



## 저작자표시-비영리-변경금지 2.0 대한민국

이용자는 아래의 조건을 따르는 경우에 한하여 자유롭게

- 이 저작물을 복제, 배포, 전송, 전시, 공연 및 방송할 수 있습니다.

다음과 같은 조건을 따라야 합니다:



저작자표시. 귀하는 원저작자를 표시하여야 합니다.



비영리. 귀하는 이 저작물을 영리 목적으로 이용할 수 없습니다.



변경금지. 귀하는 이 저작물을 개작, 변형 또는 가공할 수 없습니다.

- 귀하는, 이 저작물의 재이용이나 배포의 경우, 이 저작물에 적용된 이용허락조건을 명확하게 나타내어야 합니다.
- 저작권자로부터 별도의 허가를 받으면 이러한 조건들은 적용되지 않습니다.

저작권법에 따른 이용자의 권리는 위의 내용에 의하여 영향을 받지 않습니다.

이것은 [이용허락규약\(Legal Code\)](#)을 이해하기 쉽게 요약한 것입니다.

[Disclaimer](#)

Master's Thesis of Finance

The driving forces of increasing payouts  
of Korean firms in the 2010s  
– Why do Korean firms pay more in the 2010s? –

2010년대 주주 환원정책의 확대 요인에 대한 연구

February 2023

Graduate School  
Seoul National University  
Finance Major

Yun, Jung Ik

# The driving forces of increasing payouts of Korean firms in the 2010s

– Why do Korean firms pay more in the 2010s? –

Kho, Bong-Chan

Submitting a master's thesis of  
Business Administration

December 2022

Graduate School  
Seoul National University  
Finance Major

Yun, Jung Ik

Confirming the master's thesis written by

Yun, Jung Ik  
January 2023

Chair                      JOH, SUNG WOOK (Seal)

Vice Chair              SEO, KYOUNGWON (Seal)

Examiner                KHO, BONG-CHAN (Seal)

## Abstract

While financial economists worried about “disappearing dividends” (Fama and French, 2001), Korean firms constantly increased payouts to its investors as the Korean economy recovered from the Asian financial crisis in the late 1990s. At the same time, interest cuts, economic recession and its aftermath following the global financial crisis limited capital gains opportunities for many investors in the 2010s. As a result, investor preference in higher dividend payments peaked, motivating firms to pay more.

The average annual inflation-adjusted net payouts, calculated as the sum of dividends paid and stock repurchases, less equity issuance by public industrial firms is 19.89% higher in the 2010s than the 2000s. Among the increase in payout, aggregate corporate income accounts for 10.43% of the increase, and an increase in the payout rate accounts for 89.57%. Such increase in the payout rates is not only because firms are bigger and profitable, but also because they are less financially constrained compared to the early 2000s when the economy was still recovering from the Asian financial crisis. Firms that are under the close monitoring of institutional investors paid out less than those who weren't.

This research tests whether corporate characteristics can explain the high dividend payments paid by KOSPI listed firms. The results reassure the increasing trend of dividends and find statistically significant factors that drive this increase between 2015 and 2017, when the reflux tax burdens act was in effect.

**Keyword :** Payout Policy, Dividends, Share Repurchases, Corporate Governance

**Student Number :** 2021-23232

# Table of Contents

<b>Chapter 1. Introduction .....</b>	<b>1</b>
<b>Chapter 2. Data.....</b>	<b>4</b>
2.1. The sample.....	4
2.2. Variable construction .....	4
2.3. The increase in aggregate payouts .....	5
2.4. Increase in income or increase in payout rate?.....	6
2.5. Firm changes and increased payouts .....	8
<b>Chapter 3. Empirical Results .....</b>	<b>12</b>
3.1. Predicting payouts in the 2000s.....	12
3.2. Which firm characteristics matter the most? .....	18
3.3. Does the sensitivity of payout rates to firm characteristics increase? .....	18
<b>Chapter 4. Conclusion.....</b>	<b>21</b>

**List of Tables and Figures**

**Table 1.....4**  
**Table 2.....7**  
**Table 3.....10**  
**Table 4.....14**  
**Table 5.....17**  
**Table 6.....19**

**Fig. 1.....5**  
**Fig. 2.....8**  
**Fig. 3.....16**

# Chapter 1. Introduction

Dividends play an important role in corporate management because dividends provide certainty about a company's positive performance to its investors. However, according to agency theory, dividend payments create major conflicts in between shareholders and their agent, the manager. Manager's power does not increase by paying more dividends and doing good to the investors. In fact, paying less and having more wealth under their control empowers them. On the other hand, investors are motivated to closely monitor the manager's behavior to ensure maximization of their wealth. The question of how much dividend should be paid to the investors is one of the most discussed questions in the world of corporate finance.

Yet, there is not a single model that successfully explains the optimal amounts of dividends that should be paid by firms. Bhattacharya (1979) suggest that managers signal the market with internal information on earnings through dividends. Rozeff (1982) suggest that the optimal amount of dividend paid is determined by balancing out the agency cost and transaction cost. Lintner (1956) suggests that risk is an important factor in determining a firm's dividend policy. Catering theory by Baker and Wurgler (2004) suggest that investor demand for dividend drives dividend policies. Catering theory would suggest that in times like the 2010s, where the global financial crisis and its aftermath limited the number of capital gains opportunities for investors and interest rates are at its lowest, firms will be motivated to pay more. Consequently, investors will turn their eyes to high dividend paying firms.

However, Miller and Rock (1985) document market's negative reaction to dividend cuts. In other words, managers are hesitant to cut dividends because it delivers a negative signal to the investors. Once a firm starts paying a certain level

of dividends, it becomes very reluctant to lowering it. This interpretation leads to the development of the notion that dividend policy is a communication device used by managers to signal future performance to investors.

On the other hand, literature suggest dividends and share repurchases are pro-cyclical. According to Jagannathan et al. (2000), U.S. corporations use stock repurchases and dividends in different times. While dividends are linked to permanent operating cash flows, stock repurchases are linked with higher temporary operating cash flows. The use of both dividend and stock repurchases is plausible because the U.S. market does not expect firms to hold onto stocks repurchased from the market. They are assumed to be automatically retired and disappeared from the market. Based on this notion, numerous research conducted in the U.S. focus on both dividends and share repurchases as a whole. Skinner (2008) and Kahle and Stulz (2021) adds to this theory by reporting an increasing trend in total payouts within U.S. firms where the growing amount of share repurchases account for a big part of the increase.

In this paper, I follow Kahle and Stulz (2021) to look into both dividends and repurchases of Korean firms in between 1993 to 2021 to establish the fact that Korean firms pay more in the 2010s compared to the 2000s. I mainly focus on the effects of the reflux tax burdens in between 2015 and 2017 and find that the tax burdens act had some effects in the payer companies. However, the overall sample lost significance during the period.

Unlike research conducted in the U.S., in my data, the average share repurchases remain constant. The majority of payouts and its growth were results of growing dividends. This is consistent with the findings of Woojin Kim and Jieun Lim



(2017), which suggest that Korean firms resell most of the repurchased stocks back to the market, instead of retiring them. Within Korean firms, share repurchases are considered a measure to payouts to its investors. Instead, they are mostly utilized as an anti-takeover mechanism to protect incumbent controlling shareholders from possible takeover threats.

Moving forward, I will investigate why net payouts, calculated as sum of dividends and net share repurchases, are higher in the 2010s, specifically after 2014. To adjust for inflation, 2018 Korean Won values obtained by adjusting for the CPI index, are used in this research. I will first establish the growing pattern of payout rates. Then, I will show the changes in each subperiods. To understand the increase in payouts, I will compare the actual increase in payouts with the estimated payout assuming the same propensity to pay within firms and show that growth in operating income accounts for 36.67% of the payout increase.

In the following sections, I investigate whether firms (both all firms and paying firms) have changed in between the subperiods while focusing on the changes at 2015 and 2018, where the reflux tax burdens were activated and deactivated. Then, I will investigate firm characteristics that might have affected the payout rates. Moving forward, I will break down the factors used in the model to estimate each factor's impact on the estimation. Lastly, I will use a prediction model to predict net payouts using coefficients estimated from 2000s data and interacted values of each subperiods.

## Chapter 2. Data

### 2.1 The Sample

My initial data source is all firms in Data Guide from 1993 to 2021. Data begins in 1993 because data on dividends and share repurchases are most likely omitted due to frequent make-up accounting practices that were done within Korean firms in the 1990s. I exclude financial firms and utilities firms because of their unique capital structures and regulatory restrictions. Following Kahle and Stulz (2021), I also exclude firms with missing data for total assets and market capitalization.

### 2.2. Variable Construction

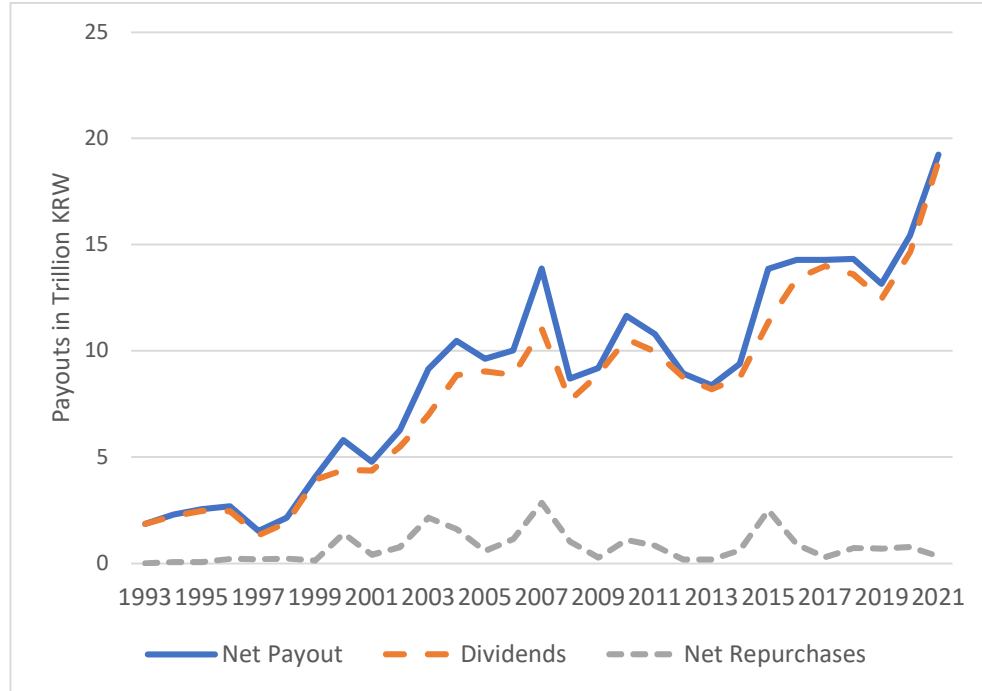
The most important variable of all, net payout rate, is measured as the sum of net repurchases and total dividends, divided by operating income. Net repurchases are repurchases of common and preferred stocks, less equity issuance. If net repurchases are calculated at a negative value, they are replaced with a value of 0. Dividends are cash and stock dividends. All Won values are reported in real 2018 Korean Won using the Consumer Price Index.

**Table 1**  
Variable Definitions

Dividends	Cash dividends + Stock dividends
Repurchases	Purchase of common and preferred stocks
Net Repurchases	Repurchases - equity issuance
Net Payout	Sum of dividends and net repurchases
Gross payout	Sum of dividends and repurchases
Tobin's q	Market value of assets divided by the book value of assets
Fraction with accounting losses	Fraction of firms with a negative Net Income
Age	Years since KOSPI listing
Delist Dummy	Firm that are delisted from the KOSPI market gets assigned the value of 1 for delist dummy during the last 5 years of operation. Years prior to that, or firms that are still listed on the KOSPI market are assigned a 0 for this dummy.

### 2.3. The increase in aggregate payouts

I begin by examining the aggregate payouts from 1993 to 2021. Aggregate payouts are obtained by summing the dollar payouts of all firms in the sample. As shown in Fig. 1, aggregate payouts increase over time. Starting from 1.86 Trillion KRW in 1993, they first pass 10 Trillion KRW in 2004. During the global financial crisis, they fall below the 10 Trillion mark and forms near 10 Trillion KRW until 2015, where there is a dramatic lift in payouts. This is believed to be because of the Corporate Income Circulation Taxes Act that went into effect in 2014. After the economic boost after the Covid 19 crisis, net payout peaks at 19.24 Trillion KRW in 2021.



**Fig. 1.** Aggregate real net payouts by year. This figure shows aggregate real payouts (in 2018 trillion Korean Won) from 1993 to 2021 for the sample of listed firms described in Table 1. Dividends is the sum of cash and stock dividends paid throughout the year. Repurchases are calculated as the purchase of common and preferred stock. Net repurchases is calculated as stock repurchases less equity issuance. If either calculation yields a negative value, net repurchases are set to zero. Net payout is the sum of dividends and net share repurchases.

Table 2 provides summary statistics for the entire sample periods. I divide the full sample into four subsample periods. 1990s (1993 – 1999), 2000s (2000 – 2009), 2010s (2010 – 2019), and Post Covid (2020 – 2021). Sample periods are dissected to consider the Asian financial crisis, 2008 Global financial crisis and Covid19 crisis.

Column (1) of Panel A shows aggregate Net Payouts. In the 1990s, total net payout is 17.2 Trillion KRW. In the 2000s, the total is 87.85 Trillion KRW, which is more than 5 times than the 1990s. In the 2010s, net payout totals 119 Trillion KRW. Comparing the 2000s and 2010s, total market capitalization was almost twice as big in the 2010s. However, operating income did not grow much both in total and in average. Most importantly, dividends accounted for 86.09% of the total payouts in the 2000s. In the 2010s, 93.29% of payouts were dividends, due to the 40.77% decrease of net repurchases and 33% increase in dividends. Such changes result in a total increase of 22.73% in net payouts.

As average net payout rate increases by 3.72 percentage points in the 2010s, firms are less profitable compared to size. The average operating income over total assets decreases by 1.05 percentage points. However, firms tend to increase their payout rates. This is consistent with my expectations that firms are more likely to cater the investor needs of higher dividends.

#### **2.4. Increase in income or increase in payout rate?**

A firm's total payout consists of two factors. The total income, and the

**Table 2**

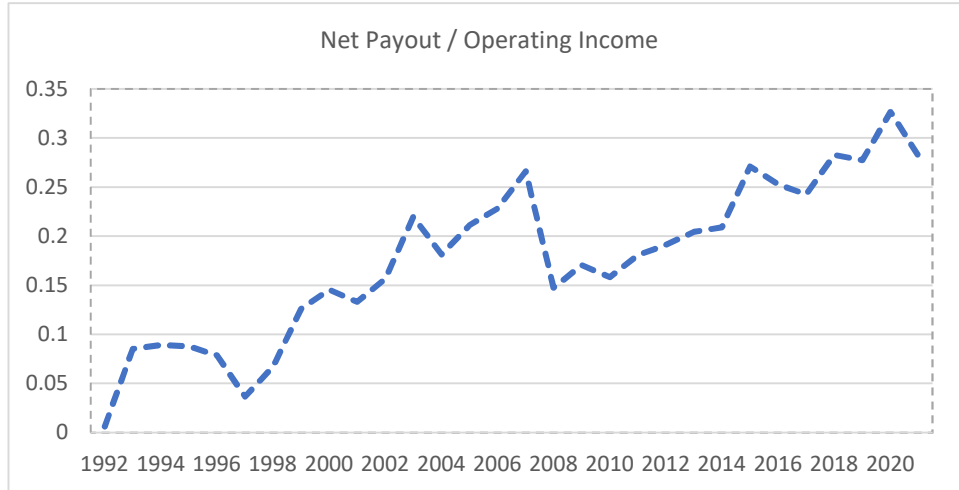
This table examines aggregate firm characteristics. Panel A shows aggregate total amounts and annual averages (in Million Korean Won) of firm characteristics, and Panel B shows ratios of key aggregate variables. All numbers are in 2018 won values. The data consists of all KOSPI firms with data availability on FnGuide in between 1993 and 2021. Financial and utility firms are excluded. Following Kahle and Stulz, I also exclude firms with missing data for total assets, dividends, and market capitalization. The sample is divided into several time periods, including pre 2000s (1993-1999), post 2000s (2000-2009), 2010s (2010-2019) and post covid (2020-2021).

Panel A	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(in MM KRW)	Net Payout	Dividends	Net Repurchases	Operating Income	Assets	Market Capitalization	Gross Payout	Gross Repurchases
Total 1990s	17,228,900	16,323,603	905,297	236,496,769	5,566,456,448	1,144,246,231	17,622,737	1,299,133
Total 2000s	87,852,908	75,628,236	12,224,672	469,166,831	12,033,725,465	4,219,539,289	88,177,931	12,549,695
Total 2010s	119,034,628	111,045,222	7,989,406	530,220,422	18,624,115,057	8,626,926,037	119,225,002	8,179,780
Total Post Covid	34,661,343	33,562,515	1,098,828	115,459,150	4,905,597,826	2,538,615,007	34,695,922	1,133,407
Avg 1990s	3,675	3,482	193	50,447	1,187,384	244,080	3,759	277
Avg 2000s	14,052	12,097	1,955	75,043	1,924,780	674,910	14,104	2,007
Avg 2010s	17,246	16,089	1,158	76,821	2,698,365	1,249,917	17,274	1,185
Avg Post Covid	23,611	22,863	749	78,651	3,341,688	1,729,302	23,635	772

Panel B	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Net Payout / OI	Dividends / OI	Net Repurchases / OI	Net Repurchases / Net Payout	Net Payout / Assets	OI / Assets	Gross Repurchases / Payout	Gross Payout / OI
Avg 1990s	0.0729	0.0690	0.0038	0.0525	0.0031	0.0425	0.0754	0.0745
Avg 2000s	0.1873	0.1612	0.0261	0.1391	0.0073	0.0390	0.1428	0.1879
Avg 2010s	0.2245	0.2094	0.0151	0.0671	0.0064	0.0285	0.0687	0.2249
Avg Post Covid	0.3002	0.2907	0.0095	0.0317	0.0071	0.0235	0.0327	0.3005

level of payout. This means that an increase in payout could be the byproduct of an increase in any of the two factors. In columns (4) of Table 2, operating income grows from by 13.01%, while Net Payout in Column (1) increases by 35.50%. Holding constant the payout rate of the 2000s, the increase in operating income only predicts 36.67% of the increase in net payouts. The remaining 63.33% is a result of increasing payout rates of firms in the 2010s.



**Fig. 2.** Net payout rate by year. This figure shows the aggregate net payout rate from 1993 to 2021 for the sample of listed firms described in Table 1. Net payout is the sum of dividends and net share repurchases. The net payout rate is the sum of net payout divided by the sum of operating income for all firms in the sample.

Fig. 2 shows the net payout rate over time for the full sample period. Net payout rate is under 10% during the 1990s. This is most likely because of the Asian financial crisis that also impacted the Korean economy. However, starting from 1999, net payout rates show a right-upward slope until 2008, when the global financial crisis took place. After a steady increase for the next 5 years, net payout rate is greater than 25% and stays at a very high level until 2021.

## 2.5. Firm changes and increased payouts

As discussed earlier, the increase in the aggregate payout rate accounts for a bigger part of the increase in net payouts. In this section, I look into the changes of firm characteristics that might have affected the payout rates. According to the life cycle theory, young firms tend to reinvest a bigger chunk of their earnings for growth opportunities. I use expenditure, R&D, acquisitions, advertising, Tobin's  $q$  as a measure for growth opportunities and expect these variables to be negatively correlated with net payout rates. On the other hand, older, successful firms have limited room for growth and therefore pay more to its investors. Hence, I expect the payout rate to increase with firm age and size. Also, firms that are financially constrained or are suffering from accounting losses are not likely to pay to its investors due to their financial status. Different types of leverages, interest, and delist dummy which indicates whether a firm had been delisted within the next 5 years, are variables that are expected to have a negative coefficient, while FCF coefficients are expected to be positive.

Table 3 compares the characteristics of high-payout firms with other paying firms in Panel A and the characteristics of firms that pay with firms that don't in Panel B. When comparing columns (1) and (2) of Panel A, the top 50 payers on average pay significantly more than other payers. They are not only more profitable with a higher operating income, but they are also bigger in asset size and market capitalization. However, in the 2010s, top payers are younger than other payers. This is because of the recent split IPOs of big firms such as LG, GS. These firms split themselves and re-issue them on the stock market. These newly separated companies are young but big, profitable, and high paying from year one. Results in Panel B is similar to those shown in Panel A.

**Table 3**

This table compares the characteristics of the top paying firms with the other paying firms in Panel A. Panel B compares firms with payouts and those who don't. In a given year, 50 firms with the highest net payout are classified as the top payers. Lagged variables with time t are measured in the same year as the year where firms are classified as a top payer (or payer). Lagged variables with time (t-1) are lagged by a year to the previous year to avoid any effects of a "good year" of firms that newly make it to the top payers list. \*\*\*, \*\* 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)
	2010s			Pre-2010 (1992-2009)				
	Top-payers	Other payers	Diff. (1) vs. (2)	Top-payers	Other payers	Diff. (4) vs. (5)	Diff. (1) vs. (4)	Diff. (2) vs. (5)
<b>Performance &amp; Payouts</b>								
Net payout (2018 krw)	183,955.79	4,935.31	179,020.48***	79,035.82	2,395.10	76,640.72***	104,919.97***	2,540.21***
Real OI (2018 krw)	673,261.12	28,087.58	645,173.54***	429,420.70	27,713.89	401,706.81***	243,840.42***	373.69
Assets (2018 krw)	17,842,628.01	1,341,347.99	16,501,280.02***	8,323,308.06	788,752.85	7,534,555.21***	9,519,319.95***	552,595.14***
Market Cap (2018 krw)	9,824,506.84	588,829.44	9,235,677.40***	2,796,560.71	207,193.34	2,589,367.37***	7,027,946.13***	381,636.10***
Net payout / OI (t)	0.4820	0.3634	0.1186	0.3342	0.166	0.1682	0.1478	0.1974
Age (t)	23.03	23.86	-0.83	17.70	15.60	2.1***	5.33***	8.26***
OI / lagged assets (t-1)	0.06	0.0277	0.0369***	0.0776	0.0416	0.036***	-0.013***	-0.0139***
NI / lagged assets (t-1)	0.0541	0.0136	0.0405***	0.0491	0.0044	0.0447***	0.005*	0.0092***
<b>Investments &amp; Balance Sheet</b>								
Capex / lagged assets (t-1)	0.0011	0.0064	-0.0053***	0.0081	0.0095	-0.0014	-0.007***	-0.0031***
Acq / lagged assets (t-1)	0.0523	0.0349	0.0174***	0.0604	0.0358	0.0246***	-0.0081***	-0.0009
R&D / lagged assets (t-1)	0.0083	0.0065	0.0018**	0.0034	0.0031	0.0003	0.0049***	0.0034***
SGA / Sales (t-1)	0.1867	0.1872	-0.0005	0.1308	0.1626	-0.0318***	0.0559***	0.0246***
Advertising / Sales (t-1)	0.0079	0.0066	0.0013	0.0088	0.0101	-0.0013***	-0.0009	-0.0035***
Tobin's q (t)	1.0439	0.6294	0.4145***	0.5115	0.4041	0.1074***	0.5324***	0.2253***
Cash / assets (t-1)	0.0418	0.0543	-0.0125***	0.0466	0.0630	-0.0164***	-0.0048*	-0.0087***
Book Leverage (t-1)	0.2986	0.3614	-0.0628	0.4870	0.5624	-0.0754***	-0.1884***	-0.201***
Market Leverage (t-1)	0.6464	1.4745	-0.8281***	2.6350	6.4015	-3.7665	-1.9886***	-4.927***
<b>Funding Payouts</b>								
Net payout / lagged assets (t)	0.0214	0.0074	0.0140***	0.0175	0.0071	0.0104***	0.0039***	0.0003
OCF / lagged assets (t)	0.0975	0.0432	0.0543***	0.0856	0.0326	0.053***	0.0119**	0.0106***
Interest / lagged assets (t)	0.0036	0.0074	-0.0038***	0.0016	0.0037	-0.0021***	0.002***	0.0037***
Taxes / lagged assets (t)	0.0014	0.0021	-0.0007***	0.0020	0.0025	-0.0005***	-0.0006***	-0.0004***
Capex / lagged assets (t)	0.0015	0.0058	-0.0043***	0.0097	0.0120	-0.0023	-0.0082***	-0.0062***
Acq / lagged assets (t)	0.0553	0.0370	0.0183***	0.0700	0.0417	0.0283***	-0.0147***	-0.0047***
R&D / lagged assets (t)	0.0092	0.0070	0.0022**	0.0039	0.0035	0.0004	0.0053***	0.0035***
FCF / lagged assets (t)	0.0489	0.0314	0.0175***	0.0426	0.0359	0.0067*	0.0063*	-0.0045***
ΔDebt / lagged assets (t)	0.0197	0.0100	0.0097	0.0421	0.0108	0.0313**	-0.0224***	-0.0008
ΔCash / lagged assets (t)	0.0008	0.0038	-0.0030*	0.0064	0.0025	0.0039	-0.0056***	0.0013



In the firm performance section, top payers have lower capital expenditure as expected. However, acquisition, R&D are higher among top payers, which is inconsistent with the life cycle theory. Tobin's  $q$ , a proxy for growth opportunities, was higher for top payers. However, in prior literatures, there have been multiple reports of Tobin's  $q$  being positively correlated with firm size. In this case, Tobin's  $q$  is interpreted as a proxy for rent, which should be higher for firms with bigger size. The rest is consistent with my expectations. Because top payers pay more, meaning they should be holding onto less cash. Top payers also had less leverage, proxy for financial constraints. Moving onto Panel B, payers in the 2010s had more capital expenditure, acquisition, R&D compared to nonpayers. Payers spent less on SGA, had a lower Tobin's  $q$ , and were less financially constrained.

In the third part, I look at how the payouts are funded. Top payers with statistically significant higher payout rates have higher operating cash flow and pay less in interest, spends less on capital expenditures. However, they turned out to invest more on R&D, have greater amount of new debt, while their cash decreased. They also paid less tax, which is inconsistent with prior literature such as Masulis and Trueman (1988). When comparing payers and nonpayers, results were consistent with Panel A except for taxes and capex. Payers paid more tax and spent more on capital expenditures.

## Chapter 3. Empirical Results

### 3.1. Predicting payouts in the 2000s

Until now, I showed the differences in between the 2000s and 2010s, to show the growing pattern in net payouts within the KOSPI market and the most important factors in explaining the increase in payout rates. In this section, I use two different approaches to investigate whether changing firm characteristics can explain the increase in payout rates. Both approaches begin with regressions that relate net payout rates to lagged firm characteristics. In the first approach, I use coefficients from regressions estimated from 1993 to 2014 to predict net payout rates in the following years. With the second approach, I estimate the same regressions over the whole period but allow for intercept changes post 2015. Significant intercept changes would indicate changes in firm characteristics being unable to explain the changes in payout rates. Finally, I use the regression models to assess which changes in firm characteristics are most important in explaining the changes in payout rates.

I estimate the relation between payout rates and lagged firm characteristics shown in Table 4. Lagged characteristics are used to give the interpretation of a forecasting regression. Table 4 shows the estimates of these models. Columns (1), (3), (5) present estimates using all firms with positive operating income. Columns (2), (4), (6) present estimates using firms that have positive net payouts only.

Motivated by recent studies, I add foreign ownership, institutional ownership, delist dummy and CEO tenure as variables. Yoon, Sung-Yong (2021) recently showed that foreign ownership had significant positive relationship with payout rates. Lee, Youngjoo and Byun, Sanghyuk (2015) show that institutional investors prefer high dividend paying firms. I expand this notion to net payouts since

dividends take a huge chunk of net payouts. Delist dummy indicates firms that have been delisted from the KOSPI market. Firms with variable one in the delisted dummy are firm data that includes the last 5 years of delisted firms. Firms that remain listed, or data of delisted firms that is prior to 5 years before the delisted date have a 0 as delisted dummy variable. Lastly, Kim, Il Kyoung and Lee, Houk (2013) showed a linear relationship between CEO tenure and firm performance, which is expected to link to higher net payouts. All variables except for delist dummy, which is another proxy for financial constraints, are expected to have a positive relationship with payout rates.

Column (1) and (2) show significant coefficients in market leverage, size, tobin's q, advertisement, capital expenditure and delist dummy. Firms with higher leverage, i.e. firms with financial constraints, show negative coefficients as expected. The results on size is unexpected, because I expected bigger firms to pay more. However, this result is flipped in the following columns. It is also confusing that Tobin's q, usually used as a proxy for growth opportunities, has a positive correlation with payout rates. This can be explained when looking at tobin's q as a proxy for rent. Bigger firms that require higher rent are expected to pay less. A negative correlation with advertisement makes sense because advertisements are one of the big expenses. Also, firms that spends more on advertisement should be growing firms that require more media coverage. In column (2) operating cash flow is negatively correlated with payout rates. This is essentially why the Korean government had imposed reflux tax burdens to bigger firms in the first place. Firms that were generating more cash flow weren't paying enough to its investors and were holding onto retained earnings as cash.

When adding firm fixed effects in column (3) and (4), the 2015 dummy

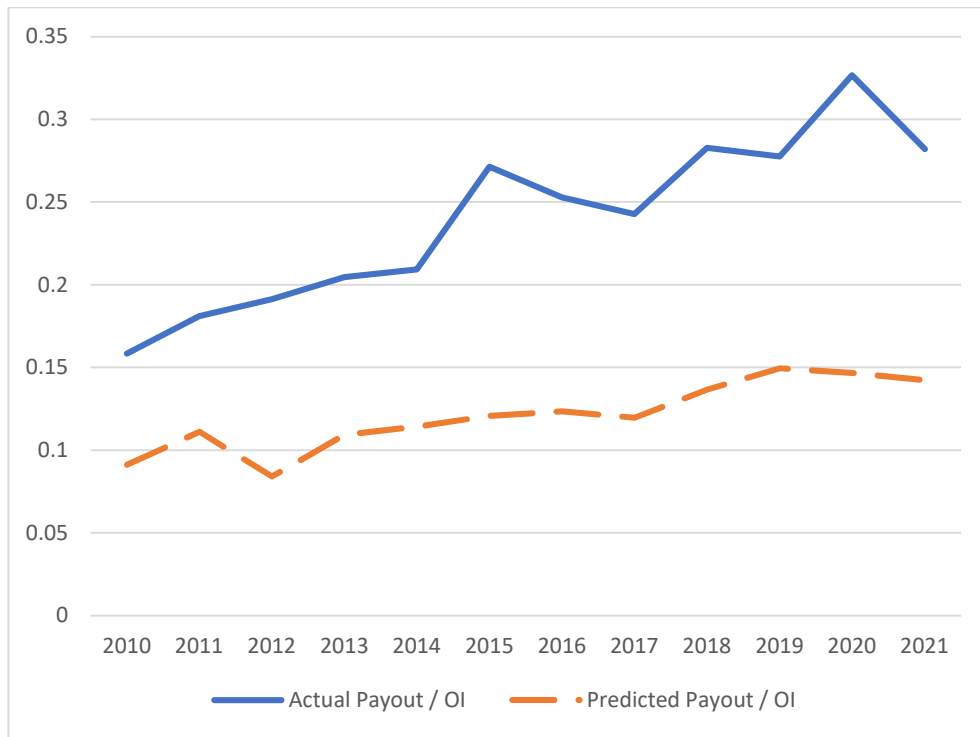
**Table 4**

This table shows estimates of firm-level net payout rate regressions. Net payout rate is calculated as net payout divided by operating income. Sample firms are firms with positive operating income. Firms with missing data for total assets and market capitalization are excluded. Financial and utility firms are excluded from the sample. Column (1), (3), (5) present results for all firms with available data and (2), (4), (6) 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.

	(1)	(2)	(3)	(4)	(5)	(6)
Market Leverage	-0.0013** (0.0421)	-0.0233*** (0.0000)	-0.0022* (0.0793)	-0.0486*** (0.0067)	-0.0022* (0.0791)	-0.0486*** (0.0067)
Log(assets)	-0.0259* (0.0636)	-0.042** (0.0319)	0.0287 (0.6546)	0.0246 (0.7681)	0.0287 (0.6544)	0.0246 (0.7679)
OCF / lagged assets	-0.1388 (0.1136)	-0.5037*** (0.0000)	-0.0223 (0.9024)	-0.4581* (0.0546)	-0.0223 (0.9023)	-0.4581* (0.0544)
Fixed assets	0.0618 (0.2333)	0.0694 (0.37)	-0.4841 (0.2189)	-0.7151 (0.2112)	-0.4841 (0.2186)	-0.7151 (0.2109)
Tobin's q	0.0589* (0.0628)	0.0458 (0.2143)	-0.0123 (0.6132)	0.0222 (0.5631)	-0.0123 (0.613)	0.0222 (0.5628)
RD / lagged assets	1.1326 (0.3822)	1.77 (0.3345)	-0.0901 (0.9818)	-1.5691 (0.7883)	-0.0902 (0.9818)	-1.5691 (0.7881)
SGA / sale	0.1809 (0.1053)	0.3512** (0.0191)	-0.0402 (0.789)	-0.049 (0.858)	-0.0402 (0.7888)	-0.049 (0.8579)
Advert. / sales	-1.738* (0.0632)	-3.0172** (0.0138)	-1.6204 (0.1116)	-3.1312*** (0.0057)	-1.6204 (0.1113)	-3.1312*** (0.0056)
Capex / lagged assets	-0.2475* (0.0529)	-0.7367*** (0.0000)	-0.6036*** (0.0087)	-1.0353*** (0.001)	-0.6036*** (0.0086)	-1.0353*** (0.001)
Cash / assets	0.2181 (0.3849)	0.1442 (0.6955)	0.4922 (0.3429)	0.5681 (0.4603)	0.4922 (0.3426)	0.5681 (0.4599)
Acct Loss	-0.0382 (0.4529)	0.5428*** (0.0016)	-0.1613 (0.3494)	0.3464 (0.2795)	-0.1613 (0.3491)	0.3464 (0.2791)
Log(age)	0.0211 (0.2525)	0.0407* (0.0842)	0.162 (0.1963)	0.2331 (0.1479)	0.162 (0.196)	0.2331 (0.1475)
Foreign ownership	0.0015 (0.0931)	-0.0000 (0.9936)	-0.0009** (0.8116)	-0.0051* (0.3628)	-0.0009** (0.8115)	-0.0051* (0.3625)
Institutional ownership	-0.0011 (0.312)	-0.0014 (0.3723)	-0.0074 (0.3368)	-0.01 (0.363)	-0.0074 (0.3365)	-0.01 (0.3626)
Delist dummy	-0.1008*** (0.0077)	-0.0047 (0.9447)	-0.1622 (0.0065)	-0.0868 (0.4149)	-0.1622 (0.0065)	-0.0868 (0.4145)
CEO Tenure	0.0206 (0.1275)	0.0188 (0.2529)	-0.0299 (0.3704)	-0.0433 (0.2875)	-0.0299 (0.3701)	-0.0433 (0.2871)
2015 dummy			0.1398** (0.022)	0.1274* (0.0992)	0.1398** (0.0219)	0.1274* (0.0989)
2018 dummy			0.8511 (0.1469)	0.9761 (0.1712)	0.8512 (0.1466)	0.9761 (0.1708)
Constant	0.4581** (0.0184)	0.7496*** (0.0052)	-0.1072 (0.8948)	0.1445 (0.8831)	-0.1072 (0.8947)	0.1445 (0.883)
Observations	11058	8648	14983	11804	14983	11804
Adjusted R-squared	0.0025	0.0077	0.0000	0.0002	0.0000	0.0002
Fixed Effect	No	No	Yes	Yes	No	No
Cluster	Firm&Year	Firm&Year	Firm&Year	Firm&Year	Firm&Year	Market Leverage

show statistically significant coefficients. This indicates that firms after 2015 show higher payout rates with the same firm characteristics compared to before. Because column (3) and (4) are firm fixed, new firms that make it to the list are not included in the results. Therefore, I exclude the firm fixed effects in column (5) and (6) to see if any new payers make significant changes to the results. However, there is close to none statistically significant differences between the two results. Results also show that all four variables are negatively related to net payout rates in the full sample. However, the only variable with statistical significance is foreign ownership. This is inconsistent with prior literature and is puzzling.

Using the coefficients in columns (1), I forecast the payout rates after 2014. If models estimated from the prior timeframe predict payouts well, changes in firm characteristics explain changes in payout rates (Kahle and Stulz, 2021). However, I find a significant gap in between the actual and predicted payout rates. The average actual payouts rates were 98.27% higher than the predicted average. Results are shown in Fig. 3.



**Fig. 3.** Predicted versus actual payout rates by year. This figure shows the actual average and predicted payout rates by year, for all firms. Predicted values are calculated from the regression model shown in column (1) of Table 4 estimated from 2000 to 2021.

Using the coefficients from Column (1), I forecast the payout rates for the 2010s. If models estimated from the prior timeframe predict payouts well in the 2000s, changes in firm characteristics explain changes in payout rates (Kahle and Stulz, 2021). However, I find a significant gap in between the actual and predicted payout rates. The average actual payouts rates were 98.27% higher than the predicted average. Results are shown in Fig. 3.

**Table 5**

This table examines the role of changing firm characteristics on the ratio of net payout to operating income for firms with positive operating income by estimating the regression models of columns (1) and (2) in Table 3 over the period of 2000-2021. Column (1) and (2) show the mean value of firm characteristics in the 2000s and 2010s, for firms with available data in Panel A, and for firms with positive payout only in Panel B. Column (3) shows the difference between the two and whether they are significantly different. Column (4) provides the coefficient estimate of the regression model estimated from 2000 to 2021. Column (5) multiplies the coefficient estimate by the change in mean value in between the two periods to gain the impact of each variable.

Panel A: All firms	(1)	(2)	(3)	(4)	(5)
	1993-2014	2015-2021	Diff.	Coefficient	Impact
Net payout / OI	0.1483	0.2535	0.1053		
Market Leverage	4.3831	1.0436	-3.3395	(0.0013)	0.0042
Log(Assets)	12.9819	13.5287	0.5468	(0.0259)	(0.0142)
OCF / lagged assets	0.0683	0.0708	0.0025	(0.1388)	(0.0003)
Fixed assets	0.4838	0.4646	-0.0192	0.0618	(0.0012)
Tobin's q	0.3769	0.5107	0.1338	0.0589	0.0079
R&D / lagged assets	0.0037	0.0060	0.0023	1.1326	0.0026
SGA / sales	0.1192	0.1497	0.0305	0.1809	0.0055
Advertising / sales	0.0049	0.0040	-0.0008	(1.7380)	0.0015
Capex / lagged assets	0.0043	0.0046	0.0004	(0.2475)	(0.0001)
Cash / assets	0.0341	0.0301	-0.0039	0.2181	(0.0009)
Fraction with acct losses	0.1209	0.1144	-0.0064	(0.0382)	0.0002
Log(Age)	2.5646	2.9322	0.3675	0.0211	0.0078
Foreign ownership	8.5655	10.8172	2.2517	0.0015	0.0033
Institutional ownership	3.5148	7.0398	3.5250	(0.0011)	(0.0039)
Delist dummy	0.0586	0.0161	-0.0425	(0.1008)	0.0043
CEO tenure	2.3916	3.7020	1.3103	0.0206	0.0270

Panel B: Net Payers Only	(1)	(2)	(3)	(4)	(5)
	1993-2014	2015-2021	Diff.	Coefficient	Impact
Net payout / OI	0.1681	0.2750	0.1069		
Market Leverage	2.1150	0.8537	-1.2613	(0.0233)	0.0294
Log(Assets)	13.0466	13.6707	0.6241	(0.0420)	(0.0262)
OCF / lagged assets	0.0727	0.0732	0.0005	(0.5037)	(0.0002)
Fixed assets	0.4811	0.4614	-0.0197	0.0694	(0.0014)
Tobin's q	0.4030	0.5179	0.1149	0.0458	0.0053
R&D / lagged assets	0.0038	0.0063	0.0024	1.7700	0.0043
SGA / sales	0.1196	0.1546	0.0350	0.3512	0.0123
Advertising / sales	0.0050	0.0042	-0.0008	(3.0172)	0.0023
Capex / lagged assets	0.0035	0.0042	0.0007	(0.7367)	(0.0005)
Cash / assets	0.0347	0.0292	-0.0055	0.1442	(0.0008)
Fraction with acct losses	0.0393	0.0687	0.0295	0.5428	0.0160
Log(Age)	2.5338	2.9057	0.3719	0.0407	0.0151
Foreign ownership	9.9925	12.4167	2.4242	(0.0000)	(0.0000)
Institutional ownership	3.6552	7.2431	3.5879	(0.0014)	(0.0050)
Delist dummy	0.0373	0.0091	-0.0282	(0.0047)	0.0001
CEO tenure	2.4385	3.7901	1.3516	0.0188	0.0255

### **3.2. Which firm characteristics matter the most?**

Table 5 examines the role of changing firm characteristics on the net payout rates for firms with positive operating income by estimating the regression models of columns (1) and (2) in Table 4. Panel A examines all firms with positive operating income and Panel B examines all firms with positive net payouts. Column (1) shows the average firm characteristics prior to 2014, Column (2) shows the same data post 2014. Column (3) is the difference between the two. Coefficients are from Column (1) of Table 4. Impact is the multiplication of variables in column (3) and (4). The impact is the change in the net payout rate predicted by the change in that characteristic. In Panel A, the payout rate increases by 10.53 percentage points, and changes in firm characteristics predict an increase of 4.36 percentage points, explaining 41.46% of the actual increase. In Panel B, the payout rate increases by 10.69 percentage points when the firm characteristics predict 7.69 percentage points, explaining 71.22% of the increase. It shows that this model better explains the sample of payers. One interesting result is that CEO tenure has the highest impact of all in both Panels. This can indicate that CEOs have a tendency to unchanged their payout policies. The longer the CEO is in office, the higher the chance an investor can guess the future payouts.

### **3.3. Does the sensitivity of payout rates to firm characteristics increase?**

In this section, I re-estimate the models in columns (5) to (6) of Table 4, but allow the slopes and the intercepts to change after 2014. Odd columns contain the coefficients with no interactions and even columns contain coefficients on the interaction terms. Column (1a) and (2a) include full sample period, meaning that the interacted variables are interacted throughout 2015 to 2021. Column (3a) and (4a) are interacted with years 2015 to 2017. In column (1a) and (2a), all variables except for market leverage and tobin's q lose significance. However, the effects of



**Table 6**

This table shows estimates of firm-level net payout rate regressions. Column (1a) and (2a) include full sample period data. Column (3a) and (4a) exclude data after 2017. Net payout rate is calculated as net payout as a fraction of operating income, for firms with positive operating income. The sample includes all firms listed on KOSPI from 1993 to 2021. Financial and utilities firms are excluded. Firms with missing data for total assets and market capitalization are also excluded. 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 parenthesis; \*\*\*, \*\*, \* denote significance at 1%, 5% and 10% respectively.

	(1a)	x15-21	(2a)	x15-21	(3a)	x15-17	(4a)	x15-17
Market Leverage	-0.0013*** (0.0421)	-0.2290** (0.0246)	-0.0233*** (0.0000)	-0.3569** (0.0368)	-0.0013** (0.0421)	-0.0887*** (0.0039)	-0.0233*** (0.0000)	-0.1564*** (0.0005)
Log(assets)	-0.0259* (0.0636)	0.3312 (0.3144)	-0.0420** (0.0319)	0.3432 (0.3634)	-0.0259* (0.0636)	0.0963 (0.3151)	-0.042** (0.0319)	0.1034 (0.3816)
OCF / lagged assets	-0.1388*** (0.1136)	-0.6143 (0.6241)	-0.5037*** (0.0000)	-1.2537 (0.5066)	-0.1388 (0.1136)	-0.9** (0.0314)	-0.5037*** (0.0000)	-1.2664** (0.034)
Fixed assets	0.0618 (0.2332)	-1.8055 (0.1634)	0.0694 (0.3700)	-2.3018 (0.1715)	0.0618 (0.2333)	0.0652 (0.6475)	0.0694 (0.37)	0.1536 (0.408)
Tobin's q	0.0589* (0.0628)	-0.1247* (0.0718)	0.0458 (0.2143)	-0.0469 (0.6934)	0.0589* (0.0628)	-0.1265* (0.0855)	0.0458 (0.2143)	-0.0976 (0.2312)
RD / lagged assets	1.1326 (0.3822)	-4.7624 (0.6446)	1.7700 (0.3345)	-7.9800 (0.5260)	1.1326 (0.3822)	16.343 (0.3244)	1.77 (0.3345)	17.948 (0.3562)
SGA / sale	0.1809 (0.1053)	-0.2867 (0.3402)	0.3512** (0.0191)	-0.9587 (0.1593)	0.1809 (0.1053)	-0.2889* (0.089)	0.3512** (0.0191)	-0.4984** (0.0257)
Advert. / sales	-1.7380* (0.0632)	-4.5911* (0.0999)	-3.0172** (0.0138)	-3.3495 (0.2495)	-1.738* (0.0632)	-3.7684 (0.2426)	-3.0172** (0.0138)	-4.2265 (0.3171)
Capex / lagged assets	-0.2475*** (0.0529)	1.4635 (0.3931)	-0.7367*** (0.0000)	2.4047 (0.2547)	-0.2475* (0.0529)	-0.3618 (0.3655)	-0.7367*** (0.0000)	0.1504 (0.754)
Cash / assets	0.2181 (0.3849)	1.6646 (0.4971)	0.1442 (0.6955)	2.3925 (0.4680)	0.2181 (0.3849)	0.7473 (0.4752)	0.1442 (0.6955)	0.8839 (0.5189)
Acct Loss	-0.0382 (0.4529)	-0.2876 (0.6276)	0.5428*** (0.0016)	-0.5176 (0.5498)	-0.0382 (0.4529)	-0.0163 (0.8883)	0.5428*** (0.0016)	-0.3221 (0.2282)
Log(age)	0.0211 (0.2525)	0.5727 (0.2489)	0.0407* (0.0842)	0.6952 (0.2365)	0.0211 (0.2525)	0.085 (0.27)	0.0407* (0.0842)	0.1128 (0.2087)
Foreign ownership	0.0015* (0.0931)	-0.0215 (0.3362)	-0.0000 (0.9936)	-0.0258 (0.3148)	0.0015* (0.0931)	0.0028 (0.1739)	-0.0000 (0.9936)	0.0027 (0.2754)
Institutional ownership	-0.0011 (0.3120)	-0.0165 (0.4329)	-0.0014 (0.3723)	-0.0242 (0.4281)	-0.0011 (0.312)	-0.005* (0.0679)	-0.0014 (0.3723)	-0.0092** (0.0271)
Delist dummy	-0.1008*** (0.0077)	-0.2030 (0.3757)	-0.0047 (0.9447)	-0.0972 (0.7580)	-0.1008*** (0.0077)	-0.0278 (0.8133)	-0.0047 (0.9447)	0.0281 (0.8752)
CEO tenure	0.0206 (0.1275)	-0.0955 (0.1295)	0.0188 (0.2528)	-0.1149 (0.1291)	0.0206 (0.1275)	-0.0347** (0.0245)	0.0188 (0.2528)	-0.0374** (0.0434)
2015 dummy	-3.9749 (0.3776)		-3.9000 (0.4366)		-1.1443 (0.433)		-1.2421 (0.4834)	
2018 dummy	-3.3834 (0.4057)		-3.1573 (0.4807)					
Constant	0.4581** (0.0184)		0.7496*** (0.0052)		0.4581** (0.0184)		0.7496*** (0.0052)	
Observations	14983		11804		12741		9981	
Adjusted R-squared	0.0004		0.0004		0.0048		0.0087	
Fixed Effect	No		No		No		No	
Cluster	Firm&Year		Firm&Year		Firm&Year		Firm&Year	

market leverage is magnified, whereas Tobin's  $q$  is reversed. An explanation for this reversion is that after the reflux tax burdens, firms with more growth opportunities invested more of their free cash flow as expenses through investments. In column (3a), the results are similar to that of (1a) and (2a). However, in (4a), the effects of market leverage, OCF, SG&A remain significant after interaction among payers. During the time where reflux tax burdens were in effect, firms paid more if they had higher operating cash flow, meaning that the tax burdens actually pushed the payers to pay more. In column (3a), the effects of the non-payers, who remained non-payers might have deteriorated the degree of this magnification.

## Chapter 4. Conclusion

In this paper, I show that payouts in the 2010s are significantly higher than the term between 1993 and 2009. The increase in payouts result from both an increase in payout rates and increase in funds available for payouts. Ten percent of the increase in aggregate constant payouts is explained by an increase in aggregate operating income, whereas almost ninety percent of the increase is explained by an increase in payout rates.

Secondly, I show that the data from 1993 to 2014 have higher explaining power of firm payouts within the payers group. This finding, along with the results shown in the interaction tables rise further questions the unexplained effects of non-payers, or payers that have turned into non-payers during the tax burdens act period.

Lastly, I show that that the reflux tax burdens act that went to effect in between the years of 2015 to 2017 had affected dividend paying firms. However, when expanding the sample period to 2021, the effects perished. This can indicate two things. First, the non-payers weren't affected by the tax burdens, deteriorating the effects of the overall act. Second, the effects of the tax burden did not immediately disappear within every firm in the KOSPI market at the end of 2017. Some companies might have adjusted to comply with the potential forthcoming regulations, while some others did not. The mixed reactions might have blurred the results in between 2018 to 2021, resulting in the different results.

The main question this paper tries to answer is whether the reflux tax burden actually served its purpose. The answer is yes. There was a significant increase in payouts, especially when controlled for years after 2014. However, while I was able to specify some of the factors that seems to have led the increase, I was unable to specify the mechanism of how the tax burdens act served its purpose. With its limitations, I believe there is much room for follow up research on this topic. Specifically, this research poses a question towards whether this act was a warning to Korean firms, resulting in changes of their payout policies. Such research might shed light on the results shown in this research.

# Bibliography

- Baker, M. and Wurgler, J.(2004), A catering theory of dividends, *The Journal of Finance*, 59(3), 1125-1165.
- Bhattacharya, S.(1979), Imperfect information, dividend policy, and the bird in the hand fallacy, *The Bell Journal of Economics*, 10(1), 259-270.
- DeAngelo et al. (2004) Dividend Policy, Agency Costs, and Earned Equity.  
(Working paper N. 10599) <https://www.nber.org/papers/w10599>
- Fama, E. , French, K. , 2001. Disappearing dividends: changing firm characteristics or lower propensity to pay? *Journal of Financial Economics*, 60, 3–43.
- Jagannathan et al. (2000), Financial flexibility and the choice between dividends and stock repurchases, *Journal of Financial Economics*, 57, 355-384.
- Kahle, K., Stulz, R. M. (2021), Why are corporate payouts so high in the 2000s? *Journal of Financial Economics*, 142, 1359-1380.
- Lintner, J.(1956), Distribution of incomes of corporations among dividends, retained earnings, and taxes, *The American Economic Review*, 46(2), 97-113.
- Masulis, R. W. and Trueman, B.(1988), Corporate investment and dividend decisions under differential personal taxation, *Journal of Financial and Quantitative Analysis*, 23(4), 369-385.
- Miller, M. H. and Rock, K.(1985), Dividend policy under asymmetric information, *Journal of Finance*, 40(4), 1031-1051.
- Rozeff, Michael S. (1982). Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios. *Journal of Financial Research*, Vol. 5, No. 3, pp.

249-259, Fall 1982

Skinner, D. et al.(2008), Corporate payout policy. Found. Trends Finance 3 (2-3),  
95-287.

고영경, 이가연, 조성욱 (2009), 한국기업의 배당정책과 기관투자자,  
한국재무학회 학술대회, pp.658-700.

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

김일경, 이호욱 (2013), 경영자의 임기가 기업의 성과에 미치는 영향:  
경영자 직무 요구의 조절효과를 중심으로, 전략경영연구, vol. 16,  
no.1, pp.1-22.

윤성용 (2021), KOSPI시장에서 외국인 투자자 지분을 및 기업특성이  
배당정책에 미치는 영향에 관한 연구, 인문사회과학 연구, 제  
29권 제 2호, pp.86-111.

이영주, 변상혁 (2015), 배당정책 변화와 기관투자자 지분을 변화와의  
관계, 대한경영학회지 제 28권 제 7호, pp.1899-1920.

정택문, 정강원 (2020), 배당성향 결정요인에 관한 연구, 기업경영리뷰  
제11권 제 3호, pp. 87-102.

## 국문 초록

파마-프렌치가 2001년 기업 배당금이 사라지고 있는 현상을 보고한 뒤, 미국 시장을 중심으로 해당 현상의 원인을 찾는 것은 학계의 가장 중요한 연구 주제들 중 하나였다. 하지만 한국 기업들은 IMF 금융위기에서 회복하는 과정에서 배당금을 점차 늘려가며, 미국과는 정 반대의 길을 걸어왔다. 최근 글로벌 금융 위기로 인한 금융 투자 기회가 줄어들고 동시에 고배당 주식에 대한 투자자들의 관심이 높아졌기에, 한국 기업의 배당금 추이와 고배당을 견인하는 요인에 대한 연구가 중요해졌다.

본 논문은 유가증권시장 상장사들의 고배당정책을 기업의 특성들로 설명할 수 있는지를 실증적으로 분석하고자 한다. 실증분석 결과, 한국 기업들은 2010년대에 들어서 주주배당을 확장했음을 확인할 수 있었으며, 특히 2015-2017년에 시행된 환류세제법 도입 기간동안 유의미한 트렌드를 관측할 수 있었다.

**핵심주제:** 배당 정책, 배당금, 자사주 매입, 기업재무

**학번:** 2021-23232