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## Imputation tax system, dividend payout, and investor behavior: Evidence from the Taiwan stock exchange

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#### ABSTRACT

This paper examine the change in corporate dividend policy and investor behavior in relation to the introduction of the imputation tax system in Taiwan. However, the findings of this study are unlike those of previous studies. Stock dividends are treated as a dividend for taxation purposes and represented the dominant payment mechanism in Taiwan before 1997. By contrast, both the number of firms paying cash dividends and aggregate cash dividend payments increase after the introduction of the imputation tax system. Consistent with the tax preference for the distribution of dividends, a higher level of tax deductible rate was associated with a higher cash dividend payout ratio. Domestic individual investors have been the only shareholders affected by the introduced dividend imputation, whereas the percentage of firms owned by domestic individual investors has decreased. However, the percentage of firms owned by foreign institutional investors has increased.

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#### 1. Introduction

Miller and Modigliani (1961) demonstrated that with an absence of taxes, capital markets function effectively regardless of whether firms distribute cash dividends among shareholders. Consequently, in a world without corporate and personal taxes, shareholders are likely to be indifferent to receiving dividends and capital gains. Miller and Scholes (1978) argued that in a world where both dividend income and capital gains are taxed at the level of investors, the preference for dividends or capital gains depends on the relative tax rules governing possible tax arbitrage. They maintained that a firm's value is not affected by its dividend policy. However, if the tax system is changed, a firm should change dividend policy to avoid tax arbitrage. When the tax rate on capital gains is lower than the personal tax rate on ordinary income, shareholders are likely to prefer receiving income in the form of capital gains rather than dividends.

The tax rate of capital gains in Taiwan was zero percent during our study period from 1993 to 2014. During the same time, most firms that were listed on the Taiwan Stock Exchange (TWSE) distributed cash and stock dividends continuously, before and after the introduction of the imputation tax system. Black (1976) stated that there is no convincing explanation for public corporations paying cash dividends to their shareholders. He referred to the interest of shareholders in dividends and the practice of dividend payments as the "dividend puzzle." Baker, Powell, and Veit (2002) concluded that "despite a voluminous amount of research, we still do not have all the answers to the dividend puzzle." This study examined the puzzle and investigated why the listed firms on the TWSE pay dividends through the tax on capital gains are fewer than those paying personal tax on dividend income.

Previous studies of the Tax Reform Act in the United States regarding dividend payouts have been inconsistent. According to Michaely (1991) and Smith and Watts (1992), companies did not increase dividend payouts based on the Tax Reform Act of 1986. However, in May 2003, the dividend tax rate for retail investors decreased drastically in the United States. The top statutory tax rate on dividend income decreased from more than 38%–15%, and the top rate on capital gains decreased from 20% to 15%. According to most previous studies, the 2003 dividend tax cut led to dividend increases and dividend initiations (Chetty & Saez, 2005; Brown,

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Liang, & Weisbenner, 2007; Blouin, Raedy, & Shackelford, 2007; Brav, Graham, Harvey, & Michaely, 2008). However, Edgerton (2013) documented that the posttax-cut increase in dividend payouts coincided with a surge in corporate profits, such that the dividend payout ratio did not increase.

According to studies conducted in Canada (Khoury & Smith, 1977), the United Kingdom (Poterba & Summers, 1984), and Australia (Pattenden & Twite, 2008), dividend initiations and dividend payouts have increased through the introduction of dividend imputation. By contrast, Chkir and Saadi (2007) showed that Canadian firms did not increase their dividend payout after the reduction of capital gains exemption in 1987; however, they did so when the capital gains exemption in 1994 was eliminated.

In Taiwan, Wang and Chen (2004) observed that public firms increased the cash dividend payout (CDP) ratios and decreased the stock dividend payout (SDP) ratios after implementation of an imputation tax system. Furthermore, firms with higher imputation tax credit ratios tended to increase their CDPs and SDPs. However, we find that before 1997 stock dividends were treated as a dividend for taxation purposes and represented the dominant payment mechanism in Taiwan. By contrast, cash dividends represented the dominant payment mechanism after the introduction of the imputation tax system. Even the dividend income was not taxed twice and the average total dividend payouts and payout ratios of listed firms decreased in Taiwan after 1998.

Blouin et al. (2007) showed that the percentage of firms owned by individual investors increased through dividend imputation, whereas we determined that the percentage of firms listed on the TWSE owned by individual investors decreased. Foreign investments have affected the market performance dramatically since Taiwan opened its stock markets to foreign investors in 1991(Chen, Chiou, Chou, & Syue, 2009). Furthermore, even the tax rate on dividend income for foreign institutional investors did not change, whereas the percentage of firms owned by foreign institutional investors increased.

This paper is organized as follows. Section 2 examines taxes and dividend payout in Taiwan over the last 20 years. Section 3 discusses the relationship between imputation tax and dividend payout. Section 4 details how the sample was selected. Section 5 presents the empirical results. Our conclusions are presented in Section 6.

#### 2. Taxes and dividend payout in Taiwan

One of the reasons for introducing the imputation tax system in Taiwan was to eliminate the distortion of tax regarding the financing decisions of firms. In a classical tax system, interest expense on debt is tax deductible for corporate tax. However, shareholder dividend income is taxed twice. In 1998, the corporate tax rate was 25% and the top statutory tax rate on individual income tax was 40%. Furthermore, the corporate tax rate decreased from 25% to 20% in 2010, and decreased again from 20% to 17% in 2012. While all listed firms faced the same statutory tax rate, they had unique effective tax rates and deductible tax credits because depreciation expenses and investment allowances were tax deductible.

#### 2.1. Classical tax system before 1997

Before December 31, 1997, cash dividends were taxed twice: at the corporate level (corporate tax) and at individual income level (shareholder tax); however, according to the Income Tax Act of Taiwan, stock dividends were taxed according to their sources by different tax rates. A firm distributed dividends from two distinct resources that included retained earnings and paid-in surplus. If a firm distributed its retained earnings by issuing new shares, the stock dividends received by shareholders were included in their taxable income of the current year. By contrast, a firm could distribute its paid-in surplus by issuing new shares. This type of stock dividend received by shareholders was included in their taxable income when the stock was sold. However, the tax rate on capital gains from security transactions was 0%. Generally, stock dividends from paid-in surplus were tax free for investors. In addition, before December 1998, individual taxpayers could deduct dividends (including cash and stock dividends) of listed firms with exemption for themselves. The deductible amount could not exceed NT\$270,000 per year and for each tax return.

However, domestic firms paid income tax on only 20% of any domestic dividends received; therefore, its real tax rate for dividends was 5% ( $20\% \times 25\% = 5\%$ ). However, foreign institutional investors were taxed at 20% when they received dividend income. Column 1 of Table 1 shows the tax rates on dividend income among various investors in the classical tax system.

#### 2.2. Imputation tax system after 1998

Under the imputation tax system, the Taxation Bureau compensates for the corporate layer of tax by levying an income tax on the dividend income of individuals. Shareholders are taxed on dividends, but they may deduct their share of the corporate tax that the firm has paid from the tax bill. The dividend is accompanied by a tax credit stating that the firm has already paid corporate tax on behalf of the shareholder. Thus, the shareholders are treated as if each received a total amount of dividend and paid tax. Individual investors can deduct their tax credit on dividends with a top rate of 33.33% when they file an individual income tax return. If a firm pays out all of its earnings, there is effectively only one layer of tax, which is the tax on the shareholder. The dividend tax rate of domestic individual investors decreased considerably after the introduction of dividend imputation.

The net dividend received by a firm from its investment in another domestic firm is not included in its taxable income, and the amount of tax deductible from such income is included in the balance in its shareholder deductible tax account. However, an executive with substantial ownership may not distribute dividends to avoid tax obligation in the current year. Since 1998, if there are any retained earnings of the current year not distributed by a firm, an additional tax is levied on such undistributed retained earnings at a rate of 10%. In addition, individual taxpayers may not deduct NT\$270,000 worth of dividends on listed firms as a tax credit for themselves since January 1, 1999. The corporate law was amended again in 2011. A firm may distribute its paid-in surplus by issuing new shares or by using cash. This type of stock and cash dividend received by shareholders has not been included in their taxable income since January 2012.

The tax preference for dividends suggests that all firms increase both cash and stock dividends and payouts. In general, domestic individual investors and domestic corporate investors increase their shareholdings under dividend imputation. However, the tax rate on dividend income for foreign institutional investors does not change. Column 2 of Table 1 shows the tax rates on dividend income among various investors after the introduction of dividend imputation.

#### 3. Imputation tax and dividend payout

#### 3.1. Dividend payout and tax deductible rate

Lintner (1956) conducted a pioneering survey on financial executives to investigate how firms determine their dividend policy.

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