on the five regional and five global risk factors are omitted. t-statistics are reported in parentheses. ***, **, and * represent significance at the 1%, 5%, and 10% levels, respectively.

Market	*TaxCost*		*Constant*		*N*	*R-square*
AUSTRALIA	1.546	(0.72)	0.697*	(1.88)	282	0.232
AUSTRIA	5.309**	(2.21)	-0.176	(-0.36)	270	0.087
BELGIUM	-1.503	(-1.02)	0.426	(1.28)	298	0.067
CANADA	1.064	(0.67)	0.359	(1.03)	298	0.105
CHINA	-2.777	(-0.74)	1.154**	(2.07)	228	0.129
DENMARK	0.000	(.)	0.105	(0.37)	298	0.062
FINLAND	-0.500	(-0.09)	-0.092	(-0.10)	216	0.099
FRANCE	3.925	(1.24)	0.131	(0.30)	298	0.144
GERMANY	1.379	(0.75)	0.887*	(1.96)	298	0.113
GREECE	8.080	(1.33)	1.100*	(1.83)	298	0.048
ITALY	9.583***	(3.43)	0.701*	(1.87)	298	0.104
JAPAN	-7.040**	(-2.05)	1.011***	(2.70)	216	0.168
KOREA (SOUTH)	-0.307	(-0.05)	0.377	(0.19)	216	0.092
MEXICO	3.948	(0.68)	0.800**	(2.28)	294	0.011
NETHERLANDS	0.194	(0.07)	0.373	(0.70)	298	0.195
NEW ZEALAND	1.072	(0.11)	0.558	(0.67)	246	0.065
NORWAY	32.647***	(2.79)	0.705**	(2.42)	298	0.222
POLAND	0.161	(0.04)	0.191	(0.63)	216	0.080
PORTUGAL	-1.134	(-0.11)	1.152	(0.45)	220	0.042
SPAIN	-20.861***	(-3.25)	2.268***	(3.98)	298	0.071
SWEDEN	1.022	(0.12)	0.287	(0.82)	298	0.157
SWITZERLAND	1.455	(0.89)	0.029	(0.07)	298	0.217
UNITED KINGDOM	0.812	(0.50)	0.678**	(2.58)	300	0.186
UNITED STATES	0.252	(0.10)	0.073	(0.26)	300	0.307

Table A9: Dividend premium in global market- Actual ex-dividend months vs. other months

This table reports the existence of *PMN* and *PMN_Alpha* conditional on whether the firm pays dividends (i.e., has its ex-dividend date) in a given month. For each market in each month in year *t*, stocks are grouped into past payer and past nonpayer portfolios based on whether they have paid cash dividends in year *t*-1. Then, for each firm's months during the period from July in *t* to June in *t*+1, we further group months into dividend months and non-dividend months. Dividend months (*EX*) refer to months with an ex-dividend date, and non-dividend months are denoted by *NEX*. We obtain 4 (2*2) portfolios and calculate the value-weighted average stock returns for each portfolio in month *m* from July in *t* to June in *t*+1. A stock's capitalization at the end of the previous month is used as its weight. *NP_NEX* refers to a past nonpayer and non-ex-dividend date portfolio. *P_NEX* refers to a past payer and non-ex-dividend date portfolio. *P_EX* refers to a past payer and ex-dividend date portfolio. We do not include an *NP_EX* group in our analysis because there are very few observations in this group, as few past nonpayers initiate dividends in certain months in the current year. We calculate the risk-adjusted dividend premium for each portfolio return using the following equation:

$$PortfolioReturn_{c,m} = PMN\_Alpha_c + \beta_{1c}RMg_m + \beta_{2c}SMBg_m + \beta_{3c}HMLg_m + \beta_{4c}MOMg_m + \beta_{5c}IMLg_m + \beta_{6c}RMreg_{c,m} + \beta_{7c}SMBreg_{c,m} + \beta_{8c}HMLreg_{c,m} + \beta_{9c}MOMreg_{c,m} + \beta_{10c}IMLreg_{c,m} + \varepsilon_{c,m}, \quad (1)$$

where *c* and *m* denote the market and month, respectively. Then, we generate the reported values in the table using the following two-step process: (1) we calculate the time-series mean of each portfolio in a market; and (2) we report the cross-sectional mean of the portfolio return among all 44 markets. We use both raw monthly returns and monthly alphas to calculate portfolio returns. The t-statistics for the cross-market averages are reported. The p-value is the significance level of the test that the values of return are equally likely to be positive or negative (i.e., a probability of 50%).

Global markets Dividend return premium	N	Mean	T-statistics	Median	Percent positive	P-value
Monthly portfolio raw returns						
NP_NEX	44	0.443	6.318	0.469	86.36%	0.000
Payer_NEX	44	0.744	14.932	0.727	97.73%	0.000
Payer_EX	44	1.585	14.864	1.460	95.45%	0.000
Payer_EX- Payer_NEX	44	0.960	7.399	0.859	90.91%	0.000
Monthly portfolio alpha						
NP_NEX_Alpha	44	-0.316	-4.216	-0.279	25.00%	0.998
Payer_NEX_Alpha	44	0.210	2.935	0.166	75.00%	0.000
Payer_EX_Alpha	44	1.135	9.118	1.117	93.18%	0.000
Payer_EX- Payer_NEX (Alpha)	44	0.994	6.976	0.901	86.36%	0.000

Table A10: Clustering of ex-dividend dates: Statistics for market-month level Ex-DivPctc, m

This table reports the property of clustering of ex-dividend dates of firms in each market. *Ex-DivPct*$_{c,m}$ is the fraction of market *c*'s firms with ex-dividend dates in month *m* scaled by the number of all firms (both payers and nonpayers) in the market in the same month.

Panel A: Average of *Ex-DivPct* in the four peak months (by market)

Market	highest peak month	second_peak month	third_peak month	fourth_peak month
ARGENTINA	10.21%	7.43%	5.93%	5.82%
AUSTRALIA	18.26%	17.19%	8.45%	6.96%
AUSTRIA	21.58%	16.41%	12.73%	5.78%
BELGIUM	27.60%	21.24%	6.41%	3.13%
BRAZIL	21.49%	14.20%	13.98%	10.63%
CANADA	14.28%	13.99%	13.89%	12.71%
CHILE	46.69%	24.06%	13.82%	12.76%
CHINA	17.27%	14.57%	10.93%	4.95%
CYPRUS	2.40%	2.24%	1.95%	1.89%
DENMARK	18.58%	16.73%	7.11%	3.05%
EGYPT	15.02%	6.52%	6.12%	5.95%
FINLAND	34.94%	30.90%	3.03%	2.78%
FRANCE	19.76%	12.28%	11.79%	4.35%
GERMANY	15.95%	15.78%	9.67%	4.55%
GREECE	17.11%	14.27%	5.94%	5.68%
HONG KONG	17.58%	14.86%	9.96%	9.62%
INDIA	14.48%	14.38%	13.20%	7.25%
INDONESIA	17.80%	13.80%	6.65%	3.73%
ISRAEL	8.76%	7.09%	6.28%	6.20%
ITALY	39.44%	7.24%	5.41%	5.04%
JAPAN	59.86%	36.80%	6.89%	4.82%
KOREA (SOUTH)	33.94%	16.91%	3.69%	2.61%
MALAYSIA	12.93%	10.60%	10.08%	10.07%
MEXICO	17.98%	12.62%	6.36%	5.55%
NETHERLANDS	26.30%	22.58%	8.37%	5.15%
NEW ZEALAND	28.47%	21.80%	13.25%	12.98%
NORWAY	22.39%	14.44%	9.44%	4.31%
PAKISTAN	18.27%	16.86%	12.09%	9.71%
PERU	18.62%	8.47%	7.17%	6.66%
PHILIPPINES	7.07%	5.89%	5.79%	5.25%
POLAND	10.65%	7.85%	3.79%	3.37%
PORTUGAL	23.81%	17.32%	6.16%	1.56%
ROMANIA	6.64%	4.44%	1.79%	1.06%
SINGAPORE	22.32%	12.95%	10.71%	8.77%
SOUTH AFRICA	15.25%	14.78%	12.17%	9.71%
SPAIN	30.19%	17.69%	16.23%	11.05%
SRI LANKA	8.59%	7.89%	7.34%	6.47%
SWEDEN	24.71%	19.49%	4.97%	1.67%
SWITZERLAND	20.54%	17.62%	11.67%	5.35%
TAIWAN	22.42%	14.91%	7.68%	4.68%
THAILAND	22.01%	21.87%	11.83%	11.07%
TURKEY	21.76%	7.82%	3.79%	1.69%
UNITED KINGDOM	9.37%	8.58%	8.47%	8.43%
UNITED STATES	21.88%	21.56%	20.26%	20.15%
Mean	20.57%	14.70%	8.71%	6.48%

Panel B: Average of *Ex-DivPct* in each calendar month by market (the month in bold is the peak month in the year)

Markets	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
ARGENTINA	1.53%	1.35%	2.38%	5.93%	**10.21%**	2.98%	1.74%	2.87%	3.32%	3.42%	7.43%	5.82%
AUSTRALIA	0.86%	6.96%	**18.26%**	5.80%	2.56%	5.79%	0.97%	5.55%	17.19%	8.45%	4.04%	4.72%
AUSTRIA	1.01%	0.36%	3.23%	5.78%	**21.58%**	16.41%	12.73%	0.69%	2.45%	1.08%	0.55%	0.72%
BELGIUM	1.88%	0.87%	0.78%	6.41%	**27.60%**	21.24%	2.56%	1.37%	3.06%	2.54%	1.71%	3.13%
BRAZIL	7.41%	5.18%	10.63%	**21.49%**	14.20%	5.33%	6.80%	9.94%	5.17%	4.45%	5.14%	13.98%
CANADA	3.05%	5.64%	**14.28%**	3.41%	7.08%	13.89%	3.35%	5.87%	12.71%	3.22%	6.62%	13.99%
CHILE	13.82%	3.30%	5.10%	24.06%	**46.69%**	6.37%	8.64%	8.40%	9.05%	12.76%	8.97%	12.67%
CHINA	0.07%	0.12%	1.07%	4.95%	14.57%	**17.27%**	10.93%	3.49%	2.05%	1.01%	0.51%	0.28%
CYPRUS	0.18%	0.44%	0.95%	1.06%	1.67%	**2.40%**	2.24%	0.87%	1.95%	1.04%	1.08%	1.89%
DENMARK	2.32%	3.05%	**18.58%**	16.73%	7.11%	1.39%	0.41%	2.56%	2.55%	1.35%	0.82%	2.34%
EGYPT	1.55%	0.53%	2.33%	**15.02%**	6.52%	2.03%	1.09%	1.02%	1.66%	5.95%	6.12%	4.10%
FINLAND	0.75%	3.03%	**34.94%**	30.90%	2.78%	1.00%	0.20%	0.55%	0.94%	0.82%	0.72%	1.64%
FRANCE	1.56%	0.98%	1.45%	4.35%	11.79%	**19.76%**	12.28%	1.07%	2.84%	1.52%	1.41%	2.12%
GERMANY	0.56%	1.00%	2.39%	4.55%	15.78%	**15.95%**	9.67%	3.45%	1.20%	0.27%	0.66%	1.05%
GREECE	0.76%	0.95%	2.26%	3.01%	5.94%	14.27%	**17.11%**	5.68%	1.18%	0.72%	1.34%	1.85%
HONG KONG	6.08%	1.68%	3.19%	7.96%	14.86%	9.62%	2.37%	9.96%	**17.58%**	9.14%	3.76%	7.23%
INDIA	1.66%	2.99%	3.33%	3.43%	3.95%	7.25%	**14.48%**	13.20%	14.38%	1.74%	3.14%	1.89%
INDONESIA	0.62%	0.19%	0.67%	2.34%	6.65%	13.80%	**17.80%**	3.73%	1.58%	1.98%	2.51%	2.15%
ISRAEL	2.59%	1.52%	5.55%	**8.76%**	4.60%	6.20%	1.04%	4.28%	6.28%	1.71%	3.54%	7.09%
ITALY	0.22%	0.55%	0.49%	5.41%	**39.44%**	7.24%	5.04%	0.21%	0.45%	0.38%	2.24%	0.76%
JAPAN	1.28%	4.82%	**59.86%**	1.08%	2.01%	4.80%	0.94%	3.42%	36.80%	1.21%	2.04%	6.89%
KOREA (SOUTH)	16.91%	0.09%	3.69%	0.11%	0.09%	2.61%	0.08%	0.12%	0.86%	0.11%	0.24%	**33.94%**
MALAYSIA	4.23%	3.94%	5.98%	4.78%	8.57%	**12.93%**	10.08%	7.25%	10.60%	7.00%	6.81%	10.07%
MEXICO	1.34%	1.77%	4.58%	12.62%	**17.98%**	4.97%	5.21%	3.05%	2.66%	6.36%	4.52%	5.55%
NETHERLANDS	0.82%	1.17%	4.13%	22.58%	**26.30%**	5.15%	3.64%	8.37%	4.07%	2.59%	3.12%	1.12%
NEW ZEALAND	2.19%	3.85%	**28.47%**	9.35%	6.60%	13.25%	3.52%	6.40%	21.80%	10.54%	12.49%	12.98%
NORWAY	0.45%	4.31%	9.44%	14.44%	**22.39%**	2.77%	0.58%	1.01%	0.57%	1.26%	1.70%	0.91%
PAKISTAN	2.53%	3.66%	16.86%	9.71%	5.01%	4.52%	0.62%	3.62%	12.09%	**18.27%**	5.74%	6.65%
PERU	0.96%	3.24%	6.66%	**18.62%**	8.47%	4.43%	2.66%	5.69%	3.82%	2.35%	7.17%	5.17%
PHILIPPINES	2.12%	2.88%	5.79%	5.25%	**7.07%**	5.89%	4.64%	4.22%	3.40%	2.77%	4.28%	4.51%

POLAND	0.16%	0.69%	1.92%	2.11%	3.79%	7.85%	**10.65%**	3.37%	1.91%	0.38%	0.32%	0.51%
PORTUGAL	0.00%	0.00%	1.20%	**23.81%**	17.32%	6.16%	0.35%	0.09%	0.52%	0.33%	0.84%	1.56%
ROMANIA	0.00%	0.00%	0.16%	0.87%	**6.64%**	4.44%	1.06%	1.79%	0.90%	0.90%	0.41%	0.08%
SINGAPORE	3.00%	3.57%	3.56%	8.57%	**22.32%**	10.71%	6.22%	12.95%	6.23%	5.32%	8.77%	4.35%
SOUTH AFRICA	5.28%	4.45%	**15.25%**	8.20%	7.36%	12.17%	6.39%	6.94%	14.78%	9.71%	8.15%	9.50%
SPAIN	17.69%	3.87%	5.65%	9.62%	6.86%	16.23%	**30.19%**	1.30%	5.13%	10.03%	4.90%	11.05%
SRI LANKA	1.49%	2.58%	**8.59%**	3.99%	3.88%	7.89%	7.34%	4.38%	6.47%	2.87%	3.90%	3.27%
SWEDEN	0.86%	1.67%	4.97%	**24.71%**	19.49%	1.36%	0.23%	1.06%	1.13%	0.71%	0.66%	0.75%
SWITZERLAND	1.28%	2.16%	5.35%	17.62%	**20.54%**	11.67%	4.51%	1.81%	2.22%	1.22%	1.05%	1.34%
TAIWAN	0.12%	0.01%	0.05%	0.45%	2.50%	7.68%	**22.42%**	14.91%	4.68%	0.98%	0.50%	0.20%
THAILAND	1.19%	2.71%	**22.01%**	21.87%	11.07%	1.10%	0.74%	11.83%	4.26%	2.57%	4.01%	1.29%
TURKEY	0.13%	0.35%	3.79%	7.82%	**21.76%**	1.69%	0.41%	0.53%	0.47%	0.37%	0.38%	0.55%
UNITED KINGDOM	4.58%	3.81%	8.58%	8.47%	7.18%	8.43%	6.01%	6.79%	**9.37%**	8.40%	6.73%	7.27%
UNITED STATES	9.31%	20.26%	18.33%	9.99%	**21.88%**	17.68%	9.84%	21.56%	15.72%	10.57%	20.15%	16.71%
Mean	2.87%	2.65%	8.56%	9.73%	**12.33%**	8.33%	6.13%	4.94%	6.32%	3.87%	3.89%	5.36%

Table A11 Fama–MacBeth test based on past dividend payers – Cross-sectional impact of market volatility and dividend premium

Panel A presents the moderating impact of prevailing market volatility and dividend premium on the ex-dividend month effect. $Top\_RetVol_{c,m-1}$ equals one if the market returns' volatility, measured for market *c* based on market returns in the prevailing 24 months (from *m*-24 to *m*-1), ranks in the top quartile among all months of the market, and zero otherwise. $Top\_PMN_{c,m-1}$ equals one if the average *PMN*, measured for market *c* in the prevailing three months (from *m*-3 to *m*-1), ranks in the top quartile among all months of the market, and zero otherwise. **Panel B** presents time-series differences in the ex-dividend month effect within each market. We first estimate the coefficient of $ExDiv_{i,m-12}$ in a cross-sectional regression based on past dividend payers' returns in month *m* (the regression includes the same set of control variables as the Fama-Macbeth regression) separately for each market in each month. Then we classify each market's months into two subperiods based on one of the two conditioning variables ($Top\_RetVol_{c,m-1}$, $Top\_PMN_{c,m-1}$), and calculate the mean coefficient of $ExDiv_{i,m-12}$ in each market-subperiod (mean across all months in the subperiod of the market). Finally, we report the cross-market average of coefficients of $ExDiv_{i,m-12}$ estimated in each subperiod of a market.

Panel A: Fama–MacBeth test based on past dividend payers – Cross-sectional impact of market volatility and dividend premium

	(1)	(2)
	RET_m	RET_m
$ExDiv_{i,m-12}$* $Top\_RetVol_{c,m-1}$	-0.429**	
	(-2.33)	
$Top\_RetVol_{c,m-1}$	0.157	
	(0.87)	
$ExDiv_{i,m-12}$* $Top\_PMN_{c,m-1}$		0.579***
		(2.85)
$Top\_PMN_{c,m-1}$		-0.479**
		(-2.37)
$ExDiv_{i,m-12}$	0.510***	0.058
	(5.12)	(0.46)
SIZE	-0.058**	-0.074***
	(-2.56)	(-2.80)
BTM	0.145***	0.087**
	(4.86)	(2.42)
$RET_{m-12,\ m-2}$	0.605***	0.559**
	(3.36)	(2.53)
RET_{m-1}	-2.193***	-2.872***
	(-4.51)	(-5.06)
BETA	-0.093	-0.046
	(-0.61)	(-0.24)
Idiovol	-3.931*	-4.099
	(-1.67)	(-1.59)
TAG	'-0.29***	-0.192**
	(-3.70)	(-2.21)

Constant	1.08***	1.458***
	(5.14)	(5.50)
Number of months	300	300
R-sq	0.063	0.086
Sample range	199301–201812	199301–201812
Number of firm-month	3340653	1255286

Panel B: Time-series differences in the ex-dividend effect - cross-market mean of coefficients of $ExDiv_{i,m-12}$ estimated in two subperiods within a market (past dividend payers only)

Subperiods =	Months w/ HIGH market return volatility ($Top\_RetVol_{c,m-1}$=1) [A]	Months w/ LOW market return volatility ($Top\_RetVol_{c,m-1}$=0) [B]	Diff. in Mean (A-B)	t-value
Coef. of $ExDiv_{i,m-12}$	0.259	0.476	-0.303***	-2.772

Subperiods =	Months w/ HIGH dividend premium ($Top\_PMN_{c,m-1}$=1) [A]	Months w/ LOW dividend premium ($Top\_PMN_{c,m-1}$=0) [B]	Diff. in Mean (A-B)	t-value
Coef. of $ExDiv_{i,m-12}$	0.478	0.259	0.2179**	1.969