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Why are corporate payouts so high in the 2000s?

– Focusing on KOSPI listed firms –

한국기업의 고배당정책에 관한 실증분석

– 2000년대 유가증권시장 상장사를 중심으로–

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서울대학교 대학원
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Abstract

Why are corporate payouts so high in the 2000s?

- Focusing on KOSPI listed firms -

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The total amount paid out through dividends and net repurchase in the 2010s had more than doubled compared with those in the 2000s. This study examines if the extraordinary high payout ratio by the KOSPI listed firms since the 2010s can be explained by corporate characteristics. The findings partially support the life-cycle theory in that firms with less growth opportunities investing less in capital expenditures and advertising expense paid out more. However, age as a life-cycle stage proxy did not turn out to be significant. Furthermore, firms with financial constraint due to more leverage paid out less. In order to get practical perspective, this study also examines if the corporation earnings circulation taxes (CECT) law implemented in 2015 have any impact on the high payouts in the KOSPI market. The empirical results showed that the CECT law did not significantly contribute to the increased payout after 2015. The payout ratio by the KOSPI listed firms was the highest from 2015 to 2020.

Keywords: dividend, net repurchase, payout policy, life-cycle theory, corporation earnings circulation taxes (CECT)
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Chapter 1. Introduction

When firms decide on their payout policy, they consider various factors. The decision on payout policy is usually intertwined with other financing and investment decisions (Brealey et al., 2004). Some firms pay low dividends because they want to retain earnings for future investment opportunities. Other firms might pay high dividends to satisfy the shareholders by redistributing the retained earnings and take part in shareholder return. Managers pay dividend to convince shareholders to fund future firm projects (Myers, 2000).

There is no one particular factor that is found to affect the decision of a firm when it comes to its payout policy. Therefore, theories of dividend have developed over the years. The traditional theory is the signaling hypothesis of dividend policy. It asserts that managers of a firm use distribution of dividends to signal the market the true type of their company. Indeed, under information asymmetry, the insiders, who are best informed and the outsiders, who are badly informed, have different levels of information. And investors can evaluate the firm from the distribution of returns that they observe from signals transmitted to the market. Based on the signaling theory, several authors [Ross (1977), Bhattacharaya (1979), John and Williams (1985), Miller and Rock (1985)] support the idea that dividend policy allows the managers to signal the market the true type of the firm based on their futures perspectives. The action of increasing (decreasing) the dividend level would mean that managers have positive (negative) prospects toward the firm. As a result, the market must, normally react to these decisions by adjusting the shares price.

In terms of behavioral finance, Bakers and Wurgler (2004) asserted the catering theory which specifies the timing of dividend payout: when investors want to receive dividends, that is when the firm pays them. This is similar to Shefrin and Statman's (1984) clientele theory, which states that each individual has their own preference toward dividend and stock repurchases. The final choice between the two choices of payout policy will somehow narrow down to one policy. The authors suggest the preference might not be rational and the irrational choice comes from a lack of self-

control. For example, if an investor wants a long-running stable investment choice, he or she does not have self-control ability to manage the money received from firms' stock repurchases. Therefore, although capital gains bring a higher profit for the investor now, he or she would choose cash dividends with higher costs to maintain the stability of investment (Shefrin and Statman, 1984).

The most recent theory supported by DeAngelo et al. (2006), is the life-cycle theory, driven by a firm's need to distribute the free cash flow. Firms optimally decide dividends based on their opportunity set which varies over time. Profitability and investment opportunities are closely related to firms' life-cycle stages. The more mature the firm is, the more dividend is paid because they have higher profitability and less investment opportunities. This is in line with dividend distribution having a negative relationship with firms' growth opportunities (Fama and French, 2001). In the case of Taiwan, Wang, et al. (2011) find that dividend payouts are closely related to firms' life cycles, as younger firms with high growth opportunities and low profits pay less cash dividends and use more stock dividends.

There are not many papers about the life-cycle theory in Korea. According to Sohn and Lee (2015), life-cycle theory is evident in Korea during 1981 to 2013. Also, Lew (2015) conducted research on whether a firm's cash dividend policy affects its value in the stock market. The author tests tax preference, financial flexibility and life-cycle theories and conclude that cash dividend payout policy cannot be explained by one theory. Furthermore, payers, who pay dividends, have higher profitability, life-cycle stage, and amount of cash than nonpayers, who do not pay dividends (김성신, 2013). All of the aforementioned papers use retained earnings as the proxy of life-cycle stage. The earned capital identifies the life-cycle stage at which a firm currently finds itself by determining the extent to which the firm is self-financing or reliant on external capital and is a reliable measurement (DeAngelo et al., 2006). In this paper, following Kahle and Stultz (2021), age is used to determine whether life-cycle theory can explain the payout policy in the KOSPI market.

We first look at data from 1981 to 2020 to examine the growth of dividend and net repurchase. South Korea's economy grew a lot during the 2000s after the Asian Financial Crisis in 1997. So, we set the sample period

from 2000 to 2020 and we investigate why payouts are higher in the 2010s than 2000s. A firm's net payout is measured by adding dividend and net repurchase. Net repurchase is measured as acquisition of repurchases minus the resale of repurchases. The data for net repurchase in Korea is available after 2004. And corporate characteristics such as age, leverage, cash holdings, firm size, Tobin's q, R&D, acquisition, and capex is considered to investigate the relationship with payout rate. To adjust for inflation, we examine real won amounts using the price level in 2017. The payouts have increased over the years and the difference between the 2000s and 2010s is large. One thing to consider is the taxation law that was active in Korea from 2015 to 2017, Corporate Earnings Circulation Taxes (CECT). The purpose of the law is to circulate retained earnings of companies into household spending and boost the economy. If firms do not spend a certain amount in three categories: investment, salary increase, and dividends, they are taxed. Weights are specified to measure spending on these three criteria. Firms who are classified as chaebol in the annual reported list of firms from the Fair Trade Commission in Korea, and firms who have more than 50 million won worth of total equity (excluding small and medium size companies) is subject to the tax. From 2017 to 2020, the tax was revised to exclude dividends from the three categories but the purpose of the law is the same. Even though the required spending on dividends was taken out, the law is an extension of CECT so it must have affected the payout policy of firms (임동원, 2020).

In assessing how corporate characteristics affect the corporate payout policy throughout the sample period (1981-2020), the dependent variable is a firms' net payout normalized by operating income. Net payout is computed by adding dividend and net repurchase. The explanatory variables are firm characteristics that are widely used in the accounting literature. Three main hypotheses are tested throughout the study: (1) firms have higher payout rates in the 2010s than 2000s if they are older, larger, and have more free cash flow (2) firms have higher payout rates in the 2010s than 2000s if they are less financially constrained (3) firms have more higher payout rate if they are subject to Corporate Earnings Circulation Tax during 2015 to 2020.

We find that regardless of the subperiods (1) 1982 to 2020 (2) 2000 to 2020 (3) 2010 to 2020, most of the variables are related to payout rate with the same sign. Relating to the life-cycle theory, however, age is not significantly related to payout rate. But firms with more growth opportunities had lower payout rate throughout the entire sample period. Investment proxies, CAPEX is mostly negatively related to payout rate except for the payers during 2015 to 2020. Financial constraint, market leverage, is the most consistent result having a negative relationship with payout rate but firms with accounting loss turned out to payout more which will need further research. Looking into when payout increased the most, it is from 2015 to 2020. But the taxation law did not affect the payout rate.

Although there are active studies on the payout policy relating to dividends in Korea, only a limited number of studies are conducted on net payout dealing with dividends and net repurchase as a whole over the timespan of 1981 to 2020. Especially, this paper is the very first paper that studies the link between payout policy and life-cycle theory with the proxy of age instead of retained earnings. Overall, we hope this paper helps to deepen the understanding of how corporate characteristics impact payout policy in the Korean stock market.

The rest of the paper proceeds as follows: Section 2 describes the data and variables. Section 3 presents and discusses the empirical findings. Lastly, section 4 concludes.

Chapter 2. Data

In this section, we report the data used throughout the paper. We show summary statistics to examine the increase in payout rate comparing different time frames such as the 2000s, 2010s, period including the global financial crisis, and period after the enactment of Corporation Earnings Circulation Taxes (CECT).

2.1 The Sample

We collect yearly accounting data of all firms in the KOSPI stock market from January 1st, 1981, to December 31st, 2020, from FnGuide and

Ts2000 provided by the Korea Listed Companies Association. For the purpose of looking into the entire available period and examining the flow, data from 1981 is used to draw Figure 1. For the regressions in the empirical results, data period from 2000 to 2020 is used because the economy grew a lot from 1981 to 2020. Also, Korea's economy developed very much before and after the 1997 Asian Financial Crisis. The gross domestic product (GDP) in 1981 is 165.826 billion constant 2015 US dollars, compared to the GDP in 1999, 732.421 billion constant 2015 US dollars and GDP in 2020, 1.619 trillion constant 2015 US dollars (World Bank, 2021). The economy grew by 4.42 times from 1981 to 1999 and 9.763 times from 1981 to 2020. Data on dividend is available starting from 1981 but stock repurchase data is available from 2004. We exclude financial firms and utilities. We also exclude firms with missing data for total assets, dividends, and market capitalization.

We compute share repurchases as the purchase of common and preferred stock minus any resale of common and preferred stock. If repurchase or net repurchase yields a negative value, they are set to zero. Dividends are measured as cash dividends. Gross (net) payout is the sum of dividends and (net) repurchases. All won values are reported in real 2017 won using consumer price index (CPI).

Firm Size is the natural logarithm of the book value of total assets. *Market Leverage* is the ratio of total debt divided by total assets minus book equity plus market capitalization. *Cash* represents the total amount of cash and marketable securities divided by total assets. *Fixed asset* is Net Property, Plant, and Equipment (PPE) divided by assets. *Tobin's q* is total assets plus market capitalization minus book equity divided by total assets. *Accounting loss* is a dummy variable that has the value of one if net income plus discontinued operations divided by total assets is negative. And *age* is the years since KOSPI listing and *log(age)* is the natural logarithm of age. If *R&D* or *advertising* is missing, it is set equal to 0. ΔCash is cash minus lagged cash and ΔDebt is total debt minus lagged debt. FCF is calculated as Max (OCF-investment, 0) and *investment* is equal to capital expenditures plus acquisitions.

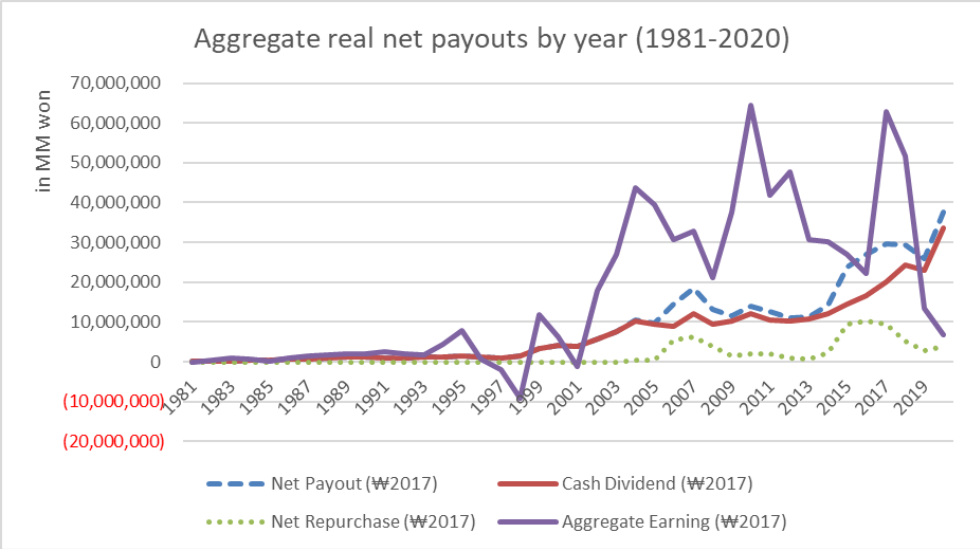

Fig 1. Aggregate real net payout by year

This figure shows aggregate real payouts (in 2017 Million won) from 1981 to 2020 for the sample of KOSPI firms described in Table 1. Net payout is cash dividend plus net repurchases. Net repurchases are calculated as acquisition of repurchases minus the resale of repurchases. If repurchase or net repurchase yields a negative value, repurchases are set to zero. Aggregate earning is net income minus cash dividend.

2.2. The increase in aggregate payouts

We first examine the aggregates of dividends, net payouts, earnings, and net repurchase from 1981 to 2020. Aggregate payouts are obtained by adding the won payouts of all firms in our sample and the same is done to dividends, net repurchase, and earnings. Aggregate earning is calculated by subtracting dividends from net income. As shown in Figure 1, aggregate real net payouts increase over time. The amount of net payout steadily increases before 2000 and significantly increases after 2000 to 2020. In the U.S., payouts are much higher in 2000-2019 than in 1971-1999 and the increase is driven by an increase in repurchases (Kahle and Stultz, 2021). However, the situation of repurchase is different in Korea. Evidently in Figure 1, the increase in net payout is mostly driven by the cash dividends instead of stock repurchases.

Aggregate real net payouts equal 276 billion won in 1981. They first exceed 1,000 billion won in 1988 when the Olympic took place in Korea. Net payouts fall to 975 billion won during the 1997 Asian Financial Crisis

but recover quickly to 3,279 billion won in 1999. In 2000, net payouts amount to 4,068 billion won and first exceed 10 trillion won in 2004. Compared to 2014 which recorded 14 trillion won, 2015 net payouts summed up to 23 trillion won.

From the summary statistics in Table 1, several periods are shown to compare. We refer to the period from 2000 to 2009 as the 2000s period. Similarly, the 2010s refer to 2010 to 2020. The pre-Global Financial Crisis (GFC) period is 2000 to 2007 and the period referring to 2015 to 2020 is considering Corporation Earnings Circulation Taxes (CECT) since the aggregate net payout increased 1.67 times over one-year period (2014 to 2015).

Column (1) of Panel A shows aggregate real net payouts. In the 2000s period, total real net payouts equal 99.214 trillion won. In the 2010s period, the total is more than twice the amount in the 2000s, 236.466 trillion won. From 2015 to 2020, 52% of the payouts in 2000 to 2020 is paid out. Additionally, yearly averages are shown. Again, the average of 2010s is about twice the amount in the 2000s. However, the average of 2015 to 2020 is larger than the 2010s (2010-2020) as a whole so there is a significant increase in net payout from 2015.

Column (2) and (3) of Panel A respectively illustrate the summary statistics for aggregate dividends and net repurchases. Total dividend payments are 81.477 trillion won during the 2000s and 236.466 trillion won during the 2010s, growing 2.3 times. For the average dividends, even though the number of years is almost the same for 2000s and 2010s, the average is significantly higher during 2010s. The same applies for net repurchase but data for stock repurchase is available from 2004, so the number of years is not exactly the same. The average annual dividend payment for the 2010s is 61 % higher than 2000s.

By taking a look at Figure 2, we can assess the change in dividend payout ratio. Dividend payout ratio is the percentage of earnings paid out as dividends (Brealey et al., 2004). In other words, it shows how much of retained earnings after expenses and taxes is paid out on dividends for the shareholders. In 1982, the dividend payout ratio is 28%. It exceeds 30% for the first time in 1984, but as the Korean economy develop and the number of listed companies increase, the ratio decreases to 26% in 1991, and further

decreases to 14% in 1995. The 1997 Asian Financial Crisis must have affected the payout ratio due to hardship in cash availability of firms. During 2000 to 2010, the payout ratio exceeds 20% only in 2007. There are ups and downs throughout the years until 2014. From 2014, the ratio starts from 21% and increases to 27% in 2018, finally exceeding 40% in 2019. Whether the increase in dividend payouts is due to the increase in income or net income is to be examined.

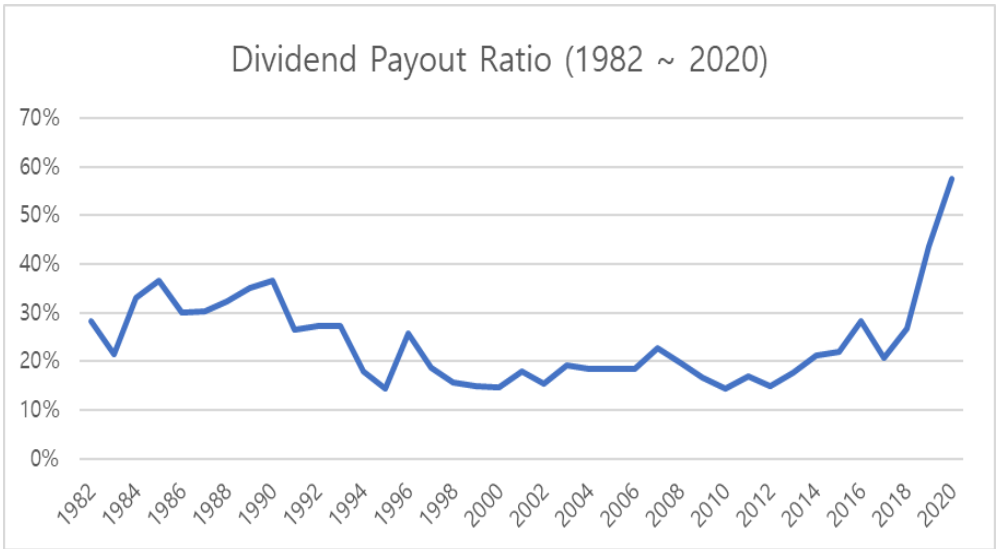

Fig 2. Dividend payout ratio in KOSPI market by year
This figure shows the dividend payout ratio in KOSPI market by year. The figure is from 1982 to 2020 for the sample of listed KOSPI firms described in Table 1. Dividend payout ratio is calculated as cash dividend divided by net income for all firms in the sample.

Payouts are payout rate multiplied by available income, where payout rate is the ratio of available income and payout. The definition of available income can be net income or operating income. Net income is commonly used, but operating income is used as a measure of a firm's ability to pay out (Jagannathan et al., 2000). Also, Kahle and Stulz (2021) mention how net income is problematic because it includes many transitory items. Comparing the sample of net income and operating income, there are fewer negative values in operating income throughout 1981 to 2020. Therefore, following Kahle and Stulz (2021), this paper also uses operating income as the standardizing variable for the independent variables. The corresponding

relationship between payout rate and operating income is as follows:

Payout = Payout rate x Operating income (1)

In equation (1), payout can either increase because income of a firm increases or the payout rate increases. To examine the income, column (4) of Table 1 show the total and average of operating income during 2000 to 2020. The total average before 2010 grew 1.53 times in 2010s. Also, the average annual operating income grew by only 1.08 times over the period. In columns (5) and (6), the averages of assets and market capitalization is shown respectively. The total average of 2000s grew by 2.14 times for assets, and 2.54 times for market capitalization. Looking at market capitalization, the size of firms seems to have increased over the years naturally. The growth of average annual for market capitalization is also bigger than asset, 1.82 times and 1.51 times respectively.

According to Fama and French (2002), there is evidence of disappearing dividends before 2000 in the U.S., and reappearing dividends in the 2000s (Michaely and Moin, 2020). However, the situation in Korea is different. The total dividend amount in 2010s increased 2.3 times compared to the 2000s and total net repurchase in 2010s increased 2.75 times. The increase of net payout is not entirely driven by net repurchase or dividend. Also, change in operating income cannot fully explain the increase in net payout.

2.3 Firm changes and increase payouts

In this section, we investigate how firms change over time and how these changes relate to the increase of payouts out of the total income. Previous finance literature provides corporate characteristics that are related to payout policy decisions.

There are many literatures on factors that affect payout policy decisions. In general, because young firms have more and better growth opportunities, they are not expected to pay their retained earnings as payouts in the form of dividends or net repurchase (DeAngelo et al, 2006). As firms age, they focus more on already purchased assets so we expect that kind of assets to be

Table 1

Aggregate firm characteristics

This table examines aggregate firm characteristics. Panel A shows aggregate total amounts and annual averages (in MM won) of firm characteristics, and Panel B shows ratios of key aggregate variables. All numbers are in 2017 won. The sample begins with all firms listed on KOSPI from 2000 to 2020. We exclude financial firms and utilities. We divide the sample into several time periods, including the 2000s (2000-2009) and 2010s (2010-2020). The 2010s is further divided into the period excluding global financial crisis (2000-2007), and enactment period of the Corporation Earnings Circulation Taxes (CECT) (2015-2020).

Panel A (in Million won)	(1) Net payout	(2) Dividends	(3) Net Repurchases	(4) Operating Income	(5) Assets	(6) Market Capitalization	(7) Gross Payout	(8) Gross Repurchases
Total 2000s	99,214,361	81,476,818	17,737,543	519,245,347	6,985,565,115	5,191,377,271	102,310,165	20,833,347
Total 2010s	236,466,251	187,614,226	48,852,024	795,114,123	14,953,432,071	13,179,574,287	237,438,342	49,824,116
Total pre GFC (2000–2007)	74,425,844	61,928,186	12,497,658	398,456,058	5,045,413,942	3,730,919,518	77,258,899	15,330,713
Total 2015–2020	73,168,303	132,165,509	41,002,793	458,278,725	8,941,062,753	8,034,949,226	173,253,862	41,088,352
Avg 2000s	19,581	3,377	104,426	1,396,908	1,024,059	20,185	3,982	3,377
Avg 2010s	32,900	6,813	113,071	2,113,348	1,859,707	33,047	6,961	6,813
Avg pre GFC (2000–2007)	18,822	3,021	102,992	1,304,067	947,669	19,518	3,717	3,021
Avg 2015–2020	42,746	10,306	113,472	2,210,006	1,982,401	42,768	10,328	10,306

Panel B	(1) Net payout/OI	(2) Dividends/OI	(3) Net Repurchases/ OI	(4) Net Repurchases/ Net Payout	(5) Net payout/ Assets	(6) Operating Income/ Assets	(7) Gross Repurchases/ Payout	(8) Gross Payout/OI
Avg 2000s	0.20704	0.18091	0.02613	0.05619	0.01071	0.04844	0.06355	0.18643
Avg 2010s	0.52756	0.42035	0.10721	0.11227	0.01091	0.03302	0.11852	0.52903
Avg pre GFC (2000–2007)	0.19839	0.18837	0.01002	0.03024	0.01033	0.04892	0.03426	0.19997
Avg 2015–2020	0.69762	0.61185	0.08578	0.11933	0.01138	0.02987	0.12421	0.69858

better managed at older firms. Furthermore, as firms' ability to engage in radical innovations that destroy competence falls as they age, it becomes less beneficial for them to engage in innovation (Henderson 1993, Acemoglu and Cao 2015). Also, firms with more growth opportunities should pay out less (Smith and Watts, 1992). Hence, we expect lower payouts for firms who invest less through R&D, capital expenditure, or acquisitions. So, we expect payouts to increase with firm age and size. Less engagement in radical innovation also means that the probability to experience a loss should decline with firm age. In addition, older firms increasingly pay out their excess cash flows because they lack positive net present value projects (Loderer et al., 2010). Financially constrained firms need flexible cashflow to survive, so we expect the payout rate to be lower for firms with high leverage or accounting losses. Tobin's q is commonly used as a proxy for growth opportunities. It is measured as the ratio of the market value of assets to the book value of assets. Firms with cash holdings have more internal resources to use for future spending so they are likely to pay out more (Jensen, 1986).

According to DeAngelo et al. (2004), aggregate payouts reflect the payouts of the largest firms. This means that a small number of firms represent a large share of aggregate dividends. We define the top 50 firms who payout the largest, top payers in each year. In our sample period, these firms account for the majority of the payout in each year. For the period 2000 to 2009, the top 50 paying firms account for 84.24% of the payout. And for 2010s, 50 firms with the largest dollar payouts represent 78.80% of the total payout. We show how corporate characteristics changed from 2000s to 2010s on three categories: firm performance and payouts, investment and balance sheet, and financing of payouts.

2.3.1 Firm payouts and performance

Shown in Panel A of Table 2, the average payouts of the top payer sum up to 221.54 trillion won in 2017 won during 2010s. During 2000s, the payout averages to 147.56 trillion won. The other payer's payout 3.1 trillion won during the 2000s and 5.04 trillion won in the next decade. Even though the nominal payout of top payer is significantly bigger, the percentage that

Table 2

Comparison of characteristics of high-payout firms with other paying firms

This table compares the characteristics of high-payout firms with other paying firms. In a given year, the firms with high payouts are firms that rank among the top 50 firms in won payouts for that year. Variables noted as in year t (t-1) are measured in the same year as (year before) the determination of whether a firm is a top payer. The sample consists of all firms listed in KOSPI from 2000 to 2020. ***, **, and * denote significance at the 1%, 5%, and 10% level, respectively, for differences in yearly averages.

Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		D2010s = 1			D2010s = 0			
	Top payer = 1	Top payer = 0	Diff. (1) vs. (2)	Top payer = 1	Top payer = 0	Diff. (4) vs. (5)	Diff. (1) vs. (4)	Diff. (2) vs. (5)
Performance & Payouts								
Net Payout ($2017)	221.54	5.04	216.49***	147.56	3.10	144.46***	73.98***	1.95***
Real OI ($2017)	659.81	27.52	632.29***	571.90	30.01	541.89***	87.9**	-2.49
Assets ($2017)	12056.86	933.65	11123.21***	7145.45	632.39	6513.06***	4911.41***	301.26***
Market Cap ($2017)	10276.45	610.55	9665.9***	5350.22	300.29	5049.92***	4926.23***	310.26***
Net payout / OI (t)	0.6809	0.5320	0.1488	0.4724	0.1805	0.2919*	0.2085	0.3516*
Age (t)	28.4073	28.7234	-0.3161	34.4480	33.6259	0.8221	-6.0407***	-4.9025***
OI / lagged assets (t-1)	0.0869	0.0347	0.0522***	0.1065	0.0521	0.0544***	-0.0196***	-0.0174***
NI / lagged assets (t-1)	0.0749	0.0196	0.0554***	0.0874	0.0302	0.0572***	-0.0125***	-0.0106***
Investments & Balance Sheet								
Capex / lagged assets (t-1)	2.6772	2.8681	-0.1909	0.0818	0.0555	0.0263***	2.5954***	2.8126***
Acq / lagged assets (t-1)	0.0500	0.0348	0.0151***	0.0690	0.0488	0.0202***	-0.019***	-0.0139***
R&D / lagged assets (t-1)	0.0157	0.0130	0.0027**	0.0096	0.0092	0.0004	0.0061***	0.0038***
SGA / Sales (t-1)	0.2046	0.1972	0.0075	0.1303	0.1661	-0.0358***	0.0743***	0.0311***
Advertising / Sales (t-1)	0.0162	0.0087	0.0074***	0.0103	0.0095	0.0008	0.0059***	-0.0008***
Tobin's q (t)	1.6592	1.2001	0.4591***	1.3456	0.9561	0.3895***	0.3136***	0.244***
Cash / assets (t-1)	0.0010	0.0048	-0.0038**	0.0081	0.0045	0.0037***	-0.0072***	0.0003
Market Leverage (t-1)	0.3183	0.4196	-0.1013***	0.4490	0.5512	-0.1022***	-0.1307***	-0.1316***
Funding Payouts								
Net payout / lagged assets (t)	0.0291	0.0094	0.0197***	0.0251	0.0093	0.0159***	0.0039*	0.0001
OCF / lagged assets (t)	0.0929	0.0410	0.0518***	0.1186	0.0484	0.0703***	-0.0257***	-0.0073***
Capex / lagged assets (t)	2.3896	2.6349	0.2453	0.0752	0.0523	0.0228***	2.3144***	2.5825***
Acq / lagged assets (t)	0.0458	0.0325	0.0134***	0.0627	0.0461	0.0166***	-0.0168***	-0.0136***
R&D / lagged assets (t)	0.0148	0.0126	0.0021**	0.0087	0.0087	0.00001***	0.006***	0.0039***
FCF / lagged assets (t)	0.0725	0.5651	-0.4926***	0.0347	0.0294	0.0053*	0.0378	0.5357***
ΔDebt / lagged assets	0.0168	0.0108	0.0060	0.0290	-0.0016	0.0306***	-0.0122	0.0124***
ΔCash / lagged assets	0.0010	0.0048	-0.0038**	0.0081	0.0045	0.0037	-0.0072***	0.0003

increase from 2000s to 2010s is larger for the other payers. The top payer's payout rate increases by 44.13%, from 47.04% to 68,09%. The sample of top payer is derived annually, so the top payer in one year can be a top payer in the following years or years before. On the other hand, the payout rate of the other payers increases by 194.81%, from 18.05% to 53.20%. The top payers who ranked the highest 50 firms in terms of payout amount continued to payout while the rest of the payers contributed more to the percentage of total payout increase over the years. As mentioned in the introduction, older, more successful firms have higher payout rates. However, the average age of firms in KOSPI market did not increase after 2010. Instead the average age actually decreased. For the top payers, the average decreased by 17.54%, from 34.45 years to 28.41 years. Similarly, for the other payers, the average declined by 14.58%, from 33.63 years to 28.72 years. This means that new firms listed during 2000s paid out a lot to be ranked in the top 50 firms in terms of net payout, lowering the average age.

Taking a look at firm performance variables, we use the lagged (t-1) values to examine investment and balance sheets. The income items of firms, operating income and net income both decreased. For the top payers, from 2000s to 2010s, operating income decreased 18.42%, from 10.65% to 8.69%. And for net income, it decreased 14.28%, from 8.74% to 7.49%. For the other payers, the operating income decreased by 33.44%, from 5.21% to 3.47%. The net income decreased by 35.13%, from 3.02% to 1.96%. For both net income and operating income, the decrease percentage was bigger for other payers than the top payers.

The increase of net payout is mostly driven by the top payers, but the percentage that increased is bigger for the other payer. Also, the market capitalization increased by 92.08% and 103.32%, for top payers and other payers, respectively from 2000s to 2010s. KOSPI firms almost grew two time over the period of 2000 to 2020. However, the idea that older firms payout more is not completely true in Korea since the average age of top payers decreased from 2000s to 2010s.

2.3.2 Investment and balance sheet characteristics

Older firms payout more because they have less growth opportunities which leads them to have more retained earnings to spend (DeAngelo et al., 2006). According to this theory, the investment should decrease more for older firms. In the case of Korea, the average age is similar for both top payer and other payers. However, for variables related to investment, the increase is different by the accounting item. For capital-expenditure-to-lagged-assets, the average is higher for the top payer in the 2000s but the situation changes in the 2010s. Also, the increasing percentage is greater for other payers, 50.68%, while the top payers increased 31.74% from 2000s to 2010s. For acquisition-to-lagged-assets, the amount decreased for both top payers and other payers over the years (27.59% and 28.60%). R&D is also used as a measure of growth opportunities (Billett et al., 2007). For R&D-to-lagged-assets, the top payers increased more, 63.36% compared to 41.35% for other payers. Also, the average amount is larger in the case of top payers for both periods.

For Tobin's q, the increase differs by approximately 2% between the top payer and other payers before and after 2010s. In both 2000s and 2010s, the average Tobin's q is higher for top payers. This means that if Tobin's q represents growth opportunities of companies, then top payers have more growth opportunities and invest more and payout less. Cash can also be a measure of investment since firms use cash as a safe asset. Top payer has higher cash holdings-to-assets during 2000s but lower cash holdings in 2010s (decreased by 88.28%). On the other hand, for other payers, cash holdings only increased by 6.99% from 2000s to 2010s. The change is not large compared to the top payers.

Chapter 3. Empirical Results

In this section, we present the results of regressions with yearly accounting data and net payout rate. We examine whether changes in firm characteristics is related to the increase in payout from the 2000s to 2010s. We utilize two methods: 1) pooled regression with standard errors clustered by firm and year 2) Fama-MacBeth regression to control effects caused by

Table 3

Relationship of corporate characteristics and net payout rate during 1981 to 2020

This table shows estimates of firm-level net payout rate regressions. Net payout rate is calculated as net payout as a fraction of operating income, for firms with positive operating income. Odd columns present results for all firms with available data and even columns present results for firms with positive net payout. All control variables are lagged relative to the dependent variable and all continuous variables are winsorized at the 1% and 99% levels. P-values are in parentheses; ***, **, and * denote significance at 1%, 5%, and 10% respectively.

	Net Payout Rate					
	Pooling				Fama-MacBeth	
	(1)	(2)	(3)	(4)	(5)	(6)
Market Leverage	-0.601***	-0.655***	-0.536***	-0.543***	-0.431***	-0.435***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Log(assets)	0.006	-0.012***	-0.001	-0.024***	-0.003	-0.02***
	(0.107)	(0.007)	(0.828)	(0.000)	(0.284)	(0.000)
OCF / lagged assets	-0.496***	-0.842***	-0.455***	-0.773***	-0.44***	-0.849***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Fixed assets	-0.049	-0.037	-0.004	0.035	0.048*	0.079**
	(0.115)	(0.360)	(0.902)	(0.415)	(0.058)	(0.017)
Tobin's q	-0.124***	-0.096***	-0.116***	-0.078***	-0.107***	-0.067***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)
RD / lagged assets	1.369**	1.368*	1.093*	0.942	2.601**	2.243*
	(0.036)	(0.066)	(0.097)	(0.209)	(0.025)	(0.054)
SGA / sales	0.445***	0454***	0.421***	0.41***	0.192***	0.193***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Advert. / sales	-2.775***	-3.420***	-2.493***	-2.967***	-1.795***	-2.178***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Capex / lagged assets	-0.004**	-0.005*	-0.008***	-0.011***	0.052***	0.043**
	(0.022)	(0.051)	(0.000)	(0.000)	(0.003)	(0.036)
Cash / assets	0.052	0.046	0.131**	0.181**	0.164***	0.207***
	(0.386)	(0.519)	(0.044)	(0.019)	(0.002)	(0.000)
Log(age)	-0.031*	-0.027	-0.008	0.011	-0.038***	-0.034**
	(0.068)	(0.170)	(0.678)	(0.613)	(0.007)	(0.051)
Acct. loss	0.034**	0.399***	0.037	0.365***	0.002	0.241***
	(0.049)	(0.000)	(0.113)	(0.000)	(0.914)	(0.000)

2000s dummy			0.02*	0.058***		
			(0.077)	(0.000)		
2010s dummy			0.106***	0.177***		
			(0.000)	(0.000)		
Constant	0.700***	1.088***	0.636***	1.001***	0.727***	1.05***
	(0.000)	(0.000)	(0.00)	(0.000)	(0.000)	(0.000)
Observations	14,084	11,386	14,084	11,386	14,084	11,386
Adjusted R-squared	0.075	0.095	0.079	0.101	0.128	0.089
Fixed Effect	No	No	No	No	No	No
Cluster	Firm & Year	Firm & Year	Firm & Year	Firm & Year	No	No

firms and year. We first conduct regression on the entire available period, 1982 to 2020 period, and then add 2000s and 2010s dummy. The difference between all sample and payers is compared also. Then the period of 2000 to 2020 is considered to take a deep look at our interested period, the 2010s, and whether changes in net payout can be explained by changes in firm characteristics.

3.1 The entire period (1982-2020)

In Table 3, we regress payout rates and lagged firm characteristics. In columns (1) and (2), pooled regression is used for the period 1982 to 2020. In columns (3) and (4), the same regression is done with period indicator variables of 2000s and 2010s. The indicator variable 2000s and 2010s takes value of one if it is during the 2000s and 2010s, respectively. The odd columns represent all firms and odd columns represent the sample of payers. According to life-cycle theory, older, larger, and more successful firms payout more because they have less growth opportunities (DeAngelo et al., 2006). The firm size is proxied by logarithm of assets and it is only negatively significant in the sample of payers. Logarithm of age is only significant under the 10% significance level in column (1). The age and firm size of KOSPI firms do not support the life-cycle theory.

Furthermore, if firms that have less growth opportunities invest less and payout more accordingly, the variables related to investment should be negatively related to payout rate. However, R&D is positively and significantly related to payout rate both in the entire sample and sample of payers. This implies that firms who spend more money on research pays out more. But on the other hand, capital expenditures, which is considered as an investment, is negatively significant at 10% level for payers and significant at 5% level for all firms.

Financially constrained firms have less cashflow to spend on payouts so it is expected to have a negative relationship with payout rates. This is in line for all samples and payers, throughout columns (1) to (6). However, accounting loss, which is a dummy variable for firms with negative values of net income plus discontinued operations, is mostly positively related in Table 3. Also, for advertising expense, the relationship with payout rate is

strong and negatively related. Firms who advertise more payout less. This makes sense since money spent on advertising means less money to spend on payouts such as dividends and repurchases.

For columns (3) and (4), period indicator variable for 2000s and 2010s is added. The result is almost the same with columns (1) and (2). The age variable is not significant and R&D is only significant in the entire sample. For both columns, the period indicator variables are significant but stronger for payers in the 2000s. It is shown that payouts significantly increased in 2000s and 2010s.

3.2 Testing for changes in the 2000s

As shown in Table 2, the amount of payouts significantly increased from the 2000s to 2010s. Table 4 further takes a look into 2000 to 2020 by adding two period indicator variables for the 2010s. The period is divided starting from 2015 because the Corporation Earnings Circulation Taxes (CECT) was enacted in 2015 and the dividend payout ratio increased in the late 2010s. Columns (1) and (2) take a look at pooled regression and columns (3) and (4) are results related to Fama-MacBeth regressions. Similar with Table 3, the odd columns show the sample for all firms and the even columns show payers only.

Throughout 2000 to 2020, the firm characteristic that affected net payout rate in Table 4 is similar with results in Table 3. Age and R&D is not significantly related to the payout rate. But they are both showing positive coefficients. For firm size, it is only significant for payers, and larger -sized payers payout less, which is consistent with the life-cycle theory. Financially constrained firms with more leverage payout less. However, firms with accounting losses payout more and this is more strongly significant for the sample of payers. Selling, general, and administrative (SG&A) and advertising expenses are used as proxies for intangible investment (Peters and Taylor, 2017). Firms with higher SG&A and lower advertising expense have higher payouts. Sample for all firms have higher coefficients relating to payout rates than payers in terms of SG&A.

For columns (3) and (4), Fama-MacBeth regression results are shown to control for firms and year throughout the sample. Similar results are derived with previous columns. The age variable is negatively and significant at 1%

Table 4

Relationship of corporate characteristics and net payout rate during 2000 to 2020

This table shows estimates of firm-level net payout rate regressions. Net payout rate is calculated as net payout as a fraction of operating income, for firms with positive operating income. Odd columns present results for all firms with available data and even columns present results for firms with positive net payout. All control variables are lagged relative to the dependent variable and all continuous variables are winsorized at the 1% and 99% levels. P-values are in parentheses; ***, **, and * denote significance at 1%, 5%, and 10% respectively.

Net Payout Rate

	Pooling		Fama-MacBeth	
	(1)	(2)	(3)	(4)
Market Leverage	-0.584***	-0.615***	-0.534***	-0.54***
	(0.000)	(0.000)	(0.000)	(0.000)
Log(assets)	0.001	-0.029***	0.001	-0.027***
	(0.857)	(0.000)	(0.866)	(0.001)
OCF / lagged assets	-0.714***	-1.214***	-0.70***	-1.24***
	(0.000)	(0.000)	(0.001)	(0.000)
Fixed assets	-0.007	0.038	0.024	0.065
	(0.869)	(0.479)	(0.584)	(0.267)
Tobin's q	-0.113***	-0.066***	-0.119***	-0.064***
	(0.000)	(0.000)	(0.000)	(0.000)
RD / lagged assets	0.929	0.813	0.775	0.558
	(0.173)	(0.296)	(0.232)	(0.468)
SGA / sales	0.438***	0.415***	0.332***	0.332***
	(0.000)	(0.000)	(0.000)	(0.000)
Advert. / sales	-3.082***	-3.708***	-2.623***	-3.194***
	(0.000)	(0.000)	(0.000)	(0.000)
Capex / lagged assets	-0.008***	-0.01***	0.060**	0.034
	(0.001)	(0.001)	(0.042)	(0.301)
Cash / assets	0.112	0.168	0.106	0.145*
	(0.200)	(0.106)	(0.113)	(0.058)
Log(age)	0.001	0.025	-0.025***	-0.010
	(0.942)	(0.277)	(0.276)	(0.713)
Acct. loss	0.053*	0.386***	0.021	0.32***
	(0.093)	(0.000)	(0.436)	(0.000)
2010-2014 dummy	0.01	0.028		
	(0.591)	(0.233)		
2015-2020 dummy	0.123***	0.16***		
	(0.000)	(0.000)		
Constant	0.636***	1.188***	0.731***	1.262***
	(0.000)	(0.000)	(0.000)	(0.000)
Observations	9,720	7,749	9,720	7,749
Adjusted R-squared	0.062	0.080	0.068	0.078
Fixed Effect	Year	Year	No	No
Cluster	Firm & Year	Firm & Year	No	No

level. This is consistent with the life-cycle theory, but considering the fact that rest of the regressions in Table 3 and 4 are not significant in terms of age, it needs further research. The smaller-sized firms have higher payout rate. This is in line with the fact that younger firms with more growth opportunities payout less, but this only applies to the payers. Also, intangible investment proxies, SG&A and advertising expense, are positively and negatively significant, respectively.

Evidently, the two-period indicator variable for (1) 2010 to 2014 and (2) 2015 to 2020 suggest when the net payout rate increased more than the other. From 2015, the indicator variable is significant at 1% level for both columns (1) and (2). This leads to the investigation of Corporation Earnings Circulation Taxes (CECT) on how it affected the increase in payout rate after 2015.

3.3 Effect of Corporation Earnings Circulation Taxes

There are previous literatures on the Corporation Earnings Circulation Taxes and how it actually affected companies after it was enacted. As mentioned before, the purpose of the law is to circulate retained earnings of companies into household spending and boost the economy. The three categories that were required to spend money on was salary increase, dividend, or investment in the ratio of (1:1:1). However, after 2015, it was found that firms were spending more money on dividend, so to reach the main goal, increase in wage, the ratio was adjusted to (1.5:0.5:1) to make firms spend less on dividend(임동원, 2020). The law was active from 2015 to 2017. In 2017, the law was revised to take dividend out of the requirements and include mutual aid promotion measurement and renamed to Investment and Mutual Aid Promotion Taxes. The new law's period is set for 2017 to 2020 and the purpose did not change. Taking these taxations into account, this section adds 2015 to 2020 period indicator variable and tax dummy.

The overall level of dividends decreased in the KOSPI and KOSDAQ market in 2015 but as time passed, firms paid out their earnings as dividends in order to avoid corporate tax. The enforcement of tax to make firms payout plays an important role to the financial decisions of the firms

(손판도 외, 2015). There are controversial literature on whether firms decreased their dividends in 2014 to make a financial state that is able to payout more in 2015 to fulfill the requirements of the CECT. According to 이예지 (2015), the level of dividend significantly decreased in 2014 to make resource available for 2015 payouts. On the other hand, there is a finding that firms did not manipulate dividend levels prior to the taxation (정남철 외, 2018). Also, there are research on the effectiveness of the law. According to 김성태& 박성욱, (2017), the law did not affect the payout policies of companies. And companies who are subject to the tax already are aged and have low growth opportunities which leads them to have high dividend payout ratio.

Table 5 assess the relationship of CECT with the increase in overall payout rate in the 2010s. Again, period indicator variable for 2015 to 2020 is added along with the tax dummy. Tax dummy has the value of one for firms who are classified as *chaebol* in the annual reported list of firms from the Fair Trade Commission in Korea, and firms who have more than 50 million won worth of total equity (excluding small and medium size companies). The list of *chaebol* is posted annually so the number of firms included in *chaebol* differs every year. The same firm can be included in all 6 years or only in part. As examined in Table 4, the payout rate significantly increased in 2015 to 2020 but the CECT did not significantly affect the payout policy.

Looking at column (1) which does not include the tax dummy, it is found that the entire sample, payers and non-payers, payout more if they are financially constrained (market leverage). Also looking at Tobin's q, if firms have more growth opportunities, they payout less to invest. Essentially, the investment variables, CAPEX, and advertising expenses are negatively related and significant at 1% level. So, if firms invest more, they payout less. However, similar with previous tables, SG&A is positively related to payout rate. SG&A could serve as proxy for intangible assets that are related to rents which helped firms harvest (Kahle and Stultz, 2021). In column (2), after adding the tax dummy, firm size became significant implying that smaller sized firms payout more. The coefficient sign of market leverage, OCF, Tobin's q, SG&A, advertising expense, capex, and accounting loss is consistent before and after tax dummy was added. The period indicator variable indicates that payout definitely increased from 2015 to 2020, but

the taxation did not lead firms to payout more.

Columns (3) and (4) are results of Fama-MacBeth regression in subperiods. Column (3) is from 2010 to 2014 while column (4) is 2015 to 2020. Column (4) includes the tax dummy for all firms. Similar with previous columns, financially constrained firms (high market leverage) payout out less. Also, firms with more growth opportunities payout less but this did not relate to the age of firms. Capex is positively and significantly related to net payout rate before 2015 but the significance disappears after 2015.

In Table 6 we estimate the same model for the period, 2010 to 2020, with period indicator variable for 2015 to 2020 and interact the indicator with firm characteristics. If tax did not significantly affect the payout policies, then firm characteristics after 2015 should be related. The odd columns contain the coefficients with no interactions and the even columns show the coefficients on interaction terms. Column (1a) is the entire sample and column (2a) is payers only. The only variable that is significant across all columns is market leverage. In fact, market leverage is significant throughout all the tables. The interactions suggest changes in market leverage have a larger effect after 2015. The importance in leverage relating to payout rate is very significant. Each of the interaction term for market leverage amplifies the effect of a change in the variable. For the entire sample, there is no other variable that is consistently significant. However, for payers, OCF and accounting loss is significant.

Table 5

Relationship of corporate characteristics and net payout rate during 2010 to 2020

This table shows estimates of firm-level net payout rate regressions. Net payout rate is calculated as net payout as a fraction of operating income, for firms with positive operating income. The sample is from 2010 to 2020. We exclude financial firms and utilities. Odd columns present results for all firms with available data and even columns present results for firms with positive net payout. All control variables are lagged relative to the dependent variable and all continuous variables are winsorized at the 1% and 99% levels. P-values are in parentheses; ***, **, and * denote significance at 1%, 5%, and 10% respectively.

	Net payout rate			
	Pooling 2010-2020		Fama-MacBeth 2010-2014	Fama-MacBeth 2015-2020
	(1)	(2)	(3)	(4)
Market Leverage	-0.678***	-0.677***	-0.374***	-0.896***
	(0.000)	(0.000)	(0.000)	(0.000)
Log(assets)	-0.005	-0.008***	-0.012	-0.002
	(0.497)	(0.000)	(0.276)	(0.876)
OCF / lagged assets	-0.887***	-0.897***	-0.160**	-0.008
	(0.000)	(0.000)	(0.065)	(0.895)
Fixed assets	-0.034	0.034*	-0.048	-0.008
	(0.570)	(0.575)	(0.588)	(0.895)
Tobin's q	-0.119***	-0.118***	-0.122***	-0.122***
	(0.000)	(0.000)	(0.007)	(0.001)
RD / lagged assets	0.641	0.643	0.531	0.890
	(0.416)	(0.415)	(0.665)	(0.272)
SGA / sales	0.438***	0.432***	0.341***	0.426***
	(0.000)	(0.000)	(0.034)	(0.011)
Advert. / sales	-2.560***	-2.529***	-0.401***	-4.004***
	(0.000)	(0.000)	(0.047)	(0.005)
Capex / lagged assets	-0.007***	-0.007***	0.012***	0.006
	(0.003)	(0.003)	(0.049)	(0.102)
Cash / assets	0.062	0.069	0.067	0.030
	(0.642)	(0.60)	(0.576)	(0.836)
Log(age)	0.008	0.009	-0.018	0.015
	(0.726)	(0.700)	(0.401)	(0.610)
Acct. loss	0.089*	0.09*	-0.027	0.109**
	(0.060)	(0.058)	(0.722)	(0.086)
2015-2020 dummy	0.121***	0.094***		
	(0.000)	(0.000)		
Tax dummy		0.038		0.052
		(0.259)		(0.283)
Constant	0.808***	0.849***	0.891***	0.933***
	(0.000)	(0.000)	(0.013)	(0.009)
Observations	5,598	7,749	5,598	7,749
Adjusted R-squared	0.061	0.061	0.055	0.062
Fixed Effect	No	No	No	No
Cluster	Firm & Year	Firm & Year	No	No

Table 6

Relationship of corporate characteristics and net payout rate during 2010 to 2020 with interactions

This table shows estimates of firm-level net payout rate regressions. Net payout rate is calculated as net payout as a fraction of operating income. for firms with positive operating income. We exclude financial firms and utilities. Numbered columns present results for the uninteracted variables, and the next column shows results for the variable interacted with an indicator for observations in the period 2015 to 2020. Odd column shows the sample for all firms and even columns show payers. All control variables are lagged relative to the dependent variable and all continuous variables are winsorized at the 1% and 99% levels. P-values are in parentheses; ***, **, and * denote significance at 1%, 5%, and 10% respectively.

	Net payout rate			
	(1a)	x2015	(2a)	x2015
Market Leverage	-0.372*** (0.000)	-0.49*** (0.000)	-0.407*** (0.000)	-0.478*** (0.000)
Log(assets)	-0.011 (0.147)	-0.015* (0.055)	-0.042*** (0.000)	0.008 (0.400)
OCF / lagged assets	-0.171 (0.341)	-1.284*** (0.000)	-0.565** (0.013)	-0.877*** (0.000)
Fixed assets	-0.052 (0.505)	0.002 (0.986)	-0.033 (0.742)	0.086 (0.564)
Tobin's q	-0.108*** (0.000)	-0.019 (0.486)	-0.083*** (0.000)	0.005 (0.867)
RD / lagged assets	0.244 (0.800)	0.627 (0.668)	-0.298 (0.776)	1.264 (0.441)
SGA / sales	0.371*** (0.000)	0.092 (0.576)	0.406*** (0.000)	-0.019 (0.916)
Advert. / sales	-0.635 (0.430)	-3.307*** (0.005)	-1.033 (0.237)	-3.442*** (0.007)
Capex / lagged assets	-0.009*** (0.007)	0.004 (0.385)	0.01** (0.013)	0.003 (0.569)
Cash / assets	0.086 (0.584)	-0.052 (0.831)	0.091 (0.618)	0.176 (0.557)
Log(age)	-0.019 (0.513)	0.029 (0.463)	-0.033 (0.346)	0.067 (0.150)
Acct. loss	0.002 (0.964)	0.122 (0.151)	0.251*** (0.012)	0.255* (0.100)
Constant	0.834*** (0.000)		1.586*** (0.000)	
Observations	5,598		4,503	
Adjusted R-squared	0.059		0.087	
Fixed Effect	No		No	
Cluster	Firm & Year		Firm & Year	

Chapter 4. Conclusion

The main contribution of this paper is about the empirical result of examining the relationship between payout rate which includes not only dividends but also net repurchase and corporate characteristics in the KOSPI market. We use data of 14,084 firm-year observations of listed firms in the KOSPI market during the period of 1982 to 2020. Also, we focus on the unique ownership structure of *chaebol* in South Korea finding extraordinary results. We examine which firm characteristics make firms payout more throughout the time period looking into (1) characteristics related to life-cycle theory, such as age, firm size, investment, and Tobin's q, (2) financial constraint variables, such as market leverage, cash holdings, and accounting loss, and (3) whether Corporation Earnings Circulation Taxes (CECT) affects the payout rate.

We elicit three results. First, increase of payout in the 2000s in KOSPI market cannot be fully explained by the life-cycle theory using age of firms. Also, R&D is not significantly related, but CAPEX, SG&A, advertising expense as a proxy of investment is significantly related to payout rate. Furthermore, firms with more growth opportunities payout more which is related to the life-cycle theory. Second, firms with financial constraint payout less. This is because they are not stable enough to issue dividends or stock repurchases and they have less resources to invest or payout. Market leverage is also consistently negatively related to payout rate throughout all the subperiods. Third, the CECT law did not significantly contribute to the increase in payout rate. It is evident that payout rate increased more from 2015 to 2020 than 2010 to 2014. However, even if firms are grouped depending on whether they are taxed or not did not make a difference in payout policies. This also applies to firms regardless of whether they are payers or not. From 2015 to 2020, firms who have less market leverage, OCF, advertising expense paid out more than others. These factors cannot be explained by one theory so further research is needed on the relationship of the variables for life-cycle stage and the payout rate.

Bibliography

김성신. (2013). 기업은 왜 배당을 지급하는가?. 한국기업의 자료를 이용한 수명주기이론에 대한 실증분석. 경영학연구, 42(3), 743-766.

김성태, & 박성욱. (2017). 기업소득환류세제 도입에 따른 배당, 투자, 임금증가에 관한 연구. 조세연구, 17(4), 61-93.

김우진, & 임지은. (2017). 한국 기업의 자사주 처분 및 소각에 관한 실증 연구. 한국증권학회지, 46(1), 35-60.

류성희. (2015). 한국기업의 배당정책과 기업가치와의 관계연구. 한국경영교육학회, 30(5), 175-216.

손판도, & 이준석. (2015). 배당의 라이프사이클이 존재하는가?. 금융공학연구, 14(1), 133-151.

심준용, 허진숙, & 이만우. (2018). 기업소득 환류세제가 기업 재무의사결정에 미치는 영향. 회계정보연구, 36(1), 331-359.

이예지. (2015). 기업소득 환류세제 및 배당소득 증대세제가 상장기업의 배당정책에 미치는 영향. 한국세무학회 추계학술발표대회 발표논문집, 한국세무학회.

임동원. (2020). 투자·상생협력촉진세제의 연장 시 문제점 검토. 한국경제연구원.

정남철, 윤성수, & 정석우. (2018). 기업소득 환류세제와 조세전략. 세무학연구, 35(2), 141-178.

Acemoglu, D., and Cao, D., 2015, Innovation by entrants and incumbents, Journal of Economic Theory 157, 255-294.

Baker, M., and Wurgler, J., 2004, A catering theory of dividends, Journal of Finance 59, 1125-1165.

Bhattacharya, S., 1979, Imperfect information, dividend policy, and “the

bird in the hand" fallacy, Bell of Journal of Economics 10, 259-270.

Billett, M. T., King, T. H. D., and Mauer, D. C., 2007, Growth opportunities, choice of leverage, debt maturity, and covenants, Journal of Finance 62(2), 697-730.

Brealey, R. A., Myers, S. C., and Marcus, A. J., 2004, Fundamentals of Corporate Finance, McGraw Hill.

DeAngelo, H., DeAngelo, L., and Stulz, R., 2006, Dividend policy and earned/contributed capital mix: A test of the Life-cycle theory, Journal of Financial Economics 81, 227-254.

DeAngelo, H., DeAngelo, L., and Skinner, D., 2004, Are dividends disappearing? Dividend concentration and the consolidation of earnings, Journal of Financial Economics 72, 425-456.

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

Fama, E. F., and French, K. R., 2001, Disappearing dividends: Changing from characteristics or lower propensity to pay?, Journal of Financial Economics 60, 3-44.

Henderson R, 1993, Underinvestment and incompetence as responses to radical innovation: Evidence from the photolithographic alignment equipment industry, Rand Journal of Economics 24(2), 248-270.

Jagannathan, M., Stephens, C. P., and Weisbach, M. S., 2000, Financial flexibility and the choice between dividends and stock repurchases, Journal of Financial Economics 57(3), 355-384.

Jensen, M., 1986, Agency costs of free cash flow, corporate finance, and takeovers, American Economic Review 76, 323-329.

John, K., and Williams, J., 1985, Dividends, dilutions and taxes: A signaling equilibrium, Journal of Finance 40, 1053-1070.

Kahle, K., and Stulz, R., 2021, Why are corporate payouts so high in the 2000s?, Journal of Financial Economics 142(3), 1359-1380.

Loderer, C., Stulz, R., and Waelchli, U., 2017, Firm rigidities and the decline in growth opportunities, Management Science 63(9), 3000-3020.

Loderer, C., and Waelchli, U., 2010, Protecting minority shareholders: Listed versus unlisted firms, Financial Management 39(1), 33-57.

Michaely, R., and Moin, A., 2020, Disappearing and reappearing dividends, Journal of Financial Economics, forthcoming.

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

Myers, S., 2000, Outside equity, Journal of Finance 55, 1005-1037.

Peters, R. H., and Taylor, L. A., 2017, Intangible capital and the investment -q relation, Journal of Financial Economics 123(2), 251-272.

Ross, S. A., 1977, The determination of financial structure: The incentive signaling approach, Bell Journal of Economics 8, 23-40.

Shefrin, Hersh M., and Statman, M., 1984, Explaining investor preference for cash dividends, Journal of Financial Economics 12(2), 253-282.

Smith, C. W., and Watts, R., 1992, The investment opportunity set and corporate financing, dividend, and compensation policies, Journal of Financial Economics 32, 263-292.

Wang, Ming-Hui, Mei-Chu Ke, Day-Yang Liu, and Yen-Sheng Huang, 2011, Dividend policy and the life-cycle hypothesis: Evidence from Taiwan, International Journal of Business and Finance Research 5(1), 33-52.

World Bank, (2021), GDP (constant 2015 US$) Data, World Bank, retrieved from data.worldbank.org/indicator/NY.GDP.MKTP.KD?end=2020&locat

ions=KR&start=1960&view=chart.

국문 초록

한국기업의 고배당정책에 관한 실증분석 : 2000년대 유가증권시장 상장사를 중심으로

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2010년 이후 우리나라 유가증권시장 상장사들의 배당금과 자사주순매입(자사주매입-자사주매도) 금액은 2000-2009년 기간에 비해 두 배 이상 증가하였다. 본 논문은 유가증권시장 상장사들의 이례적인 고배당정책을 기업특성으로 설명할 수 있을 지를 실증적으로 분석해보고자 한다. 실증분석 결과, 성숙기에 접어들어 성장기회가 비교적 적은 기업들은 자본투자와 광고비용지출을 감소시키고 그 대신 배당지급을 증가시킨 것을 확인할 수 있었다. 이러한 결과는 수명주기이론(Life-Cycle Theory)과 일치한다. 하지만 기업의 성장단계를 나타내는 나이 변수는 유의하지 않았다. 수명주기이론에 따르면 기업의 성장기에는 내부유보가 증가하지만, 성숙기에는 배당금지급이 증가한다. 실무적인 차원에서, 2015년에 도입된 투자·상생협력촉진세가 상장사들의 고배당정책에 영향을 미쳤는지도 살펴보았다. 이 세제는 2015년 이후의 순배당금 증가분을 설명하지 못하는 것으로 나타났다. 유가증권시장 상장사들의 배당수준은 2015-2020년 기간 동안 가장 높았다.

주요단어 : 배당, 자사주 순매입, 수명주기이론, 투자·상생협력촉진세
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