The Impact of Taxation on Dividends: A Cross-Country Analysis

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Abstract

We analyse the tax systems in the OECD member countries and their impact on dividend distributions. We find that the dividend payout is monotonically distributed across tax regimes as firms in double taxation (classical) tax system countries have significantly lower payouts than companies in partial-imputation system countries, while firms in the full imputation system pay the highest payouts. Our results hold when we control for the other fundamental determinants of dividends through the Lintner's model and the actual payout ratio. In particular, we show that speed of adjustment and target payout ratio are significantly higher in the full or partial taxation system compared to double taxation system. Overall, we report that the type of dividend tax system affect the size of dividend payout while the tax rate differential between dividends and capital gain affect the discrete decision whether to pay, initialize, increase, cut and omit dividends.

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The Impact of Taxation on Dividends: A Cross-Country Analysis

1. Introduction

More than forty years ago, Miller and Modigliani (1961) [MM thereafter] showed that, under some assumptions, such as complete and perfect capital markets, a firm's dividend policy does not affect its value. While this theory has highlighted the five main factors that could affect dividends, namely signalling, agency costs, behavioural (catering and mental accounting), and taxation, the empirical evidence provided to-date on such effects is mixed. (See, e.g., Allen and Michaely (2003) and Graham (2006) for a review). In particular, while in theory taxation is expected to prevent companies from paying dividends, most previous empirical studies have shown that taxation plays a minor role in dividend decisions (e.g., Brav et al., (2005), Fama and French (2001), Julio and Ikenberry (2005)). Therefore, it is not clear why companies still pay dividends despite their heavy tax burden. In this paper, we analyse the dividend tax systems in 24 OECD member countries and test the hypothesis that, in countries where the tax burden on dividends is high, companies pay low dividends, have lower target payout ratios and a slower speed of adjustment to the target payout ratio.

Understanding the impact of taxes on dividend policy is important for both academicians and practitioners. From academic perspective, the relevance of taxation will highlight the extent to which companies consider the after tax return of their shareholders and how any tax reform will affect the firm's dividend payouts. For practitioners, knowing how taxation affects dividends is also of considerable interest. Since shareholders are taxed differently, if stock prices reflect the tax status of one particular group of investors, other groups can take advantage of these differences by, namely trading around the ex-dividend dates to capture/avoid dividends. Moreover, understanding the impact of dividend taxation will be important for fund managers and analysts as changes in tax codes could affect the net returns and the relative pricing of securities. Shareholders and equity portfolio managers need to know these potential effects of taxation to make proper investment decisions, especially in times of major tax policy changes as recently observed in the U.S. and the U.K.

Most countries around the world adopt different systems of taxing dividends. Some follow a classical tax system where corporate income is treated differently from personal income in terms of statutory tax rate and deduction rules, others use some level of *integration* between corporate and personal income. The important distinction between these two different systems is the taxation of dividends. Countries that follow the *classical* system separate shareholders income from the income of their corporation. As a result the same unit of earning in the company is taxed twice when it is paid as dividend: first at the corporate level and then at the personal level; a disadvantage known as "double taxation". In contrast, countries that follow a more integrated system usually have a full or partial relieve from dividend tax in consideration of the fact that the same unit of earning has been taxed at the corporate level.

Although dividends may have a tax disadvantage, previous studies show that shareholders react positively to dividend increases and negatively to dividend decrease (e.g., Michaely, Thaler, and Womack (1995)). Long (1978) provides evidence that in dual class shares, investors favor cash dividend over stock dividend stocks. The tax disadvantage of dividends and yet their popularity challenges the traditional theory of payout policy. Black's (1976) dividend puzzle discusses the weaknesses of the finance theory in answering the simple question, why firms subject to a classical tax system pay dividends? Some studies explain dividends away from taxes. For example, Lintner (1956), in his classic study, shows that firms adopt a subjective target payout policy by increasing dividends very slowly and hardly ever cut them. Models based on information asymmetry suggest that dividend changes provide information about the firm's future cash flows (Bhattacharya (1979) and Miller and Rock (1985)) or about the firm's cost of capital and/or maturity stage, (Grullon, Michaely and Swaminathan, (2002), Grullon and Michaely (2000)). From the agency theory perspective, dividends provide a disciplining tool to reduce agency cost ((Easterbrook (1984) and Jensen (1986)). Behavioral finance theory suggests that dividends are paid in part to accommodate certain biases in individuals such as market sentiment (Baker and Wurgler (2004)) or self-control, mental accounting, and regret avoidance (Shefrin and Statman (1984)). Taxation models suggest that if dividends are taxed at a higher rate

than capital gains, firms should prefer to retain earnings or to buy back shares (e.g., Auerbach (1979), Bradford (1981), Auerbach and Hassett (2003), Lasfer, (1996)).

We analyse the impact of taxation on the payout policies of 5,335 dividend-paying companies in 24 OECD member countries over the period 2000 to 2006. The final sample includes 23,862 observations. We model the dividend tax system in each country. We use the Lintner dividend payment model to find out the optimal payout ratio and the speed of adjustment. We also regress the payout ratio of each firm against the tax discrimination variables and other fundamental firm specific and country specific variables. We find that the dividend payout is monotonically distributed across tax regimes as firms located in countries that apply the double taxation (classical) tax system have significantly lower payouts than companies in partial-imputation system countries, while firms in the full imputation system pay the highest payouts. Our results hold when we control for the difference in tax rates applied to dividends versus capital gain. Our results apply to the measures of implicit dividend payout ratio (through Lintner's model) and explicit payout ratio (through the actual payout ratio). We also find a higher speed of adjustment to target dividend level in countries that try to avoid double taxation fully or partially compared to double taxation countries. Furthermore, we examine the discrete dividend decisions to pay, initialize, increase, cut, and omit dividends. We find that dividend tax systems do not play a significant role in those discrete decisions, except for the decision to pay dividends when we consider the effect of each country as random. However, the tax effect in terms of the tax rate differential between dividend and capital gain play a significant role in all the discrete dividend decisions. Therefore, tax impact measured by tax rate differential between dividends and capital gain determines whether to change dividends while tax impact in terms of the type of dividend tax system determines the magnitude of dividend change.

The rest of the paper is structured as follows. In Section 2, we present the overall dividend tax framework, review the literature and set up our hypotheses. In Section 3, we describe the data and the methodology. In Section 4, we present an analysis of the empirical results. Conclusions are set out in Section 5.

2. Theoretical background

A. Taxation of dividends

The tax burden on dividends depends on both corporate and personal income tax systems. In a classical system, the total tax is the sum of the corporation tax, the effective capital gains tax and the tax on dividends. Typically, the tax on dividends exceeds the gains tax creating an incentive to reduce dividends. In an imputation system, on the other hand, the total tax is given by the corporation tax *plus* the effective gains tax *plus* the reduced dividend tax. If the reduction in the tax on dividend is large enough to make reduced dividend tax lower than the effective capital gains tax, an incentive to increase dividends is created.

Under the imputation system, a firm that distributes a net dividend in cash of, say, *d,* will allow its shareholders to claim a tax credit. If s is the rate of this tax credit, shareholders are deemed to have received gross dividend, *D*, defined as *d/(1 - s).* Shareholders pay tax *mD,* where m is their personal rate of income tax and receive a tax credit of *sD,* i.e., *sd/(1 - s).* Therefore, shareholders' dividend tax is *(m - s)D,* i.e., *d(m*- s)/(1 - s). For investors taxed at m < s dividend is not taxed or tax subsidized. Only individuals taxed at $m > s$ pay a dividend tax. For example, if the cash dividend, *d*, is \$7.00 and $s = 30\%$, the tax credit is \$3.00. Tax-exempt institutions claim the full tax credit and their after-tax dividend is \$10.00. Investors taxed at the basic income tax rate have no additional dividend tax to pay. Individuals with tax rate m of, say, 40% are only subject to an additional income tax demand of \$1.00 and their after-tax dividend is \$6.00. In this case, the effective dividend tax is 14.3% ((40%-30%)/(1-30%)). Cash dividends received by corporate investors from other domestic companies are not taxed again as a profit. The associated tax credit cannot be refunded by the tax authorities but corporate investors can use it to frank their own dividend payments or offset it against their previous tax liability.

Assuming an effective corporation tax rate of τ_c, the dividend tax burden is, therefore, the sum of corporate tax paid by the company, $\tau_c d/(1 - \tau_c)$, and the personal income tax paid by shareholders, $d(m - s)/(1 - s)$, as a percentage of the pre-corporate-tax dividend, $d/(1 - \tau_c)$, i.e.,

$$\frac{\frac{\tau_c d}{1-\tau_c}+\frac{d(m-s)}{1-s}}{\frac{d}{1-\tau_c}}=1-\frac{(1-\tau_c)(1-m)}{1-s} \tag{1}$$

On the other hand, if earnings are retained and reinvested at the cost of capital, they would generate an after-tax capital gains of *r(1 - z)* where *r* is the firm's after-tax earnings that are retained and *z* is the effective capital gains tax rate. The capital gains tax burden is the sum of the corporate tax paid, $\tau_c r/(1 - \tau_c)$, and the individual tax *rz,* all divided by the pre corporate-tax capital gains, i.e.,

$$\frac{\frac{r\tau_c}{1-\tau_c}+rz}{\frac{r}{1-\tau_c}}=1-(1-\tau_c)(1-z) \tag{2}$$

The overall tax burden on dividend and retained earnings borne by the firm and its shareholders can be derived as the weighted average of the dividends and capital gains tax burdens as a proportion of the firm's payout ratio and can be defined as:

$$\begin{aligned}&\frac{d}{E}\left[1-\frac{(1-\tau_c)(1-m)}{1-s}\right]+\left(1-\frac{d}{E}\right)\left[1-(1-\tau_c)(1-z)\right]\\&=1-(1-\tau_c)\left\{\frac{d}{E}\left[\frac{1-m}{1-s}-(1-z)\right]+(1-z)\right\}\end{aligned} \tag{3}$$

where *d/E* is the firm's payout ratio and E are earnings.

Equation (3) implies that the overall tax burden on dividends and capital gains is a function of the corporation tax, the dividend payout ratio and the differential taxation of dividends and capital gains. Let *TD* = (1 - m)/[(1 - s)(1 - z)] represent this tax discrimination variable (King, 1977) and rearranging, Equation (3) becomes:

$$1-(1-\tau_c)\left\{\frac{d}{E}\left[TD-1\right]+1\right\} \tag{4}$$

Thus, when dividend tax is equal to the tax on capital gains, *TD* is unity and the overall tax burden is invariant with respect to the payout ratio. However, when *TD* is higher (lower) than one, the overall tax burden decreases (increases) as the payout ratio increases. *TD* varies with the income tax rate of individual investor. For example, tax-exempt investors (*m* = *z* = 0), given a corporation tax rate of 52% and a standard rate of

income tax of 30%, will have a tax discrimination factor of 1.43 and a tax burden on dividends of 31.4% compared to a 52% tax burden if earnings are retained. For individuals taxed at $m = s = 30\%$ and at an effective capital gains tax of, say, 20%, *TD* is 1.25 and the dividend tax amounts to 52% while the capital gains tax burden rises to 61.6%. This implies that both tax-exempt investors and basic income taxpayers are expected to favour dividends. However, for investors taxed at a higher income tax rate, *TD* is less than one and their dividends bear higher tax than retained earnings. These investors will only favour dividends if the effective capital gains tax rate, z, is higher than the additional dividend tax, i.e., $z > (m - s)/(1 - s)$.

The systems differ across countries. In the classic system, dividend income is taxed at the personal level as any other types of income, thus $s = 0$. In the partial integration system, $0 < s < \tau_c$ as dividend income is taxed at the personal level as any other types of income but shareholders receive tax credit for *part* of the underlying corporate tax paid on those dividends. In another version of the partial integration system, only *part* of dividend is taxed at the personal level with no further tax credit. In the full integration system, $s < \tau_c$ as dividend income is taxed at the personal level as any other types of income but shareholders receive tax credit for the *full* amount of the underlying corporate tax paid on those dividends. In another version of full integration system, shareholders pay no tax on dividends. In split rate system, dividends are taxed at different rate than retained earnings at the corporate level. In this case, depending on the rate of deduction, *s* could be low or equal to the corporate tax rate, τ_c.

B. Literature Review

To assess the impact of dividend tax on investment and financial policy of the firm, the literature has followed three basic approaches. The first approach is to examine the relation between risk-adjusted pretax rate of return and dividend yield. If dividend tax is relevant and if dividends are taxed at a higher rate than capital gain, then pretax return should increase in proportion to dividend yield to compensate for dividend tax disadvantage. Black and Scholes (1974), Gordon and Bradford (1980), and Miller and Scholes (1982) did not find evidence that the tax differential between dividends and capital gain have an impact on pretax returns, while Litzenberger and

Ramaswamy (1979) find evidence to the contrary. The second approach is to examine the ex-dividend behavior of stock prices. Absent dividend tax, the value of a stock should fall by the full amount of the dividend on the ex-dividend day. If dividend tax is relevant and if dividends are taxed at a higher rate than capital gain, the value of a stock will fall by less than the full amount of the dividend on the ex-dividend day. Elton and Gruber (1970) provide evidence that US stock prices fall by less than the full amount of dividends on the ex-dividend day. Poterba and Summers (1985) and Lasfer (1996) show similar results using UK data. Other studies did not find evidence that the tax differential between dividends and capital gain have an impact the ex-dividend behavior, for example, Hearth and Rimbey (1993) using US data, Lakonishok and Vermaelen (1983) using Canadian data. The third approach is to employ event study analysis. Changes in tax laws provide a natural experiment for investigating the impact of dividend tax on financial and investment decisions. Poterba and Summers (1985) use UK time series data to show that higher dividend tax is associated with lower investment and dividends. Poterba (2004) uses US time series data to show that the tax disadvantage of dividends relative to capital gains has a negative effect on dividend payment. Blouin et al. (2004) study the impact of the 2003 dividend tax reduction in the US and find dramatic increases in regular dividends and special dividends after enactment and a decline in share repurchases. Chetty and Saez (2004) report an increase in the fraction of dividend payers following the 2003 dividend tax reduction. They also show that more firms have either initiated dividend payments or increased dividends after the tax cut.

C. Testable Hypothesis

We study the impact of taxation on the propensity of firms to pay dividends. However, rather than choosing a tax regime change and examine the firm decisions before and after; we examine the financial decisions of firms subject to different tax regimes in different countries, as companies may not react immediately to tax reforms. In particular, we study the impact of dividend taxation on the size of dividend payout as well as the discrete decision to pay or change dividends.

The impact of personal tax on dividend payout can be summarized in the following testable hypotheses:

Hypothesis A1: *Dividends payout ratio is higher in full and partial integration countries than in classical system countries.*

Hypothesis A2: *Dividends payout ratio is higher in full integration countries than in partial integration countries.*

Unlike the full integration system, dividends in classical system carry with it double taxation disadvantage. If tax on dividends has an impact on the financial policy of the firm, then firms in classic system countries will lower or avoid dividends as much as they can, while firms in full integration countries will not have to reduce their dividends. The heterogeneity among different countries and also for the same countries at different time periods provide a rich environment to test whether dividend policy is affected by tax environment or not.

The impact of personal tax on discrete dividend decisions can be summarized in the following testable hypotheses:

Hypothesis B1: *The likelihood to pay, increase, and initialize dividends is higher in full and partial integration countries than in classical system countries.*

Hypothesis B2: *The likelihood to pay, increase, and initialize dividends is higher in full integration countries than in partial integration countries.*

Hypothesis B3: *The likelihood to cut and omit dividends is higher classical system countries than in full and partial integration countries.*

Hypothesis B4: *The likelihood to cut and omit dividends is higher in partial integration countries than in full integration countries.*

We expect more favorable dividend tax environments (partial and full) to encourage dividend payment, dividend increase, dividend initiation and discourage dividend omission and dividend cuts.

3. Data and methodology

A. The Tax System in the OECD countries

The different tax treatments of dividend in classic system countries versus those in integration system countries provide a unique opportunity to shed light on the impact of dividend taxation on the dividend policy. In particular, we investigate the differences in the tax treatment of dividends among the OECD member countries and test for the relation between taxation and dividend policy in those countries. The dividend tax systems in the OECD countries are categorized as classical, partial integration, and full integration, split rate, and other systems.

[Insert Table I Here]

Table I shows the tax system classification for 24 OECD member countries from 2000 to 2006 along with their effective statutory tax rates on distributions of domestic source income to a resident individual shareholder, taking account of corporate income tax, personal income tax and any type of integration or relief to reduce the effects of double taxation. We only include the tax data for countries that are used in our analysis to save some space. The information in the table is obtained from the annual *OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are obtained from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005*. Capital gain tax rates for 2006 are obtained from the individual countries' tax authorities' official websites.

The corporate (column 4) and individual tax rates (column 7) corresponds to the top statutory rates. The net individual tax rate (column 8) is the tax rate on dividends net of any relief or tax credit applicable to dividends. See the appendix for more details on the calculation of the net individual tax. The overall tax rate on dividends (column 9) is the combined corporate and net individual tax rates applied to the paid dividends. Columns 10 and 11 are the proportion of corporate and individual taxes paid on dividends respectively. Capital gain tax is the tax rate applied to long term gain realized by individual resident on sold assets. The tax discrimination ratio (column 13) is the ratio of after tax income from one dollar of dividends to one dollar of capital gain. A

ratio of one indicates that the after tax individual income is the same whether through dividends or through capital gain. A ratio of higher than one indicates a tax advantage of dividends relative to capital gain and vice versa.

In Table I, almost 40% of the 24 OECD member countries apply double taxation of dividends during the period 2000 to 2006. Only 23% apply full relief from dividend tax (full integration), and 35% of the OECD countries apply a partial relief from dividend tax (partial integration). The remaining 5% apply either a split rate system or other treatments for dividend tax. Because of its small proportion and unclear direction of its effect on dividends, we will ignore the countries/years that apply split rate or other treatment of dividend tax. As a result, we will not consider Hungary from 2000-2006, Germany in 2000, Norway in 2006, Poland in 2002.

It is interesting to note that the net dividend tax rates (column 8) in some classic system countries are lower than their counterparts in full and partial integration countries. This is also true if we look at the tax discrimination ratio (column 13) for the different systems. Even though dividends are doubled-taxed, some classical system countries have higher dividends tax advantage (higher tax discrimination ratio) than in other countries that use full or partial integration. However, the average net individual income tax in classical system countries of 27% (results not shown) is higher than the net individual income tax rate in partial integration system of 24% which in turn is higher than the net individual income tax rate of 10% in full integration system. Also, the average tax discrimination ratio in classical system of 0.81 (results not shown) is lower than the average tax discrimination ratio in partial integration system of 0.92 which in turn is higher than average tax discrimination ratio of 1.14 in full integration system.

During the sample period, some countries have switched from one system to another. For example, during the period from 2004 to 2006, Finland, France, and Italy have switched from full integration to partial integration system. Usually the switch from one system to another is accompanied by a change the corporate and individual tax rates which consequently change the tax discrimination ratio. One can also notice that the corporate and individual tax rates change during the sample period without any shift in the tax system. For example the individual tax rate has changed from 60% in

2000 to 30% in 2001 in the Netherlands, from 31% in 2002 to 16% in 2003 in the US, and from 35% in 2005 to 40% in 2006 in Turkey.

As tax rates variation within each country and between countries may play distinctive role in shaping the dividend policy, it is essential to incorporate the change in tax rates in any model that tries to test for the role of tax systems in dividend policy. We do so by including the discrimination ratio which summarizes the effect of any change in tax rates.

B. Sample Description

We obtain the firms accounting data from Extel Company Analysis Database. Our sample includes 23,862 firm/year observations from 24 OECD member countries between 2000 and 2006. Table II reports the countries included in the sample along with the number of firms and the number of firm-year observations for each country.

[Insert Table II Here]

Our sample does not cover 6 OECD members, namely Korea for lack of data, Czech Republic, Slovak Republic, and Iceland for incomplete or unreliable data, and Hungary because its tax system is incomparable to other countries in the sample. We eliminate German data for year 2000, Polish data for year 2002, and Norwegian data for year 2006 because of the existence of split rate or other systems during those periods. We follow LaPorta et. al. (2000) and exclude Greece because of the mandatory dividend rule forced on Greek firms. In addition, we eliminate financial and utility firms as their dividend policy may exhibit different motivations, firms with missing dividend or earning data, firms with negative book equity, and firms with zero dividends. We also eliminate observations that fall in the highest and lowest 1 percentile of dividend per share and payout ratio to reduce the possibility if data errors.

We use the following variables in our analysis: Dividend per share (DPS) is extracted from the dividend per share data item in Extel Company Analysis Database. If it is not available then DPS is measured as total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares. If such data is not available then dividend per share is measured as total dividend paid to ordinary shares divided by number of ordinary shares. Earning per share (EPS) is

extracted from the earning per share data item in Extel Company Analysis Database. If it is not available then EPS is measured as profit after tax but before extraordinary items divided by the total number of ordinary and preferred shares. If such data is not available then EPS is measured as profit after tax but before extraordinary items divided by number of ordinary shares. The payout ratio (PAYOUT) is measured as dividend per share divided by earning per share. We added one time period to our data (year 1999) to get one period lag of dividend per share (DPSt-1). (Profitability) is measured as profit after tax but before extraordinary items divided by total assets. Log(sales) is the natural logarithm of sales.(D/E) ratio is long-term debt divided by the market value of equity.(M/B) is one period lagged ratio of the market value of equity divided by the book value of equity . All accounting variables are measured in US dollars for all firms.

We use a dummy variable, *Civil*, which equals one if the firm is originated in a country with a civil law code, and zero with common law country code. We obtain the countries law information from La Porta et al. (1998).

The firms' accounting data is merged with country-year tax data. We add the tax discrimination ratio (TD) which is the after tax individual income from one dollar of dividend relative to one dollar of capital gain. We also use system indicator variables to classify each country/year into the tree main dividend tax treatment classes: Classical System (Classical), Full integration system (Full), Partial integration System (Partial).

[Insert Table III Here]

Panel A of Table III presents the summary statistics of the variables used in our analysis. The mean (median) payout ratio is 39% (30%) which does not indicate a significant skeweness in the distribution of payout ratio among firms; this is in contrast to dividend per share with mean (median) of 0.59 (0.18). The mean (median) of debt to equity ratio is 0.44 (0.20) while the mean (median) of market to book ratio is 1.75 (1.28). The average firm in the sample is making 5% return on their investment. As you we can see from the minimum profitability and EPS, our sample includes firms with negative profitability and negative earning per share. Almost half the sample is originated in civil law country while the other half is from common law countries. On

average dividends are slightly inferior (tax-wise) to retained earnings with mean (median) tax discrimination ratio of 0.96 (0.97).

In Panel B, Table III, we show the pair-wise correlations between the variables. As we can see profitability is significantly and positively correlated with dividend per share (0.07) and the payout ratio (0.09). Sales is negatively related to payout ratio (-0.07) but positively related to dividend per share (0.07), which suggests that large firms have a higher dividends per share but also tend to retain more of their profit. Debt to equity ratio is not significantly correlated to the amount of dividend per share but is negatively and significantly correlated with the payout ratio (-0.02) which indicates that firms with more debt in their balance sheet tend to payout less dividends. These results are consistent with the agency theory (Jensen 1986) that suggest that debt reduces the agency conflicts, and as a result companies with high debt do not need to disgorge cash to their shareholders. Market to book ratio is not significantly correlated with neither dividend pare share nor the payout ratio, suggesting that, on average, high growth companies do not necessarily pay lower dividends as they can finance their investment opportunities with external financing. Dividend payout and dividends per share are not significantly correlated with the percentage change in total assets. However, profitable and smaller firms tend to increase their total assets. The variable civil has a negative correlation with payout ratio (-0.06) and a positive correlation with dividend per share (0.19) which suggests that firms in civil law countries tend to have a higher dividend per share but a significantly lower payout ratio. TD ratio is positively correlated with payout ratio (0.09) but negatively correlated with dividends per share (-0.22). This suggests that firms operating in an environment in which dividends are preferred to retained earnings (TD>1) tend to have higher payout ratio and lower dividend per share.

Table IV summarizes the data in our sample classified by countries of origin and/or by dividend tax systems. Panel A. present the number of observations for each country/dividend tax system along with means and medians dividend per share (DPS), Earning per share (EPS), Payout ratio (Payout), and Tax discrimination ratio (TD).

[Insert Table IV Here]

The largest group of firms in the sample comes from the US followed by Japan and the UK. More than half of the firms in the sample come from these three countries. Among the classical system countries, nearly 80% of the firms come from US and Japan while half of the partial integration system countries are from the UK. In addition, half of the observations in our sample are from classical system countries (11,932) while the other half are from partial (7,444) and full (4,486) integration countries. There are some countries that show up in both the full and partial system categorizes, namely France, Finland, and Norway. These are the countries that switched their systems from full to partial integration during the sample period. The classification of those countries depends on the system adopted in each year. Generally, countries with high EPS tend to have a high DPS compared to other countries; for example, Switzerland has the highest mean (14.7) and median (9.5) EPS and also have the highest mean (4.55) and median (3.09) DPS. However, it is important to note that the payout ratio is the critical measure and not the level of dividends. With the highest level of dividends, Switzerland's payout ratio is moderately lower than most countries. This is also true if we look at the mean and median DPS for classical system countries versus those in full and partial integration countries as firms in classical system countries have a higher DPS than firms from other countries. However, the payout ratio for classical system firms is lower than the payout ratio of firm in other systems.

As shown in Panel A, the overall median payout ratio (PAYOUT) is 30%. Firms in classical system countries have below overall median PAYOUT (24%) while partial and full integration countries contain firms with higher median PAYOUT, 36% and 39% respectively, than the overall median.

Panel B provides statistical tests for the differences in means and medians of the respective variables among the firms in the three dividend tax systems. For mean test, we use the t-test for the difference in the means between two samples with unequal variance[1]. For median test, we use Wilcoxon sum rank z-test. The significance results shown in Panel B for the mean and median differences correspond to these two tests. The level of dividends is significantly higher in classical system countries than in partial and full integration system countries. This is also accompanied by significantly

[1] The null of equal variance between samples is rejected between all samples.

higher earnings in classical system countries. However, the payout ratio is significantly lower in classical system countries relative to its counterpart in full and partial integration countries. The mean payout ratio in full integration countries is not significantly different from the mean payout ratio in partial integration countries. However, the median differences are significant at the 1% level.

The results in Table IV provide a hint of heterogeneity among the countries with regard to dividend policy and that is due to different dividend tax systems adopted by these countries. It is also interesting to look at the tax discrimination ratio (TD) differences among the different systems. TD measures the attractiveness of dividends as a mean to distribute profit relative to other means that can be regarded as capital gain. We can see that dividends are significantly less attractive in classical system countries than in other countries. This and by itself might be a cause for lower payout ratio or it might be a mere result of the classical system adopted. A valid argument here is, the heterogeneity among countries in terms of their dividend policy may not stem from the different dividend tax systems but rather from the differences in the tax discrimination ratio. However, if this is true, we should expect full integration countries with effectively no tax on dividends to have a higher TD than countries with some taxes on dividends (partial integration countries). The results in Panel B shows the opposite. Partial integration countries have a significantly higher TD than full integration countries. In our analysis, we control for the level of TD to insure that any differences in the payout ratios among the different systems is not caused by any systematic differences in the TD.

C. Testing the impact of dividend taxation on the dividend payout ratio

We provide a test for the relationship between the dividend tax treatment and dividend policy within the framework formalized by Lintner (1956). Based on interviews with 28 US companies, Lintner described the dividend policy pursued by firms as partial adjustment model, in which managers set a long term target payout ratio and refrain from changing dividends unless triggered by unexpected and persistent change in earnings.

In Lintner's model, the target dividend level, DPS_{it}^{*}, for firm i at period t is set as follows:

$$DPS_{it}^{*} = b_i EPS_{it} \quad (5)$$

Where b_i is the implicit payout ratio and EPS_{it} is the earning per share for firm i at period t. Thus, the target dividend level is connected with earnings by certain payout ratio. The focus in Lintner's model is on the change in the current payout rather than the level of dividends.

Once the target level of dividends is set, firms adjust only partially to that level at any given year such as:

$$[DPS_{it} - DPS_{i,t-1}] = a_i + c_i [DPS_{it}^{*} - DPS_{i,t-1}] \quad (6)$$

The left-hand side of equation (6) represents the actual change in the level of dividends while the right-hand side represents the implicit change in the level of dividends. The idea that firms do not adjust fully to the target level stem from the observation that managers are reluctant to change the level of dividends unless it is backed by a persistence and material change in earnings. In equation (6), a positive a_i represents managers' resistance to reduce dividends while a negative a_i indicates managers' willingness to cut dividends. Based on Lintner model, a_i is expected to be positive. Also, c_i measures the speed of adjustment to the target level. If firms adjust only partially to the target level, i.e. they adjust slowly to the target level, we expect c_i to be between 0 and 1.If firms adjust fully to the target level we expect c_i to be equal to 1. Equation (6) can be rewritten as follows:

$$DPS_{it} = a_i + c_i DPS_{it}^{*} + (1 - c_i) DPS_{i,t-1} \quad (7)$$

The coefficients a_i and c_i can be estimated using the following empirical equation:

$$DPS_{it} = \alpha_0 + \alpha_1 DPS_{it}^{*} + \alpha_2 DPS_{i,t-1} + \varepsilon_{it} \quad (8)$$

Where $\alpha_0 = a_i$, $\alpha_1 = c_i$, and $\alpha_2 = (1 - c_i)$

By substituting (1) into (8), we get:

$$DPS_{it} = \alpha_0 + \alpha_1 EPS_{it} + \alpha_2 DPS_{i,t-1} + \varepsilon_{it} \quad (9)$$

Where $\alpha_0 = a_i$, $\alpha_1 = c_i b_i$, and $\alpha_2 = (1 - c_i)$

From (9) we can measure the different characteristics of corporate dividend policy as follows:

Resistance to cut dividends $a_i = \alpha_0$ (10)

Speed of adjustment to target level $c_i = 1 - \alpha_2$ (11)

Implicit payout ratio $b_i = \alpha_1 / c_i$ (12)

The focus of our analysis is on the measured payout ratio from model (9). We run a regression model similar to (9) separately for the three main dividend tax systems: Classical, Partial integration, and Full integration systems. The three characteristics of the dividend policy are then compared among the different systems. The second step in our analysis is to test for the effect of the different tax systems on the actual payout ratio rather than the implicit payout ratio in Lintner's model. We estimate the following model of payout ratio:

$$PAYOUT_{it} = \beta_0 + \beta_1 FullDUM_{it} + \beta_2 PartialDUM_{it} + \sum_{k=1}^{7} \beta_k CONTROLS_{it} + \varepsilon_{it} \qquad (12)$$

Where,

$PAYOUT_{it}$ is the dividend pay out ratio for firm i at period t.

$FullDUM_{it}$ is a dummy variable that equals 1 if the firm is located in full integration country, and zero other wise.

$PartialDUM_{it}$ is a dummy variable that equals 1 if the firm is located in partial Integration country, and zero other wise.

$CONTROLS_{it}$ is a set of control variables that are believed to affect the payout ratio.

These control variables are:

Tax Discrimination Ratio (TD): the higher the TD the more favorable dividends are relative to capital gain and that is expected to affect the payout ratio positively.

Profitability: is profit after tax and before extraordinary items divided by total assets for firm i at time t. This variable is supposed to measure the profitability of the firm. High profitability is expected to lead to higher payout ratio.

Log(Sales): is a proxy for firm size. Large firms are expected to have higher payout ratio than small firms.

Debt to Equity (Ratio (D/E)): is the ratio of long-term debt to market value of equity of firm i at time t. This variable measures the degree of financial flexibility of the firm. Firms with high debt to equity ratio may not have enough flexibility to pay out dividends.

Percentage Change in Total Assets (% Δ TA): is expected to have a negative effect on payout as firms increasing their investments are not expected to have high dividend payout.

Market to Book ratio (M/B): is the one period lag ratio of market value of equity to book value of equity. This variable measures the growth opportunities of the firm. Firms with high market to book ratio usually retain most of their earnings and do not pay much dividends.

Civil: is a dummy variable that equals 1 if the firm resides in a civil law country and equals zero if the firm resides in a common law country. In general, civil law countries have a weaker legal protection of minority shareholders than common law countries. La Porta et al. (2000) find firms in civil law countries to have lower payout ratio than firms in common law countries.

In addition to the previous variables, we also consider industry and country effects in our regressions. In testing for the effect of tax dividend tax system in payout ratio, the intercept is considered to be the payout ratio of the classical system countries in which there is no integration between corporate and personal tax on dividends. The dummy variables for full and partial integration systems measure the difference in the payout ratio between no integration (classical) and full or partial integration systems. We expect the two dummies to have a positive coefficients indicating higher payout ratio in integration systems versus the no integration system.

D. Testing the impact of dividend taxation on the Discreet dividend Decisions

We examine the differences among the dividend tax systems in terms of dividend policy decisions, namely, the decision to pay dividends, the decision to initialize dividends, the decision to increase dividends, the decision to decrease dividends, and the decision to omit dividends.

We classify a firm as PAYER if it has a nonzero dividend per share (DPS) in certain year. The firm is classified as INTIATOR if it has a nonzero DPS at a certain year while having a zero DPS in the pervious year. A firm is a dividend INCREASER (CUTTER) if DPS in certain year is higher (lower) than the DPS in the previous year. Finally the firm is classified as OMITTER if it has a zero DPS at certain year while having a nonzero DPS in the previous year.

To run the test, we estimate the following probit model:

$$\Pr(d_{it}=1) = F\left\{\beta_0 + \beta_1 FullDUM_{it} + \beta_2 PartialDUM_{it} + \sum_{k=1}^{7}\beta_k CONTROLS_{it}\right\} \qquad (13)$$

Where d_{it} is an indicator function for any of the following decisions: the decision to pay dividends, the decision to initialize dividends, the decision to increase dividends, the decision to decrease dividends, and the decision to omit dividends. d_{it} equals one if the firm makes the dividend decision at time t, and zero if it does not. The regressors are $FullDUM_{it}$, $PartialDUM_{it}$, *TD*, *Profitability, Log(Sales), (D/E),(%ΔT),(M/B)*, and *Dividend Premium*. All the repressors are defined previously except the dividend premium which is the difference in the logs of value weighted average market to book ratio of dividend payers and non payers. We added this variable to test for Baker & Wurgler's (2004) catering theory of dividends. We predict a positive sign for the tax dummies in dividend payment, dividend increase, dividend initiation regressions and negative sign in dividend omission and dividend cuts regressions. The probit regressions also include industry fixed effect and fixed or random country effect.

4. Results

A. Univariate Analysis

In Table V, we present some basic statistics with regard to the payout ratio .We start by classifying our sample according to two criteria: the type of dividend tax system and the level of tax discrimination ratio in the country of origin at a certain time period. Our sample is divided into 6 sub-samples based on three tax systems (Classical/Partial/Full) and two TD levels (high/low). A country is classified as high (low) TD in certain period if its TD is larger (smaller) than the median TD of the

broader sample. We also compare the medians of payout ratio among the different sub-samples and conduct Wilcoxon Sum Rank test.

[Insert Table V Here]

The fifth column in Table V shows that within the classical system countries, there is no significant difference between countries with high and low TD. In the contrary, high TD countries within the full and partial integration system countries have higher payout ratio than low TD countries. The last three rows in Table V contains the differences in the medians between systems within each level of TD. Within high TD sub-sample, classical system countries have significantly lower payout ratio than full and partial integration countries. This is also true within the low TD sub-sample. Also, within high TD sub-sample, full integration countries have higher payout ratio than partial integration when dividends attractiveness is high (high TD). This is consistent with the result we get when we compare the two systems in general with no further classification by the level of TD; that is, full integration countries have higher payout ratio than partial integration countries. However, the results within the low TD sub-sample seem to be conflicting with the general observation. Within low TD sub-sample, full integration system countries have significantly lower payout ratio than partial integration countries. The median TD is significantly higher in partial integration countries than in full integration countries (see Table IV), suggesting that whenever dividend attractiveness is low, the fact that dividends are not taxed does not play a vital role in determining the payout ratio as compared to the level of TD.

The preliminary results show significant differences in the payout ratio between systems within each TD level and also between TD levels within full and partial systems .Except for classical system, the results indicate that dividend tax system and TD play separate role in determining the payout ratio and neither one necessarily dominates or subsumes the other.

We also examine the difference among the dividend tax systems in terms of the proportion of dividend payers, initiators, increasers, cutters, and emitters.

Table VI shows the number and proportion of firms classified as Payers, Initiator, Increasers, Cutter, Omitters in different dividend tax systems. It also report the exact p-value for the binomial test for each decision in each system and the p-value

from the Wilcoxon-Mann-Whitney test for the differences between systems in terms of the number of firms classified by each dividend decision.

The results show that 83% of the firms in our overall sample are paying dividends and almost half the firms in the sample have increased their dividends per share at least once during the sample period while only one third of the firms decreased their dividends at least once during the sample period.

Table VI also shows that the proportion of dividend payers is significantly higher in the classical tax system (94%) than in full (89%) and partial integration system (68%). This is not monotonically consistent with our prediction that firms will be more willing to pay dividends in a more favorable tax environment. Similarly, dividend omitters are significantly lower in classical system (2%) than in other systems. This is also a contradiction to our prediction. The proportion of dividend initiators is highest in partial integration system (3%) with no significant difference between classical (1%) and full(2%) systems. In addition, the proportion of dividend increasers is lowest in partial integration system (47%) with no significant difference between classical (57%) and full (56%) systems. The only decision that seems to be consistent with our prediction is the decision to cut dividends in which classical system have the highest proportion of dividend cutters (38%) compared to full (36%) and partial system (24%), however, the higher the proportion of dividend cutters in partial system than in full system makes it hard to interpret the results as an outcome of the tax environment. In general, the univariate results in Table VI do not support a monotonic difference in dividend decisions among dividend tax systems and in some decisions it contradicts our prediction of positive effect of favorable tax environment on dividend decisions.

[Insert Table VI Here]

B. Dividend Policy Characteristics across Dividend Tax Systems

Table VII presents the results of four regression models that we run using sub-samples based on different dividend tax systems and also using the broader sample. The first two regressions are similar to Lintner's model in equation (5) but one with fixed country effects and the other with random country effect. The next two regressions control for tax discrimination ratio with fixed country effect in one and

random country effect in the other. All regressions include industry fixed effect. The test statistics reported are based on heteroskedasticity-corrected standard errors clustered within firm. In Table VII, we also show the three characteristics of dividend policy, namely resistance to reduce dividends, speed of adjustment to target dividend level, and the implicit payout ratio which are calculated based on equations (6), (7), and (8), respectively.

[Insert Table VII Here]

Panel A. reports regression results for firms in classical system countries. In the first two regressions, all coefficients are positively significant. The calculated resistance level, speed of adjustment, and payout ratio in the fixed effect model are 0.01, 0.31, and 0.12, respectively. The results with random effect specification are qualitatively similar except for the intercept which reflect higher resistance level. The last two regressions in Panel A include the tax discrimination variable (TD) which is positive and weakly significant in the fixed effect model but negative and insignificant in the random effect model. The positive coefficient is consistent with the proposition that the more attractive the dividends are relative to capital gain the higher the level of dividends given certain level of earnings. In addition, controlling for the tax discrimination ratio does not have any significant effect on the speed of adjustment or the payout ratio for the classical system countries in random and fixed effect specifications. The Hausman specification test and the Hansen-Sargan over-identification test both reject the null hypothesis of no correlation between the random effects and the repressors. The rejection of both tests indicates that coefficients based on random effect are not consistent and we should rely on fixed effect model.

Panel B. presents regression results for firms in partial integration system countries. In the first two regressions, current earnings and previous period's dividend level are positively significant while the intercept is only weakly significant in the random effect model. The calculated resistance level, speed of adjustment, and payout ratio in the fixed effect model are 0.00, 0.41, and 0.22, respectively. As we can see that the speed of adjustment to target dividend level and the payout ratio are higher in partial integration countries than their counterparts in classical system countries for all models. The coefficients of other independent variables and hence the measures of

speed of adjustment and payout ratio are not affected by the addition of TD as an independent variable in the second regression. However, the intercept becomes significant and a littlie higher when we either add TD or rely on random effect model. The negative and significant coefficient of TD (significant at 10% level in the fixed effect model) is contradictory to the notion that the more attractive dividends are relative to retained earnings the higher the dividends payment. Generally, the coefficients of main variables in Lintner model are quire similar in both fixed and random effect models.

Panel C presents regression results for firms in full integration system countries. The intercept which is the resistance level is not significantly different from zero in all regressions. The speed of adjustment (0.45) and the payout ratio (0.24) in the fixed effect model are higher than their counterparts in classical and partial integration systems. TD enters with a significantly positive coefficient in the fixed effect model only with no significant effect on other coefficients. Results in Panel D enable us to compare the payout policy characteristics of the different tax systems to the overall sample. Firms in classical system countries have lower payout ratio and slower adjustment to target dividends than the broader sample. In contrast, firms in partial and full integration countries have higher payout ratio and faster adjustment to target dividend level than the broader sample. In the fixed effect model, the broader sample does not show any significant resistance to cut dividends and have a positive TD coefficient. However, TD carries a negative and significant coefficient in the random effect model. Hausman and Hansen-Sargan tests both support the fixed effect model over the random effect model.

So far we have shown differences in magnitude among the three dividend tax systems, however it is important to see if these differences are statistically significant. The last three panels in Table VII provide differences in the coefficients of the main variables namely, intercept, EPS coefficient, and DPSt-1, between tax systems. The significance results are based on robust standard errors. In Panel E, we compare between classical and partial integration systems. In country fixed effect model in Panel E, only the difference in EPS coefficients is statistically significant. However, with country random effect the difference in lag DPS coefficients is also significant.

Thus, payout ratio and the speed of adjustment are significantly higher in partial integration system than in classical system.

Panel F shows that firms in full integration system countries do have significantly higher payout ratio than firms in classical system countries. Speed of adjustment is also higher in full integration system than in classical system with significance at 10% level. Panel G shows that target payout ratio and speed of adjustment are not significantly different between the partial integration system and full integration system. The intercept (the resistance level) is not statistically different among the systems in the fixed effect model while it is significantly higher in classical system in the random effect model. However, relying on the consistent estimate of the fixed effect model, there are no significant differences in the resistance levels among all systems.

C. Dividend Payout Ratio and Dividend Tax Systems

In Table VIII we regress the actual payout ratio against several independent variables according to model (9). Again, we run four regressions, fixed and random country effects with and without TD.

[Insert Table VIII Here]

The main coefficients in the regression are the first two coefficients for the dummy variables, Full System and Partial System. The two dummies for full and partial integration systems pick the difference in their payout ratio compared to the payout ratio in classical system. As expected, the dummies for full and partial integration systems have positive and significant coefficients in the random effect model, while only the Full system dummy is significant in the fixed effect model. This indicate that after controlling for other determinants of dividend payout ratio, firms originated in tax systems that integrate fully or partially between corporate and individual tax on dividends have higher payout ratio than firms originated in classical tax systems in which double taxation of dividends is applied. The tax discrimination ratio is not significant and has no strong effect on the magnitude of the payout ratio among the systems. The insignificance of TD is similar to the findings of La Porta et al.

(2000). The Huasman specification test and the Hansen-Sargan over-identification test both support the random effect model.

All other payout determinants retain significance with the expected sign except the log(sales) variable. Profitability is positively significant which indicate that profitable firm have higher payout ratio than less profitable firms. The debt to equity ratio has a negative and significant coefficient which suggests a lower payout ratio in financially constrained firms. The negative and significant coefficient of the percentage change in total assets indicates that firms with higher investment need have lower payout ratio. Also, a negative and positive coefficient for the lagged market to book ratio indicates that high growth firms usually have lower payout ratio than low growth firms since internal funding is crucial to support growth opportunities. Size measured as log(sales) has negative and significant coefficient which indicates that smaller firms have higher payout ratio than larger firms. One explanation for this result is the possibility that level of sales reflect more aspects of the firm than size only. Higher level of sales may predict higher future sales that need more investment and thus more dependence on internal funding and lower payout ratio. Later, we will show that log(sales) is positively related to the likelihood that the firm is a dividend payer.

The last determinant variable is the dummy variable (Civil) which is an indicator variable for firms originated in countries with civil law versus firms originated in common law countries. The negative and significant coefficient indicates that firms in civil law countries have less payout ratio than firms in common law countries. This result is consistent with La Porta et al. (2000) and supports the "outcome model" in which shareholders exercise their minority shareholders' rights (which are stronger in common law than in civil law) to put more pressure on management to payout more dividends. The results do not support the "the substitute model" which argues that firms in civil law countries use dividends to build reputation among minority shareholders before equity issuance. The substitute model expect firms in civil law countries to have higher payout ratio than firms in common law countries. In random effect specification, the dummy variable (civil) looses significance when we control for the tax discrimination ratio (TD). This can be explained by the strong correlation between TD and Civil variables (-0.50).

D. Dividend Decisions across Dividend Tax Systems

After analyzing the dividend policy of firms in terms of the magnitude of dividend per share and the size of the payout ratio, we turn into studying the differences among the dividend tax systems in terms of discrete dividend policy decisions.

[Insert Table IX Here]

Table IX report the probit regression results for all dividend decisions. Panel A shows two regressions in which the dependent variable is the dummy for payer, the first regression include country as a fixed effect while the second regression include country as a random effect. Consistent with our prediction, the results show that partial and full integration systems predict higher probability of payer than classical system but the results are only significant in the country random effect specification. The intercept which is supposed to reflect the effect of the classical tax system is negative and significant indicating that firms residing in classical tax system countries are more probably non-payers. The tax discrimination ratio (TD) is positive and significant which indicate that the more favored the dollar of dividends is to the dollar of retained earnings the higher the probability that the firm will pay dividends. The strong effect of TD compared to its insignificant role in determining the payout ratio (in pervious regressions) suggests that TD is only important in the initial decision whether to pay dividend but not how much to pay. The coefficient of log (sales) variable, which proxies for size, carries a positive and significant sign which suggest that larger firms are more likely to pay dividends. Also, the results support the notion that the higher the profitability the more likely that the firm will pay dividends. Dividend premium is not significant in the payer regressions and it also carries a wrong (negative) sign.

The dependent variable in Panel B is the dividend initiation dummy. The results show no significant effect of tax systems on the likelihood of initiation. However, TD is positive and significant indicting its importance in the initiation decision. Dividend premium is insignificant which does not support the findings of Baker & Wurgler (2004). The log (sales) variable is negative and significant which implies that smaller firms are more likely to be dividend initiator. This result combined with the previous

result that larger firms are more likely to be payers may indicate that new payers are more among smaller firms.

In Panel C the dependent variable is the dividend increase dummy. The results show no effect of tax systems except in the random effect model in which firms in full integration system countries are less likely to increase dividends. This result contradicts our prediction that more favorable tax environment encourages dividend increase. TD variable carries a positive and significant coefficient indicating a higher probability of dividend increase when a dollar of dividends is favored over a dollar of retained earnings. The results also show a higher probability of dividend increase for larger and profitable firms.

The decision to omit dividends is examined in Panel D. Tax dummies are not significant in the fixed effect model while full dummy is positive and significant which is opposite to the prediction. Interestingly, TD coefficient is negative and significant which indicates a lower probability of dividend omission when a dollar of dividends is more favored than a dollar of retained earnings. The results also show a higher probability of dividend omission in smaller and less profitable firms. The dividend premium variable carries a negative and significant coefficient which indicates a lower probability if dividend omission when the market favor dividend payers over non-payers. This result is consistent with catering theory of dividends. Similarly, the probability of dividend cuts in Panel E is lower the higher the tax discrimination ratio and the higher the dividends premium. The tax dummies show no significance in the decision to cut dividends.

In summary, the type of dividend tax treatment is only important in the decision to pay dividends when we consider country as random effect. In all other decisions, the tax treatment of dividends is either insignificant or opposite to our prediction. The strong and consistent factor that affect dividend decisions is the tax discrimination variable (TD). The strong role of TD here combined with its insignificant role in determining the payout ratio indicates that TD is important in the discrete dividend decisions but is not considered when deciding on the size of dividend. The dividend careering theory is only supported in the decisions to omit and cut dividends.

5. Conclusion

We analyze the dividend payout policy of companies listed in 24 OECD member countries that apply different tax systems with regard to dividends. We find firms located in countries that apply double taxation (Classical tax system) to have less dividend payout than do firms located in countries that try to partially avoid double taxation. Our results hold when we control for the difference in tax rates applied to dividends versus capital gain. The results apply to the measures of implicit dividend payout ratio (through Lintner's model) and explicit payout ratio (through the actual payout ratio). We also find a higher speed of adjustment to target dividend level in countries that try to avoid double taxation fully or partially compared to double taxation countries. A further analysis of the discrete dividend decisions shows a strong effect of the tax rate differential between dividends and capital gain on the decisions to pay, initialize, increase, omit, and cut dividends with a significant effect of the type of dividend tax treatment on the decision to pay dividends only. In general, tax effect measured by the type of dividend tax treatment has a strong effect on the size of dividend payout. However, tax effect measured by the tax rate differential between dividends and capital gain has a strong effect on the discrete decision whether to pay or change dividend.

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Table1. Overall statutory tax rates on dividend income in 24 OECD member countries, 2000-2006.

The table reports the tax system classification for 24 OECD member countries from 2000 to 2006. The corporate (column 4) and individual tax rates (column 7) correspond to the top statutory rates imposed on domestic income received by resident taxpayer. The net individual tax rate (column 8) is the tax rate on dividends net of any relief or tax credit applicable to dividends. The overall tax rate on dividends (column 9) is the combined corporate and net individual tax rates applied to the paid dividends. Columns 10 and 11 are the proportion of corporate and individual taxes paid on dividends respectively. Capital gain tax is the tax rate applied to long term gain realized by individual resident on sold assets. The tax discrimination ratio (column 13) is the ratio of the dividends paid after tax to the capital gain after tax. The information in the table is taken from the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005*. Tc is Corporate Tax rate on distributed profit, z is Capital gain tax rates for 2006 is taken from the individual countries' tax authorities official websites.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				(6)÷[1-(4)/100]				[(5)-(6)+(8)]/(5)				[100-(8)]÷[100-(12)]
Country	**Year(s)**	**Type**	**Tc (%)**	**Pre-Tax Distributed profit ($)**	**After tax Distributed profit ($)**	**Individual Tax Rate on distributed profit (%)**	**Net Individual Tax Rate (%)***	**Overall Tax Rate on Dividends (%)**	**Weight of Corporate tax on dividends (%)**	**Weight of Personal tax on dividends (%)**	**Z**	**Tax discrimination ratio**
Australia	00	Full	34	152	100	49	22	49	70	30	49	1.51
Australia	01-05	Full	30	143	100	49	26	48	62	38	24	0.97
Australia	06	Full	30	143	100	47	24	47	65	36	24	1.01
Austria	00-04	Classical	34	152	100	25	25	51	67	33	0	0.75
Austria	05-06	Classical	25	133	100	25	25	44	57	43	0	0.75
Belgium	00-02	Classical	40	167	100	15	15	49	82	18	0	0.85
Belgium	03-06	Classical	34	151	100	15	15	44	77	23	0	0.85
Canada	00	Partial	45	181	100	48	32	63	71	29	32	0.99
Canada	01	Partial	42	173	100	46	31	60	70	30	23	0.89
Canada	02	Partial	39	163	100	46	31	58	67	33	23	0.89
Canada	03	Partial	37	158	100	46	31	56	65	35	23	0.89
Canada	04-05	Partial	36	156	100	46	31	56	64	36	23	0.89
Canada	06	Partial	36	156	100	46	23	51	71	29	23	1.00
Denmark	00	Classical	32	147	100	40	40	59	54	46	0	0.60
Denmark	01-04	Classical	30	143	100	43	43	60	50	50	0	0.57

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				(6)÷[1-(4)/100]				[(5)-(6)+(8)]/(5)				[100-(8)]÷[100-(12)]
Country	**Year(s)**	**Type**	**Tc (%)**	**Pre-Tax Distributed profit ($)**	**After tax Distributed profit ($)**	**Individual Tax Rate on distributed profit (%)**	**Net Individual Tax Rate (%)***	**Overall Tax Rate on Dividends (%)**	**Weight of Corporate tax on dividends (%)**	**Weight of Personal tax on dividends (%)**	**z**	**Tax discrimination ratio**
Denmark	05-06	Classical	28	139	100	43	43	59	47	53	0	0.57
Finland	00-04	Full	29	141	100	29	0	29	100	0	29	1.41
Finland	05	Partial	26	135	100	28	16	38	69	31	29	1.18
Finland	06	Partial	26	135	100	28	20	41	64	36	29	1.13
France	00	Full	38	161	100	61	41	63	60	40	26	0.80
France	01	Full	36	157	100	60	40	62	59	41	26	0.81
France	02	Full	35	155	100	57	36	58	61	39	26	0.87
France	03	Full	35	155	100	56	33	57	62	38	26	0.90
France	04	Full	35	155	100	56	34	57	62	38	26	0.89
France	05	Partial	35	154	100	56	32	56	62	38	26	0.92
France	06	Partial	34	153	100	49	33	56	62	38	26	0.91
Germany	00	Split	43	176	100	51	31	61	71	29	0	0.69
Germany	01-02	Partial	39	164	100	51	26	55	71	29	0	0.74
Germany	03	Partial	40	167	100	51	26	55	72	28	0	0.74
Germany	04	Partial	39	164	100	47	24	53	73	27	0	0.76
Germany	05-06	Partial	39	164	100	44	22	52	74	26	0	0.78
Ireland	00	Classical	24	132	100	44	44	57	42	58	20	0.70
Ireland	01	Classical	20	125	100	42	42	54	37	63	20	0.73
Ireland	02	Classical	16	119	100	42	42	51	31	69	20	0.73
Ireland	03-06	Classical	13	114	100	42	42	49	25	75	20	0.73
Italy	00	Full	37	159	100	46	14	46	81	19	13	0.98

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				(6)÷[1-(4)/100]				[(5)-(6)+(8)]/(5)				[100-(8)]÷[100-(12)]
Country	**Year(s)**	**Type**	**Tc (%)**	**Pre-Tax Distributed profit ($)**	**After tax Distributed profit ($)**	**Individual Tax Rate on distributed profit (%)**	**Net Individual Tax Rate (%)***	**Overall Tax Rate on Dividends (%)**	**Weight of Corporate tax on dividends (%)**	**Weight of Personal tax on dividends (%)**	**Z**	**Tax discrimination ratio**
Italy	01	Full	36	156	100	46	15	46	78	22	13	0.97
Italy	02	Full	36	156	100	46	16	46	78	22	13	0.96
Italy	03	Full	34	152	100	46	18	46	74	26	13	0.93
Italy	04	Partial	33	149	100	46	18	45	73	27	13	0.93
Italy	05-06	Partial	33	149	100	44	18	45	74	26	13	0.94
Japan	00-01	Classical	41	169	100	50	44	67	61	39	26	0.76
Japan	02-03	Classical	41	169	100	50	44	67	61	39	10	0.63
Japan	04-06	Classical	40	165	100	10	10	46	87	13	10	1.00
Luxembourg	00	Partial	38	160	100	47	24	52	72	28	0	0.76
Luxembourg	01	Partial	38	160	100	43	22	51	74	26	0	0.78
Luxembourg	02-06	Partial	30	144	100	39	19	44	69	31	0	0.81
Mexico	00-02	Full	35	154	100	35	0	35	100	0	0	1.00
Mexico	03	Full	34	152	100	34	0	34	100	0	0	1.00
Mexico	04	Full	33	149	100	33	0	33	100	0	0	1.00
Mexico	05	Full	30	143	100	30	0	30	100	0	0	1.00
Mexico	06	Full	29	141	100	29	0	29	100	0	0	1.00
Netherland	00	Classical	35	154	100	60	60	74	47	53	0	0.40
Netherland	01	Classical	35	154	100	30	30	55	64	36	0	0.70
Netherland	02-04	Classical	35	153	100	30	30	54	64	36	0	0.70
Netherland	05	Classical	32	146	100	30	30	52	61	39	0	0.70
Netherland	06	Classical	30	142	100	30	30	51	58	42	0	0.70

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				(6)÷[1-(4)/100]				[(5)-(6)+(8)]/(5)				[100-(8)]÷[100-(12)]
Country	**Year(s)**	**Type**	**Tc (%)**	**Pre-Tax Distributed profit ($)**	**After tax Distributed profit ($)**	**Individual Tax Rate on distributed profit (%)**	**Net Individual Tax Rate (%)***	**Overall Tax Rate on Dividends (%)**	**Weight of Corporate tax on dividends (%)**	**Weight of Personal tax on dividends (%)**	**z**	**Tax discrimination ratio**
New Zealand	00-06	Full	33	149	100	39	9	39	85	15	39	1.49
Norway	00	Full	28	139	100	28	0	28	100	0	28	1.39
Norway	01	Partial	28	139	100	28	11	36	78	22	28	1.24
Norway	02-05	Full	28	139	100	28	0	28	100	0	28	1.39
Norway	06	Other	28	139	100	28	28	48	58	42	28	1.00
Poland	00	Classical	30	143	100	20	20	44	68	32	20	1.00
Poland	01	Classical	28	139	100	15	15	39	72	28	15	1.00
Poland	02	Split	28	139	100	15	15	39	72	28	15	1.00
Poland	03	Classical	27	137	100	15	15	38	71	29	15	1.00
Poland	04-06	Classical	19	123	100	19	19	34	55	45	19	1.00
Portugal	00	Classical	35	154	100	25	25	51	68	32	10	0.83
Portugal	01	Classical	35	154	100	25	25	51	68	32	16	0.89
Portugal	02-03	Partial	33	149	100	40	20	46	71	29	20	1.00
Portugal	04-06	Partial	28	138	100	40	20	42	65	35	0	0.80
Spain	00	Partial	35	154	100	48	27	53	66	34	20	0.91
Spain	01-02	Partial	35	154	100	48	27	53	66	34	18	0.89
Spain	03	Partial	35	154	100	45	23	50	70	30	18	0.94
Spain	04-06	Partial	35	154	100	45	23	50	70	30	15	0.91
Sweden	00-06	Classical	28	139	100	30	30	50	56	44	30	1.00
Switzerland	00-01	Classical	25	133	100	42	42	56	44	56	0	0.58
Switzerland	02	Classical	24	132	100	41	41	55	44	56	0	0.59

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				(6)÷[1-(4)/100]				[(5)-(6)+(8)]/(5)				[100-(8)]÷[100-(12)]
Country	**Year(s)**	**Type**	**Tc (%)**	**Pre-Tax Distributed profit ($)**	**After tax Distributed profit ($)**	**Individual Tax Rate on distributed profit (%)**	**Net Individual Tax Rate (%)***	**Overall Tax Rate on Dividends (%)**	**Weight of Corporate tax on dividends (%)**	**Weight of Personal tax on dividends (%)**	**Z**	**Tax discrimination ratio**
Switzerland	03-05	Classical	24	132	100	40	40	55	44	56	0	0.60
Switzerland	06	Classical	21	127	100	40	40	53	40	60	0	0.60
Turkey	00-02	Partial	33	149	100	50	31	65	51	49	0	0.69
Turkey	03	Partial	30	143	100	45	24	46	65	35	0	0.77
Turkey	04	Partial	33	149	100	45	23	48	69	31	0	0.78
Turkey	05	Partial	30	143	100	40	20	44	68	32	0	0.80
Turkey	06	Partial	30	143	100	35	18	42	71	29	0	0.83
U S A	00	Classical	39	165	100	33	33	59	66	34	20	0.84
U S A	01	Classical	39	165	100	32	32	59	67	33	20	0.85
U S A	02	Classical	39	165	100	31	31	58	68	32	20	0.87
U S A	03	Classical	39	165	100	16	16	49	80	20	20	1.05
U S A	04	Classical	39	165	100	16	16	49	80	20	15	0.99
U S A	05-06	Classical	39	165	100	16	16	49	81	19	15	0.99
UK	00-06	Partial	30	143	100	33	25	48	63	37	40	1.25

* See the appendix for more details on the calculation of the net individual tax.

Table II. Sample Countries

This table reports the countries included in the sample along with the number of firms and the number of firm-year observations in each country.

Country	# of Firms	# of Firm/Year Obs.
Australia	480	1,945
Austria	47	173
Belgium	60	276
Canada	308	1,224
Denmark	71	319
Finland	89	429
France	396	1,692
Germany	127	1,002
Ireland	36	162
Italy	136	540
Japan	927	4,682
Luxembourg	6	25
Mexico	59	284
Netherlands	103	458
New Zealand	55	226
Norway	51	195
Poland	42	106
Portugal	19	83
Spain	54	188
Sweden	109	478
Switzerland	129	548
Turkey	82	219
UK	922	3,851
US	1,027	4,757
Total	**5,335**	**23,862**

Table III: The Data

The table provide summary statistics for the data used in the analysis. We obtain accounting data from Extel Company Analysis Database. The sample includes 23, 862 firm/year observations from 24 OECD member countries between 2000 and 2006. For tax data we use the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005.* Capital gain tax rates for 2006 is taken from the individual countries' tax authorities official websites. DPS is Dividend per share in Extel Company Analysis Database. If it is not available then DPS equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or DPS equal to total dividend paid to ordinary shares divided by number of ordinary shares. EPS is Earning per in Extel Company Analysis Database. If it is not available then EPS equal to profit after tax but before extraordinary items divided by the total number of ordinary and preferred shares or EPS equal to profit after tax but before extraordinary items divided by number of ordinary shares. PAYOUT=DPS/EPS. (Profitability) is profit after tax but before extraordinary items divided by total assets. Log(sales) is the natural logarithm of sales.(D/E) ratio is long-term debt divided by the market value of equity.(M/B) ratio is the market value of equity divided by the book value of equity in previous period. % Δ TA is the percentage change in total assets. All accounting variables are measured in US dollars for all firms. (Civil) is a dummy variable equals one if the firm is originated in a civil law country , and zero in common law country. We obtain the countries law information form from La Porta et al. (1998).. DR is discriminant ratio measured as the after tax individual income from dividend divided by the after tax individual income from capital gain. Panel A presents summary statistics of the variables and Panel B presents a correlation matrix of the variables. P-values are in parenthesis

Panel A: Summary Statistics

Variable	N	Mean	Median	Standard Deviation	Minimum	Maximum
DPS	23,862	0.59	0.18	1.41	0.00	18.53
EPS	23,862	1.76	0.54	7.22	-244.49	305.64
Payout	23,862	0.39	0.30	0.63	-2.85	5.63
Profitability	23,862	0.05	0.05	0.10	-6.713	0.89
log(sales)	23,746	20.38	20.39	1.88	9.62	26.62
D/E Ratio	21,392	0.44	0.20	5.86	0.00	846.35
M/B_{t-1}	23,862	1.75	1.28	26.71	0.12	4123.48
%Δ TA	23,862	0.16	0.08	0.80	-0.96	69.65
Civil	23,731	0.49	0.00	0.50	0.00	1.00
DR	23,862	0.96	0.97	0.21	0.40	1.51

Panel B: The Correlation Matrix

	DPS	EPS	Payout	Profitability	log(sales)	D/E Ratio	M/B Ratio	Δ TA	Civil
EPS	0.603 (0.000)								
Payout	0.069 (0.000)	-0.019 (0.003)							
Profitability	0.067 (0.000)	0.131 (0.000)	0.085 (0.000)						
log(sales)	0.065 (0.000)	0.053 (0.000)	-0.073 (0.000)	0.002 (0.773)					
D/E Ratio	-0.004 (0.591)	-0.007 (0.293)	-0.018 (0.008)	-0.034 (0.000)	0.004 (0.604)				
M/B_{t-1}	-0.002 (0.808)	0.001 (0.914)	-0.003 (0.670)	0.014 (0.031)	-0.003 (0.659)	-0.002 (0.805)			
%Δ TA	-0.007 (0.274)	0.011 (0.085)	0.000 (0.966)	0.060 (0.000)	-0.050 (0.000)	-0.003 (0.641)	0.000 (0.956)		
Civil	0.188 (0.000)	0.125 (0.000)	-0.059 (0.000)	-0.062 (0.000)	0.118 (0.000)	0.006 (0.392)	-0.121 (0.000)	-0.045 (0.000)	
DR	-0.22 (0.000)	-0.147 (0.000)	0.088 (0.000)	0.059 (0.000)	-0.193 (0.000)	-0.010 (0.159)	0.004 (0.554)	0.034 (0.000)	-0.492 (0.000)

Table IV: Dividend Policy across Countries

The table summarizes the data classified by countries of origin and/or by dividend tax systems. Data is from Extel Company Analysis Database. The sample includes 23, 862 firm/year observations from 24 OECD member countries between 2000 and 2006. For tax data we use the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005*. Capital gain tax rates for 2006 is taken from the individual countries' tax authorities official websites. DPS is Dividend per share in Extel Company Analysis Database. If it is not available then DPS equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or DPS equal to total dividend paid to ordinary shares divided by number of ordinary shares. EPS is Earning per in Extel Company Analysis Database. If it is not available then EPS equal to profit after tax but before extraordinary items divided by the total number of ordinary and preferred shares or EPS equal to profit after tax but before extraordinary items divided by number of ordinary shares. PAYOUT=DPS/EPS. All variables are measured in US dollars for all firms. TD is tax discrimination ratio measured as the after tax individual income from dividend divided by the after tax individual income from capital gain. SYSTEM variable is used to classify each country/year into the tree main dividend tax treatment classes: Classical System (Classical), Full integration system (Full), Partial integration System (Partial). Panel A present the number of observations for each country and/or for each dividend tax system along with the mean and the median of dividend per share (DPS), Earning per share (EPS), Payout ratio (Payout), and Tax discrimination ratio (TD). Panel B provides statistical tests for the differences in means and medians of the respective variables in Panel A among the dividend tax systems. For mean test, we use the t-test for the difference in the means between two samples with unequal variance. For median test, we use Wilcoxon sum rank z-test.

system	Country	N	DPS mean	DPS median	EPS mean	EPS median	Payout mean	Payout median	TD mean	TD median
					Panel A: Means and Medians					
Classical	Austria	173	1.73	1.19	4.86	2.88	0.46	0.36	0.75	0.75
Classical	Belgium	276	2.04	1.27	6.43	3.10	0.33	0.31	0.85	0.85
Classical	Denmark	267	1.51	1.00	5.44	3.60	0.33	0.25	0.58	0.57
Classical	Ireland	162	0.14	0.10	0.57	0.32	0.31	0.28	0.72	0.73
Classical	Japan	4,682	0.22	0.09	1.07	0.28	0.29	0.23	0.84	1.00
Classical	Netherland	458	0.86	0.53	1.96	1.78	0.40	0.31	0.66	0.70
Classical	Poland	106	0.44	0.15	1.03	0.59	0.39	0.27	1.00	1.00
Classical	Portugal	25	0.19	0.09	0.33	0.26	0.35	0.41	0.87	0.89
Classical	Sweden	478	0.52	0.38	0.99	0.84	0.48	0.38	1.00	1.00
Classical	Switzerland	548	4.55	3.09	14.70	9.50	0.28	0.26	0.59	0.60
Classical	U S A	4,757	0.54	0.36	1.59	1.43	0.31	0.22	0.94	0.99
	Classical System	**11,932**	**0.68**	**0.21**	**2.20**	**0.84**	**0.32**	**0.24**	**0.86**	**0.87**
Partial	Canada	1,224	0.53	0.29	1.16	0.84	0.52	0.26	0.93	0.89
Partial	Denmark	52	1.10	0.69	2.37	1.90	0.09	0.23	0.57	0.57
Partial	Finland	121	0.65	0.52	1.29	1.16	0.52	0.46	1.16	1.13
Partial	France	427	1.62	0.95	5.20	3.17	0.33	0.28	0.91	0.92
Partial	Germany	1,002	1.26	0.73	3.26	1.71	0.41	0.32	0.76	0.74
Partial	Italy	245	0.48	0.20	1.30	0.53	0.46	0.33	0.94	0.94
Partial	Luxembourg	25	0.53	0.25	0.03	0.35	0.39	0.21	0.80	0.81
Partial	Norway	32	0.36	0.27	0.68	0.38	0.41	0.26	1.24	1.24
Partial	Portugal	58	0.13	0.07	0.29	0.25	0.37	0.35	0.90	0.90
Partial	Spain	188	0.56	0.40	1.74	1.05	0.40	0.30	0.91	0.91
Partial	Turkey	219	0.46	0.21	0.98	0.55	0.44	0.39	0.75	0.77
Partial	United Kingdom	3,851	0.16	0.10	0.36	0.23	0.46	0.40	1.25	1.25
	Partial System	**7,444**	**0.50**	**0.17**	**1.27**	**0.42**	**0.45**	**0.36**	**1.07**	**1.25**

system	Country	N	DPS mean	DPS median	EPS mean	EPS median	Payout mean	Payout median	TD mean	TD median
Full	Australia	1,945	0.10	0.05	0.16	0.10	0.55	0.51	1.05	0.97
Full	Finland	308	0.77	0.56	1.14	0.92	0.67	0.49	1.41	1.41
Full	France	1,265	1.38	0.76	4.05	2.55	0.31	0.25	0.86	0.87
Full	Italy	295	0.23	0.11	0.68	0.27	0.43	0.29	0.96	0.96
Full	Mexico	284	0.07	0.04	0.23	0.17	0.29	0.22	1.00	1.00
Full	New Zealand	226	0.10	0.07	0.13	0.11	0.61	0.61	1.49	1.49
Full	Norway	163	0.71	0.37	1.49	0.74	0.48	0.37	1.39	1.39
	Full System	**4,486**	**0.54**	**0.12**	**1.41**	**0.23**	**0.47**	**0.39**	**1.05**	**0.97**
	All	**23,862**	**0.59**	**0.18**	**1.76**	**0.54**	**0.39**	**0.30**	**0.96**	**0.97**
	Panel B: Test of mean and median differences									
	Classical vs. Partial		**0.18*** **	**0.04*** **	**0.93*** **	**0.42*** **	**-.14*** **	**-.12*** **	**-.21*** **	**-.38*** **
	Classical vs. Full		**0.14*** **	**0.09*** **	**0.79*** **	**0.61*** **	**-.15*** **	**-.15*** **	**-.19*** **	**-0.1*** **
	Partial vs. Full		**-0.04***	**0.05*** **	**-0.14***	**0.19*** **	**-0.02**	**-.03*** **	**0.02*** **	**0.28*** **

*,**,and *** indicate significance at 10,5, and 1 percent levels, respectively.

Table V: Payout Ratio across Dividend Tax Systems

The table reports the median payout ratio for 6 subsamples based on three tax systems (Classical/Partial/Full) and two TD levels (high/low). Wilcoxon Sum Rank test is conducted to test for difference in median among the subsamples. Each country/year is classified into the tree main dividend tax treatment classes: Classical System (Classical), Full integration system (Full), Partial integration System (Partial). TD is tax discrimination ratio measured as the after tax individual income from dividend divided by the after tax individual income from capital gain. A country is classified as high (low) TD in certain period if its TD is larger (smaller) than the median TD of the broader sample. For tax data we use the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005.* Capital gain tax rates for 2006 is taken from the individual countries' tax authorities official websites. Payout ratio data is from Extel Company Analysis Database. The sample includes 23, 862 firm/year observations from 24 OECD member countries between 2000 and 2006. Payout ratio is measured as dividend per share divided by earnings per share. Dividend per share is reported in Extel Company Analysis Database. If it is not available then Dividend per share equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or total dividend paid to ordinary shares divided by number of ordinary shares. Earnings per share is in Extel Company Analysis Database. If it is not available then earnings per share equal to profit after tax but before extraordinary items divided by the total number of ordinary and preferred shares or profit after tax but before extraordinary items divided by number of ordinary shares. All variables are measured in US dollars for all firms.

System	All	TD High	TD Low	TD High vs. Low
Classical	0.24	0.23	0.25	-0.02
Partial	0.36	0.39	0.30	0.09***
Full	0.39	0.45	0.26	0.19***
All	0.30	0.33	0.27	0.06***
Classical vs. Partial	-0.12***	-0.16***	-0.05**	
Classical vs. Full	-0.15***	-0.22***	-0.01***	
Partial vs. Full	-0.03***	-0.06***	0.04***	

*,**,and *** indicate significance at 10,5, and 1 percent levels, respectively.

Table VI: Dividend Decisions across Dividend Tax Systems

The table provide the number/proportion of firms classified by dividend decisions across dividend tax systems. The table also provides exact p-value for the binomial test of the null that the proportion n is different form 0.5 and also provide the p-value for Wilcoxon-Mann-Whitney test for the differences between systems in terms of the number of firms classified by each dividend decision. We classify a firm as PAYER if it has a nonzero dividend per share (DPS) in certain year. The firm is classified as INTIATOR if it has a nonzero DPS at a certain year while having a zero DPS in the pervious year. A firm is a dividend INCREASER (CUTTER) if DPS in certain year is higher (lower) than the DPS in the previous year. Finally the firm is classified as OMITTER We classify firms as if it has a zero DPS at certain year while having a nonzero DPS in the previous year. DPS is Dividend per share in Extel Company Analysis Database. If it is not available then DPS equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or DPS equal to total dividend paid to ordinary shares divided by number of ordinary shares.Data is from Extel Company Analysis Database. The sample includes 25,295 firm/year observations from 24 OECD member countries between 2000 and 2006. For tax data we use the annual *OECD tax database (www.oecd.org/ctp/taxdatabase)*.

System	Dividend Payers	Dividend Initiators	Dividend Omitters	Dividend Increasers	Dividend Cutters	N
Classical	12,515	188	213	7,625	5,083	
	(94%)	(1%)	(2%)	(57%)	(38%)	13,344
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Partial	7,839	361	433	5,443	2,813	
	(68%)	(3%)	(4%)	(47%)	(24%)	11,531
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Full	4,623	89	145	2,919	1,846	
	(89%)	(2%)	(3%)	(56%)	(36%)	5,185
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
All	24,977	638	791	15,987	9.742	
	(83%)	(2%)	(3%)	(53%)	(32%)	30,060
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Classical vs. Partial (p-value)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	
Classical vs. Full (p-value)	(0.000)	(0.121)	(0.000)	(0.298)	(0.002)	
Partial vs. Full (p-value)	(0.000)	(0.000)	(0.002)	(0.000)	(0.000)	

Table VII: Dividend Model and Characteristics across Dividend Tax Systems

The table presents the results of four regression models that we run using subsamples based on different dividend tax systems and also using the broader sample. The first two regressions are similar to Lintner's model in equation (5) but one with fixed country effects and the other with random country effect. The next two regressions control for tax discrimination ratio (TD) with fixed country effect in one and random country effect in the other. All regressions include industry fixed effect. Number of variables (N), R-square, model fit statistic (FIT) present F statistic for fixed effect and chi-square statistic for random effect specification. (Hausman) specification test statistic and (Hansen-Sargan) overidentification test statistic for the random effect versus fixed effect are shown for each model. In Table VI, we also show the three characteristics of dividend policy, namely resistance to reduce dividends, speed of adjustment to target dividend level, and the implicit payout ratio which are calculated based on equations (6), (7), and (8), respectively. Panel A, B, and C report regression results for firms in classical, Partial integration, and full integration system countries, respectively. Panel D report regression results for the broader sample. The last three panels (E,F, and G) report the differences in coefficients (intercept, EPS coefficient, and DPSt-1 coefficient) between the dividend tax systems. Data is from Extel Company Analysis Database. The sample includes 23, 862 firm/year observations from 24 OECD member countries between 2000 and 2006. For tax data we use the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005.* Capital gain tax rates for 2006 are taken from the individual countries' tax authorities' official websites. DPS is Dividend per share in Extel Company Analysis Database. If it is not available then DPS equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or DPS equal to total dividend paid to ordinary shares divided by number of ordinary shares. DPS(t-1) is the previous period's DPS. EPS is earning per share in Extel Company Analysis Database. If it is not available then EPS equal to profit after tax but before extraordinary items divided by the total number of ordinary and preferred shares or EPS equal to profit after tax but before extraordinary items divided by number of ordinary shares. All variables are measured in US dollars for all firms. TD is tax discrimination ratio measured as the after tax individual income from dividend divided by the after tax individual income from capital gain. SYSTEM variable is used to classify each country/year into the tree main dividend tax treatment classes: Classical System (Classical), Full integration system (Full), Partial integration System (Partial). Heteroskedasticity-corrected standard errors clustered within firm are in parenthesis.

Dependent Variable: DPS									
Constant	**EPS**	**DPS(t-1)**	**TD**	**Country Effect**	**N/ R-sq/ Fit**	**Hausman / Hansen-Sargan**	**Resistance level**	**Speed of Adjustment**	**Payout Ratio**
Panel A: Classical System									
0.0060	0.0387***	0.6860***		Fixed	11,932		0.01	0.31	0.12
(0.006)	(0.007)	(0.042)			0.65				
					393.08***				
0.1221***	0.0390***	0.7014***		Random	11,932	6.92**	0.12	0.30	0.13
(0.028)	(0.007)	(0.042)			0.75	16.05***			
					802.08***				
0.0108	0.0388***	0.6856***	0.0538*	Fixed	11,932		0.01	0.31	0.12
(0.007)	(0.007)	(0.042)	(0.032)		0.65				
					262.15***				
0.1208***	0.0389***	0.6965***	-0.0244	Random	11,932	9.67**	0.12	0.30	0.13
(0.030)	(0.007)	(0.042)	(0.041)		0.75	14.59***			
					778.12***				
Panel B: Partial System									
0.0039	0.0900***	0.5924***		Fixed	7,444		0.00	0.41	0.22
(0. 009)	(0.012)	(0.049)			0.70				
					272.18***				
0.0251*	0.0904***	0.5970***		Random	7,444	0.84	0.03	0.40	0.22
(0.014)	(0.012)	(0.049)			0.74	11.9***			
					564.23***				
0.0223**	0.0899***	0.5920***	-0.1964*	Fixed	7,444		0.02	0.41	0.22
(0.011)	(0.012)	(0.049)	(0.091)		0.69				
					231.73***				
0.0268**	0.0905***	0.5958***	-	Random	7,444	0.90	0.03	0.40	0.22
(0.011)	(0.012)	(0.049)	0.2666***		0.74	6.81*			
			(0.053)		768.99***				

Dependent Variable: DPS									
Constant	**EPS**	**DPS(t-1)**	**TD**	**Country Effect**	**N/ R-sq/ Fit**	**Hausman/ Hansen-Sargan**	**Resistance level**	**Speed of Adjustment**	**Payout Ratio**
Panel C: Full System									
0.0162	0.1073***	0.5456***		Fixed	4,486		0.02	0.45	0.24
(0.012)	(0.014)	(0.066)			0.60				
					149.50***				
0.0187	0.1104***	0.5740***		Random	4,486	1.60	0.02	0.43	0.26
(0.012)	(0.014)	(0.064)			0.69	31.52***			
					444.88***				
0.0105	0.1073***	0.5458***	0.0722**	Fixed	4,486		0.01	0.45	0.24
(0.011)	(0.014)	(0.066)	(0.036)		0.60				
					99.98***				
0.0153	0.1105***	0.5732***	0.0582	Random	4,486	2.01	0.02	0.43	0.26
(0.011)	(0.014)	(0.064)	(0.046)		0.69	25.13***			
					407.08***				
Panel D: All									
0.0000	0.0462***	0.6666***		Fixed	23,862		0.00	0.33	0.14
(0.005)	(0.007)	(0.033)			0.64				
					627.75***				
0.0504***	0.0466***	0.6821***		Random	23,862	64.98***	0.05	0.32	0.15
(0.012)	(0.007)	(0.033)			0.74	22.88***			
					1305.27***				
0.0000	0.0462***	0.6667***	0.0539**	Fixed	23,862		0.00	0.33	0.14
(0.005)	(0.007)	(0.033)	(0.025)		0.64				
					462.12***				
0.0492***	0.0466***	0.6803***	-0.0843***	Random	23,862	53.98***	0.05	0.32	0.15
(0.013)	(0.007)	(0.033)	(0.032)		0.74	31.88***			
					1416.55***				
Panel E: Classical vs. Partial									
0.0021	-0.051***	0.095	No	Fixed					
0.097***	-0.051***	0.108*	No	Random					
-0.012	-0.051***	0.095	Yes	Fixed					
0.094***	-0.051***	0.107*	Yes	Random					
Panel F: Classical vs. Full									
-0.010	-0.068***	0.138*	No	Fixed					
0.103***	-0.069***	0.148*	No	Random					
0.000	-0.068***	0.138*	Yes	Fixed					
0.106**	-0.069***	0.148*	Yes	Random					
Panel G: Partial vs. Full									
-0.012	-0.017	0.044	No	Fixed					
0.006	-0.018	0.040	No	Random					
0.012	-0.017	0.044	Yes	Fixed					
0.012	-0.017	0.041	Yes	Random					

*,**,and *** indicate significance at 10,5, and 1 percent levels, respectively

Table VIII: Dividend Payout Ratio and Dividend Tax Systems

The table presents results of regressing dividend payout ratio (Payout) against several variables. Column (1) include TD and fixed country effect, Column (2) include TD and random country effect, Column (3) include fixed country effect and exclude TD, and Column (4) include random country effect and exclude TD Number of variables (N), R-square, model fit statistic present F statistic for fixed effect and chi-square statistic for random effect specification. (Hausman) specification test statistic and (Hansen-Sargan) overidentification test statistic for the random effect versus fixed effect are shown for each model along with their p-values. All regressions include industry fixed effect. We obtain accounting data from Extel Company Analysis Database. The sample includes 23, 862 firm/year observations from 24 OECD member countries between 2000 and 2006. For tax data we use the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005.* Capital gain tax rates for 2006 are taken from the individual countries' tax authorities official websites. DPS is Dividend per share in Extel Company Analysis Database. If it is not available then DPS equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or DPS equal to total dividend paid to ordinary shares divided by number of ordinary shares. EPS is Earning per in Extel Company Analysis Database. If it is not available then EPS equal to profit after tax but before extraordinary items divided by the total number of ordinary and preferred shares or EPS equal to profit after tax but before extraordinary items divided by number of ordinary shares. PAYOUT=DPS/EPS. (Profitability) is profit after tax but before extraordinary items divided by total assets. Log(sales) is the natural logarithm of sales.(D/E) ratio is long-term debt divided by the market value of equity.(M/B) ratio is the market value of equity divided by the book value of equity. % Δ TA is the percentage change in total assets. All accounting variables are measured in US dollars for all firms. (Civil) is a dummy variable equals one if the firm is originated in a civil law country , and zero in common law country. We obtain the countries law information form from La Porta et al. (1998). TD is tax discrimination ratio measured as the after tax individual income from dividend divided by the after tax individual income from capital gain. Full system is a dummy variable that equals 1 if the tax system is full integration, and zero otherwise. Partial system is a dummy variable that equals 1 if the tax system is partial integration, and zero otherwise. Heteroskedasticity-corrected standard errors clustered within firm are in parenthesis. *,**,and *** indicate significance at 10,5, and 1 percent levels, respectively.

Dependent Variable: Dividend Payout Ratio				
	(1)	(2)	(3)	(4)
Intercept	-0.0042 (0.004)	0.0177 (0.019)	-0.0042 (0.004)	0.0188 (0.023)
Full System	0.0894** (0.045)	0.0990*** (0.032)	0.0824* (0.045)	0.0990*** (0.034)
Partial System	0.0584 (0.044)	0.0728*** (0.029)	0.0542 (0.044)	0.0712 ** (0.032)
TD	-0.0326 (0.046)	0.0114 (0.042)		
Profitability	0.6210*** (0.062)	0.6217*** (0.062)	0.6212*** (0.062)	0.6214 *** (0.062)
Log(Sales)	-0.0086*** (0.003)	-0.0088*** (0.002)	-0.0086*** (0.003)	-0.0087 *** (0.002)
D/E	-0.0016*** (0.001)	-0.0017*** (0.001)	-0.0017*** (0.001)	-0.0017*** (0.001)
%ΔTA	-0.0154*** (0.004)	-0.0153*** (0.005)	-0.0154*** (0.005)	-0.0153*** (0.005)
$M/B_{(t-1)}$	-0.0055** (0.002)	-0.0052** (0.002)	-0.0054 ** (0.002)	-0.0053 ** (0.002)
Civil	-0.1019*** (0.039)	-0.0738 (0.027)	-0.0961*** (0.037)	-0.0795 *** (0.028)
Country Effect	Fixed	Random	Fixed	Random
Model Fit	18.98 ***	184.64 ***	21.28 ***	180.57 ***
R-square	0.0081	0.0189	0.0081	0.0186
N	21,206	21,206	21,206	21,206
Hausman Test (p-value)		5.9(0.750)		0.45 (0.999)
Hansen-Sargan(p-value)		10.9 (0.2805)		2.01 (0.9808)

Table IX: Probit Regressions for Discrete Dividend Decisions

The table presents results of probit regression using the following dummies as depend variables: payer (Panel A), Initiation (Panel B), Increase (Panel C), Omission (Panel D), and Cut (Panel E). In each panel, Row (1) include fixed country effect, Row (2) include random country effect. (N), R-square, model fit statistic present chi-square statistic. All regressions include industry fixed effect. We obtain accounting data from Extel Company Analysis Database. The sample includes 25,295 firm/year observations from 24 OECD member countries between 2000 and 2006. For tax data we use the *annual OECD tax database (www.oecd.org/ctp/taxdatabase)*. The capital gain tax rates for 2000 to 2005 are taken from *Corporate & Individual taxes, A worldwide Summary. Price Waterhouse, 1999-2000, 2001-2002, 2002-2003,2003-2004,2004-2005*. Capital gain tax rates for 2006 are taken from the individual countries' tax authorities official websites. We classify a firm as PAYER if it has a nonzero dividend per share (DPS) in certain year. The firm is classified as INTIATOR if it has a nonzero DPS at a certain year while having a zero DPS in the pervious year. A firm is a dividend INCREASER (CUTTER) if DPS in certain year is higher (lower) than the DPS in the previous year. Finally the firm is classified as OMITTER We classify firms as if it has a zero DPS at certain year while having a nonzero DPS in the previous year.DPS is Dividend per share in Extel Company Analysis Database. If it is not available then DPS equal to total dividend paid to ordinary and preferred stocks divided by the total number of ordinary and preferred shares or DPS equal to total dividend paid to ordinary shares divided by number of ordinary shares. (Profitability) is profit after tax but before extraordinary items divided by total assets. Log(sales) is the natural logarithm of sales.(D/E) ratio is long-term debt divided by the market value of equity.(M/B) ratio is the market value of equity divided by the book value of equity. % Δ TA is the percentage change in total assets. Dividend premium which is the difference in the logs of value weighted average market to book ratio of dividend payers and non payers. All accounting variables are measured in US dollars for all firms. TD is tax discrimination ratio measured as the after tax individual income from dividend divided by the after tax individual income from capital gain. Full system is a dummy variable that equals 1 if the tax system is full integration, and zero otherwise. Partial system is a dummy variable that equals 1 if the tax system is partial integration, and zero otherwise. Standard errors are in parenthesis. *,**,and *** indicate significance at 10,5, and 1 percent levels, respectively.

Intercept	Full System	Partial System	TD	Profitability	Log(sales)	%ΔTA	M/Bt-1	Dividend Premium	Country Effect	N	Model Fit
Panel A: The decision to pay dividend											
-3.6495*** (0.503)	0.0640 (0.178)	0.0088 (0.169)	0.5137** (0.206)	0.2743*** (0.004)	0.3561*** (0.012)	-0.0062 (0.006)	0.0003** (0.000)	-0.0015 (0.010)	Fixed	25,249	9459***
-4.8696*** (0.390)	0.3082*** (0.083)	0.2120*** (0.050)	0.8736*** (0.137)	1.4534*** (0.099)	0.2520*** (0.011)	-0.0309** (0.013)	0.0004 (0.000)	-0.0056 (0.015)	Random	25,295	1183***
Panel B: The decision to initiate dividend											
-3.5818*** (0.684)	-0.3660 (0.433)	-0.3004 (0.425)	1.4740*** (0.347)	0.0342 (0.022)	-0.0424*** (0.007)	0.0050* (0.003)	0.0002*** (0.000)	-0.0089 (0.017)	Fixed	24,729	527***
- 1.1081**** (0.433)	-0.0676 (0.069)	0.0453 (0.064)	0.9369*** (0.205)	0.6253*** (0.226)	-0.0733*** (0.013)	0.0315*** (0.009)	0.0002 (0.000)	0.0230 (0.019)	Random	25,295	150***
Panel C: The decision to increase dividend											
-3.4372*** (0.267)	-0.0361 (0.171)	-0.1051 (0.164)	0.9043*** (0.091)	0.5182*** (0.006)	0.1637*** (0.005)	-0.0013 (0.002)	0.0002 (0.000)	-0.0003 (0.008)	Fixed	25,295	9103***
-2.7241*** (0.354)	-.1966*** (0.100)	-0.1249 (0.079)	0.7724*** (0.208)	4.1390*** (0.223)	0.1044*** (0.010)	-0.0102 (0.013)	0.0002 (0.000)	-0.0028 (0.015)	Random	25,295	579***

Intercept	Full System	Partial System	TD	Profitability	Log(sales)	%ΔTA	M/Bt-1	Dividend Premium	Country Effect	N	Model Fit
Panel D: The decision to omit dividend											
-0.7063 (0.530)	0.3889 (0.286)	0.2341 (0.274)	-1.4187*** (0.284)	-0.0057 (0.008)	-0.0730*** (0.008)	-0.0482 (0.040)	-0.0519*** (0.015)	-0.0340** (0.014)	Fixed	25,230	633***
0.6088 (0.567)	0.1682** (0.085)	-0.0351 (0.102)	-1.0197*** (0.286)	-0.3011*** (0.080)	-0.1007*** (0.013)	0.0025 (0.014)	-0.0115 (0.015)	-0.0658*** (0.022)	Random	25,295	225***
Panel E: The decision to cut dividend											
0.0909 (0.240)	0.1801 (0.178)	0.1673 (0.171)	-0.9696*** (0.091)	0.0065 (0.008)	0.0223*** (0.005)	-0.0675*** (0.026)	-0.0002 (0.000)	-0.0169** (0.009)	Fixed	25,295	1352***
-0.5868 (0.359)	0.3561*** (0.115)	0.1491* (0.085)	-0.5809*** (0.232)	-0.1456 (0.090)	0.0252*** (0.010)	-0.0396 (0.024)	-0.000 (0.000)	-0.0285* (0.016)	Random	25,295	82***

Appendix A

Table A.I presents the detailed method and the data used to calculate the net individual income tax taking account of corporate income tax, personal income tax and any type of integration or relief to reduce the effects double taxation

Table A.I Overall statutory tax rates on dividend income.[1]

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Country	**Year(s)**	**System**	**Type of dividend treatment**	**CIT rate on dist prof[2]**	**Pre-tax dist prof[3]**	**Dist prof[4]**	**Final withhold-ing tax[5]**	**PIT rate on (grossed-up) dividend[6]**	**Grossed up dividend[7]**	**Imputa-tion rate[8]**	**Imputation / dividend tax credit[9]**	**Net personal tax[10]**
Australia[a]	2000	Full	FI	34.0	151.5	100		48.5	151.5	34.0	51.5	22.0
Australia[a]	2001-2005	Full	FI	30.0	142.9	100		48.5	142.9	30.0	42.9	26.4
Australia[a]	2006	Full	FI	30.0	142.9	100		46.5	142.9	30.0	42.9	23.6
Austria	2000-2006	Classical	CL	34.0	151.5	100	25.0	25.0				25.0
Belgium[b]	2000-2006	Classical	CL	40.2	167.1	100		15.0				15.0
Canada	2000	Partial	PI	44.6	180.5	100		47.9	125.0	22.0	27.5	32.3
Canada	2001-2005	Partial	PI	42.1	172.7	100		46.4	125.0	21.3	26.7	31.3
Canada[c]	2006	Partial	PI	36.1	156.5	100		46.4	145.0	30.4	44.1	23.2
Denmark	2000	Classical	CL	32.0	147.1	100		40.0				40.0
Denmark	2001-2006	Classical	CL	30.0	142.9	100		43.0				43.0
Finland[d]	2000-2004	Full	FI	29.0	140.8	100		29.0	140.8	29.0	40.8	0.0
Finland[d]	2005	Partial	PIN	26.0	135.1	100		28.0				16.0
Finland[d]	2006	Partial	PIN	26.0	135.1	100		28.0				19.6
France[e]	2000	Full	FI	37.8	160.7	100		60.5	150.0	33.3	50.0	40.8
France[e]	2001	Full	FI	36.4	157.3	100		60.1	150.0	33.3	50.0	40.1

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Country	**Year(s)**	**System**	**Type of dividend treatment**	**CIT rate on dist prof[2]**	**Pre-tax dist prof[3]**	**Dist prof[4]**	**Final withhold-ing tax[5]**	**PIT rate on (grossed-up) dividend[6]**	**Grossed up dividend[7]**	**Imputa-tion rate[8]**	**Imputation / dividend tax credit[9]**	**Net personal tax[10]**
France[e]	2002	Full	FI	35.4	154.9	100		57.1	150.0	33.3	50.0	35.6
France[e]	2003	Full	FI	35.4	154.9	100		55.6	150.0	33.3	50.0	33.5
France[e1]	2004	Full	FI	35.4	154.9	100		55.9	150.0	33.3	50.0	33.9
France[e2]	2005	Partial	PIN	34.9	153.7	100		56.3				32.3
France[e3]	2006	Partial	PIN	34.4	152.5	100		48.7				32.7
Germany	2000	Split	SR	43.3	176.3	100		51.0	143.9	30.0	43.9	31.1
Germany	2001-2003	Partial	PIN	38.9	163.7	100		51.2				25.6
Germany	2004	Partial	PIN	38.9	163.7	100		47.5				23.7
Germany	2005-2006	Partial	PIN	38.9	163.7	100		44.3				22.2
Ireland	2000	Classical	CL	24.0	131.6	100		44.0				44.0
Ireland	2001	Classical	CL	20.0	125.0	100		42.0				42.0
Ireland	2002	Classical	CL	16.0	119.0	100		42.0				42.0
Ireland	2003-2006	Classical	CL	12.5	114.3	100		42.0				42.0
Italy	2000	Full	FI	37.0	158.7	100		45.9	158.7	37.0	58.7	14.1
Italy	2001	Full	FI	36.0	156.3	100		45.9	156.3	36.0	56.3	15.5
Italy	2002	Full	FI	36.0	156.3	100		46.1	156.3	36.0	56.3	15.8
Italy	2003	Full	FI	34.0	151.5	100		46.1	151.5	34.0	51.5	18.3
Italy	2004	Partial	PIN	33.0	149.3	100		46.1				18.4
Italy[g]	2005-2006	Partial	PIN	33.0	149.3	100		44.1				17.6
Japan[h]	2000-2003	Classical	CL	40.9	169.1	100		50.0			6.4	43.6
Japan[h1]	2004-2006	Classical	MCL	39.5	165.4	100	10.0	10.0				10.0

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Country	**Year(s)**	**System**	**Type of dividend treatment**	**CIT rate on dist prof[2]**	**Pre-tax dist prof[3]**	**Dist prof[4]**	**Final withhold-ing tax[5]**	**PIT rate on (grossed-up) dividend[6]**	**Grossed up dividend[7]**	**Imputa-tion rate[8]**	**Imputation / dividend tax credit[9]**	**Net personal tax[10]**
Luxembourg	2000	Partial	PIN	37.5	160.0	100		47.2				23.6
Luxembourg	2001	Partial	PIN	37.5	160.0	100		43.1				21.5
Luxembourg	2002-2006	Partial	PIN	30.4	143.7	100		39.0				19.5
Mexico	2000-2002	Full	FI	35.0	153.8	100		35.0	153.8	35.0	53.8	0.0
Mexico	2003	Full	FI	34.0	151.5	100		34.0	151.5	34.0	51.5	0.0
Mexico	2004	Full	FI	33.0	149.3	100		33.0	149.3	33.0	49.3	0.0
Mexico	2005	Full	FI	30.0	142.9	100		30.0	142.9	30.0	42.9	0.0
Mexico	2006	Full	FI	29.0	140.9	100		29.0	140.9	29.0	40.9	0.0
Netherlands	2000	Classical	CL	35.0	153.8	100		60.0				60.0
Netherlands	2001-2004	Classical	CL	34.5	152.7	100		30.0				30.0
Netherlands	2005	Classical	CL	31.5	146.0	100		30.0				30.0
Netherlands	2006	Classical	CL	29.6	142.0	100		30.0				30.0
New Zealand[a]	2000-2006	Full	FI	33.0	149.3	100		39.0	149.3	33.0	49.3	8.9
Norway	2000,2002-2005	Full	FI	28.0	138.9	100		28.0	138.9	28.0	38.9	0.0
Norway	2001	Partial	PI	28.0	138.9	100		28.0	123.6	19.1	23.6	11.0
Norway[i]	2006	Other	OTH	28.0	138.9	100		28.0				28.0
Poland[j]	2000	Classical	MCL	30.0	142.9	100	20.0	20.0				20.0
Poland[j]	2001	Classical	MCL	28.0	138.9	100	15.0	15.0				15.0

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Country	**Year(s)**	**System**	**Type of dividend treatment**	**CIT rate on dist prof[2]**	**Pre-tax dist prof[3]**	**Dist prof[4]**	**Final withhold-ing tax[5]**	**PIT rate on (grossed-up) dividend[6]**	**Grossed up dividend[7]**	**Imputa-tion rate[8]**	**Imputation / dividend tax credit[9]**	**Net personal tax[10]**
Poland[j]	2002	Split	SR	28.0	138.9	100	15.0	15.0				15.0
Poland[j]	2003	Classical	MCL	27.0	137.0	100	15.0	15.0				15.0
Poland[j]	2004-2006	Classical	MCL	19.0	123.5	100	19.0	19.0				19.0
Portugal	2000-2001	Classical	MCL	35.2	154.3	100	25.0	25.0				25.0
Portugal	2002-2003	Partial	PIN	33.0	149.3	100		40.0				20.0
Portugal[j]	2004-2006	Partial	PIN	27.5	137.9	100		40.0				20.0
Spain	2000-2002	Partial	PI	35.0	153.8	100		48.0	140.0	28.6	40.0	27.2
Spain	2003-2006	Partial	PI	35.0	153.8	100		45.0	140.0	28.6	40.0	23.0
Sweden	2000-2006	Classical	CL	28.0	138.9	100		30.0				30.0
Switzerland[k]	2000	Classical	CL	24.9	133.2	100		42.1				42.1
Switzerland[k]	2001	Classical	CL	24.7	132.8	100		41.5				41.5
Switzerland[k]	2002	Classical	CL	24.4	132.3	100		41.0				41.0
Switzerland[k]	2003-2006	Classical	CL	24.1	131.8	100		40.4				40.4
Turkey[l]	2000-2002	Partial	PI	33.0	149.3	100	16.5	49.5	100.2		18.4	31.2
Turkey	2003	Partial	PIN	30.0	142.9	100	11.0	45.0			0.0	23.5
Turkey	2004	Partial	PIN	33.0	149.3	100		45.0			0.0	22.5
Turkey	2005	Partial	PIN	30.0	142.9	100		40.0			0.0	20.0
Turkey[l1]	2006	Partial	PIN	30.0	142.9	100		35.0			0.0	17.5
UK[a]	2000-2006	Partial	PI	30.0	142.9	100		32.5	111.1	10.0	11.1	25.0

			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Country	**Year(s)**	**System**	**Type of dividend treatment**	**CIT rate on dist prof[2]**	**Pre-tax dist prof[3]**	**Dist prof[4]**	**Final withhold-ing tax[5]**	**PIT rate on (grossed-up) dividend[6]**	**Grossed up dividend[7]**	**Imputa-tion rate[8]**	**Imputation / dividend tax credit[9]**	**Net personal tax[10]**
US	2000	Classical	CL	39.3	164.7	100		33.2				33.2
US	2001	Classical	CL	39.3	164.7	100		32.4				32.4
US	2002	Classical	CL	39.3	164.7	100		30.6				30.6
US	2003-2006	Classical	MCL	39.4	165.0	100		16.0				16.0

PIT: Personal Income Tax
CIT: Corporate Income Tax
dist prof: distributed profit
CL: Classical system (dividend income is taxed at the shareholder level in the same way as other types of capital income (e.g. interest income).
MCL: Modified classical system (dividend income taxed at preferential rates (e.g. compared to interest income) at the shareholder level.
FI: Full imputation (dividend tax credit at shareholder level for underlying corporate profits tax)
PI: Partial imputation (dividend tax credit at shareholder level for part of underlying corporate profits tax)
PIN: Partial inclusion (a part of received dividends is included as taxable income at the shareholder level)
SR: Split rate system (distributed dividends are taxed at higher rates than retained earnings at the corporate level)
NST: No shareholder taxation of dividends (no other tax than the tax on corporate profits)
CD: Corporate deduction (corporate level deduction, fully or partly, in respect of dividend paid)
OTH: Other types of systems

Explanatory notes:

1. This table reports effective statutory tax rates on distributions of domestic source income to a resident individual shareholder, taking account of corporate income tax, personal income tax and any type of integration or relief to reduce the effects of double taxation.
2. This column shows the combined (central and sub-central) marginal statutory corporate income tax rate on distributed profits, inclusive of surtax (if any). This rate would normally correspond with the basic combined corporate income tax rate except for split rate system like in Germany where the rates are different.
3. For a distribution of 100, the distributed pre-tax profit is calculated as 100/(1-u) where u denotes the corporate income tax rate on distributed profits (column 2).
4. The table considers a dividend distribution of 100 units of domestic source profit to a resident individual shareholder.
5. This column applies where final shareholder-level tax is withheld (at a flat rate) by the distributing company, with no further personal taxation.
6. This column shows the combined (central and sub-central) top marginal statutory personal income tax rate inclusive of surtax (if any), imposed on dividend income (on grossed-up dividends where gross-up provisions apply), before taking account of imputation systems, tax credits and tax allowances.
7. This column reports grossed-up dividends (where gross-up provisions apply), derived as 100(1+g), where 100 is distributed profit and g is the gross-up rate in percentage terms (given by (col.7-col.4)/col.4).

8. This column shows the imputation (or dividend tax credit) rate u* which, in most imputation systems, is related to the gross-up rate with g=u*/(1-u*), where u* denotes the actual (or a notional) rate of corporate tax imputed to shareholders.
9. This column shows the imputation/dividend tax credit in respect of the dividend distribution of 100.
10. This column shows the net top statutory rate to be paid at the shareholder level, taking account of all types of reliefs and gross-up provisions at the shareholder level. For imputation systems this column is calculated as (col.6/100)*MAX(col.4,col.7)-col.9.

Country-specific footnotes:

(a) For Australia, New Zealand and the UK, all with a non-calendar tax year, the rates shown are those in effect as of 1 July, 1 April and 6 April, respectively.
(b) For shares issued before 1. January 1994 the (witholding) personal income tax rate is 25 per cent. The withholding tax is final, if the shareholder so chooses.
(c) Canada recently announced, effective 2006, a new gross-up and dividend tax credit for dividends distributed by large corporations, which are subject to a higher statutory rate than small businesses. As a result, Canada will be operating a dual rate gross up and dividend tax credit system. Rates presented are those applicable to large corporation divdiends. Imputation rate reflects the fact that no provincial legislative changes have been made to harmonize provincial tax credits with the new federal tax credit for large dividends. Without provincial amendments, there will be a new defacto increase in the provincial credits.
(d) Part of the dividends from non-listed companies is taxed as earned income. Since the highest marginal tax rate is higher for earned income than for capital income, the net personal tax in this table would not be zero for such companies.
(e) These are the rates applying to income earned in the current year , to be paid in the next year. For companies not paying the CSB (*Contribution Sociale sur les Bénéficies*), the corporate income tax rates are 1.1 percentage points lower.
(e1) These are the rates applying to income earned in 2004, to be paid in 2005. For companies not paying the CSB (*Contribution Sociale sur les Bénéficies*), the corporate income tax rates are 1.1 percentage points lower. The rate in column 6 shows the rate as from 1 July 2004 when the total prélèlement sociaux was increased from 10.0 to 10.3 per cent.
(e2) For companies not paying the CSB (*Contribution Sociale sur les Bénéficies*), the corporate income tax rates are 1.1 percentage points lower. Included in the rate in column 6 is the prélèvements sociaux (CSG,CRDS) of 11% is levied on distributed profits (100). As shown in column 10, taxpayers only have to declare 50 per cent of the dividends that are grossed-up with the prélèvements sociaux that have been withheld at source. The tax base is further reduced by a part of the prélèvements sociaux (up to 5.8 per cent of the grossed-up dividends).
(e3) For companies not paying the CSB (Contribution Sociale sur les Bénéficies), the corporate income tax rates are 1.1 percentage points lower. Included in the rate in column 6 is the prélèvements sociaux (CSG,CRDS) of 11% is levied on distributed profits (100). As shown in column 10, taxpayers only have to declare 60 per cent of the dividends that are grossed-up with the prélèvements sociaux that have been withheld at source. The tax base is further reduced by a part of the prélèvements sociaux (up to 5.8 per cent of the grossed-up dividends).
(g) The top personal income tax rate as defined in the Italian Income Tax Act is 40.1 per cent (39% central tax + 1.1% local tax). The top rate of 44.1 per cent reported in this table includes a "solidarity levy" of 4 per cent which is applicable for personal income in excess of 100,000 euros.
(h) A half-income system replaced the imputation system as of 24 April 2003. From the same date, the withholding tax of 10 per cent can be credited against personal income tax (but the fund levy is not credited). The fund levy does not apply for corporate income gained in 2003 to be distributed in 2004 onwards.
(h1) Dividends distributed by the listed corporations are withheld at the rate of 20% (10% for dividends distributed during the period between April 2003 and March 2008), and the taxpayer can choose not to include the dividend income in the tax return. On the other hand, if dividends are subject to an aggregate tax, the Credit for Dividends (to deduct 6.4%-12.8% of dividend income from income tax and local inhabitants tax) is applicable.
(i) At the shareholder level dividends equal to (or less than) the risk-free market interest rate times the cost price of the share is exempted.
(j) Source for the information: KPMG's Corporate Tax Rate Survey and the IBFD European Tax Handbook.
(k) The corporate income tax rate includes the church tax, while the personal income tax rates excludes it.
(l) The imputation tax credit is equal to 110% of the imputation amount which is 1/5 of the net amount of the dividend (after witholding tax). It is calculated as ((100-16.5)/5)*1.1 = 18.37.
(l1) From 21. June 2006 the corporate income tax rate was reduced to 20 per cent. The rate of 20 per cent will be applied to the corporate profits derived in the year 2006.