Government partisanship and the stock market: Long-term evidence from Finland

Abstract

I use monthly data from 1917 to 2013 to examine the relationship between government partisanship (position on the political left-to-right axis) and stock market returns in Finland. I use the parliament seating arrangement as a measure of party partisanship. My results show that there is no reaction in the stock market during or after one month when the political composition of a new government is made public. In the long term, the Finnish stock market has performed best under centrist governments, driven by higher nominal excess returns under more left-leaning governments and higher inflation under left-leaning governments. Right-leaning governments are associated with significantly lower real and nominal excess returns. This goes against the partisan theory, and implies the existence of the much-discussed democrat premium in Finland.

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1   Introduction

Political scientists and economists have long been interested in the relationship between politics and stock market performance. Government policies affect economic variables such as unemployment, growth, and taxation. When parties promote policies that benefit their voter bases, their policies should produce distinct stock market reactions. In efficient markets, news about future policies should therefore be reflected in the stock market when the information is made public. Election results are one of the important sources of such information, as they contain information about the political composition of the next government. Interestingly, not only should the news affect the stock market, but also the stock market reaction could indicate the importance of expected changes in economic policy (Vuchelen, 2003). Research findings may have significant importance to voters.

The expectations of different policies under different governments are mainly motivated by the partisan theory (Hibbs, 1977). The partisan theory suggests that left-leaning parties prefer lower unemployment and higher inflation, as lower unemployment is more in favor of their voter base. In contrast, right-leaning parties are expected to choose lower inflation and higher unemployment. Therefore, it is also expected that left-leaning parties promote demand-side policies, while right-leaning parties pursue supply-side policies. The expected policy differences imply that right-leaning governments are expected to be better for firms and investors, and the stock market should react accordingly. The traditional partisan theory suggests long-term effects, while the rational partisan theory (Alesina, 1987) only proposes temporary effects as expectations are discounted to prices immediately.

The predictability of future policies based on election results depends on the complexity of the political and electoral system. In electoral systems with majority representation and single-party governments, such as in the United States, election results allow for more predictability of future policies than in proportional electoral systems. Consequently, there is much existing research on the interplay of political events and the stock market in the US.

However, a lot of the findings in the United States may not apply to countries with different political systems, such as a lot of Europe. In countries with more complex political systems and multiple large parties, the predictability of future policies based on election results is not as straightforward. First of all, the main political event may not be the election, but the formation of a multi-party coalition after the election. Second, even then not as much uncertainty is eliminated as with the formation of a single-party government. The actions of a multi-party coalition are also more difficult to predict, and they are less stable than single-party governments. Elections may be held and governments may change unexpectedly in the middle of a term due to various political or economic reasons. This instability has historically

been very present for instance in Finland, where the length of the government term has varied significantly. Thus, there is a lot of uncertainty for investors built in the multi-party coalition-based system (Vuchelen, 2003). Additional research is required in different political systems and countries to see if the findings in existing literature may be considered generalizable. My thesis contributes to the literature in two main ways. First, I construct a long-term index of the partisanship of the Finnish Government, using the seating arrangement of the Finnish parliament as a measure of party partisanship. Second, I provide long-term evidence on the relationship between the government partisanship and the Finnish stock market.

Using data from the entire history of Finland as an independent nation from 1917 to 2013, I test whether the ideological composition of the multi-party government formed after a parliamentary election affects the performance of the Finnish stock market immediately after their appointment, and during the government term. I place the Finnish Governments on the political left-to-right scale, and investigate real excess stock market returns around the appointment of the government and during their term.

I conclude that the partisanship of the government has a significant long-term effect on the Finnish stock market. A temporary effect suggested by the rational partisan theory is not supported. The direction of the announcement reaction follows the rational partisan theory, being positive (negative) for a left-to-right (right-to-left) change in partisanship, but the reaction is statistically insignificant. This result shows the importance of the electoral and political system. On the other hand, there is a significant long-term effect. I find that the much-discussed democrat premium seems to occur in Finland as well, as the Finnish stock market has performed significantly better under non-right-leaning governments. Real excess returns have been highest under centrist governments, while nominal returns have been highest under left-leaning governments. For both real and nominal returns, the stock market performance has been poorest under right-leaning Governments. This goes against the partisan theory, but is consistent with empirical findings in the existing literature.

2   Politics and the stock market

Two main theories appear in the literature examining the interplay between politics and the stock market: the political business cycle theory, and the partisan theory. The political business cycle theory (Nordhaus, 1975) assumes that the main objective of governing parties is to maximize votes, to get re-elected, and all other objectives are secondary. The theory also assumes that voters maximize their individual utility when voting. Therefore, the incumbent government manipulates fiscal and monetary policy instruments to create positive economic conditions prior to elections to get re-appointed. As Hibbs (1992) notes, the political business

cycle theory thus predicts that "macroeconomic policy should move in an expansionary direction and real incomes and unemployment in a favorable direction just prior to elections; disinflationary austerity comes after elections are safely over". Consequently, we should see cyclical stock market phenomena linked to political factors such as elections.

On the other hand, the partisan theory (Hibbs, 1977), assumes that different political ideologies should lead to distinct macroeconomic policies and outcomes as parties pursue policies that benefit their voter bases. Therefore, information of changes in the partisanship of the government should also contain news about changes in likely future policies. In efficient markets, this information should naturally be reflected in the stock market. The two approaches lead to two main categories of research: the other considering the effects of political events or cycles as such, and the other examining the relationship of partisanship and stock markets. It must be noted that the two theories are not incompatible, but provide two main focuses of research. [1]

Researchers have found several cyclical stock market phenomena around political events, most importantly elections. Niederhoffer et al. (1970) find that during the second half of the four-year presidential term, stock market returns are significantly higher than during the first half. Among others, Allvine and O'Neil (1980), Gärtner and Wellershoff (1995), and more recently McAleer and Wong (2009) support this. Using data from 18 countries, Foerster and Schmitz (1997) suggest that the US presidential election cycle may also affect stock markets internationally. On the other hand, Bohl and Gottschalk (2006) use a dataset from 15 countries to conclude that the cycle effect is not global. Scholars have focused on monetary policies (see e.g. Jensen et al., 1996.) and business cycles (Booth and Booth, 2003; Santa-Clara and Valkanov, 2003.) as possible explanations for the presidential election cycle, with mixed success, and the phenomenon, though confirmed and significant, remains a puzzle (McAleer and Wong, 2009).

Pantzalis et al. (2000) investigate stock market movements around election dates in 33 countries. In support of the uncertain information hypothesis (Brown et al., 1988), they find higher returns during the two-week period before an election week. The uncertain information hypothesis by Brown et al. (1988) suggests that stock market reactions to resolved uncertainty are on average positive. Białkowski, Gottschalk, and Wisniewski (2007) show higher stock market volatility around national elections in 27 OECD countries. They note that due to undiversified portfolios and a significant home bias (see e.g. French and Poterba, 1991; Baxter and Jermann, 1997), elections could alter the risk level of investors' portfolios, which may also be of importance in Finland, where 20 percent of the households

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[1] Hibbs (1992) points to Frey (1978) and Frey & Schneider (1989).

that own stocks only own shares of one company, and overall 46 percent of the households only own shares of three or less companies (Pörssisäätiö, 2011).

The studies above mostly consider the effects of the sole election on stock market behavior. The following introduces literature examining the relationship between government partisanship and stock markets.

2.1   Government partisanship and the stock market

The partisan theory (Hibbs, 1977) relates economic policy to political ideology. It is based on the idea that parties representing different political ideologies should pursue distinct economic and monetary policies in favor of their voter base. Hibbs (1977) argues that low unemployment is more preferable for the lower income class than a low inflation, and vice versa for the upper income class. Since there is a trade-off between unemployment and inflation and parties are assumed to promote policies that benefit their voter base, the partisan theory predicts that left-wing governments are expected to choose lower unemployment and higher inflation than right-wing governments. His empirical evidence from 12 West European and North American countries supports the proposition. Alesina et al. (1997) support this and find that inflation has been higher under Democratic governments. The traditional partisan theory suggests that the effects on economic variables are permanent, while the rational partisan theory (Alesina, 1987) proposes a temporary effect.

In democracies, election results provide information on the political composition of the next government. With the partisan approach in mind, this should allow for prediction of the future economic and monetary policies. As left-wing parties are assumed to pursue lower unemployment and right-wing parties lower inflation, investors expect left-wing parties to promote demand-side policies and right-wing parties supply-side policies. This implies that right-wing governments' policies are better for firms, and stock prices rise as the net present value of expected dividends rise. Therefore, a change from left to right in the political composition of the government would predict a change in economic policy stimulating stock prices. The higher expected inflation during left-wing governments also means lower real rate of returns for investors, essentially making stock investments less attractive. Qualitative and quantitative analysis of party manifestos also supports the view that left-wing parties focus on demand-side policies to support the lower-income class, and try to redistribute income via higher taxation of companies and high income individuals (e.g. Budge and Keman, 1990; Budge et al. 2001).

Leblang and Mukherjee (2005) propose that investors' expectations of different inflation under different administrations should affect the trading volume in the stock market. They

predict that the higher expected inflation during left-wing governments should lead to lower trading volumes and thus a decrease in the mean and volatility of stock prices compared to right-wing governments. Leblang and Mukherjee note that this should happen not only during the government term but also when a certain party is expected to win the elections. With daily and monthly data from the US and British markets, they find empirical support for their hypotheses and the partisan approach. Riley and Luksetich (1980) also find support for higher stock market returns under Republican presidencies.

However, the empirical evidence found is not unanimous. Gärtner and Welleshoff (1995) investigate the presidential election cycle and find that the cycle is present during both left-wing and right-wing administrations, but the returns do not differ significantly for the two. Earlier, Huang (1985) also shows that the election cycle is present during both administrations and that most of the time the returns under each type of administration are not significantly different from each other. Yet he finds that when the returns have significantly differed, they have actually been higher for the Democratic administrations.

Furthermore, one of the most puzzling findings has been the so-called democrat premium (see e.g. Herbst and Slinkman, 1984; Henzel and Ziemba, 1995; Santa-Clara and Valkanov, 2003, Booth and Booth, 2003). With data beginning from 1927, Santa-Clara and Valkanov demonstrate that the US stock market excess return has been significantly higher under Democratic than Republican presidencies. Santa-Clara and Valkanov (2003), Hensel and Ziemba (1995), and Johnson et al. (1999) also note that the difference is largest for small firms. Santa-Clara and Valkanov note that GDP growth has been found to be slower during Republican presidencies and inflation rates have been higher during Democratic presidencies (see Alesina and Rosenthal, 1995; Alesina et al., 1997). They control for business cycles as well, but find that the results become even stronger. Using the business cycle variables they also find that most of the observed difference is actually unexpected, meaning that the stock market is systematically positively surprised by Democratic policies. Moreover, they test whether there is a difference in the riskiness of the stock market during Democratic and Republican presidencies, but contrary to the hypothesis find that if anything, the stock market volatility has been higher under Republican presidencies rather than during Democratic presidencies. However, Powell et al. (2007) argue that the results of Santa-Clara and Valkanov suffer from a spurious regression, and after corrected, the difference between returns under Democrat and Republican presidencies proves insignificant. Sy and Zaman (2011) note that correcting for the spurious regression only addresses the significance, but "can by no means explain the economically large return differentials across presidencies". Belo et al. (2013) relate firm cash flows and stock returns with government exposure, and

find that firms with high government exposure see higher cash flows and stock returns under Democratic presidencies.

There are relatively few studies that consider data outside the US and the UK. Bohl and Gottschalk (2006) find that the Democrat premium is only found in 2 countries other than the US in their dataset of 15 countries. Thus, they conclude that it is "an exception rather than the rule". Bechtel and Füss (2002) analyze the effect of expected government partisanship on stock returns in the 2002 German federal election, and find support for the rational partisan theory. Vuchelen (2003) investigates the effect of government partisanship in Belgium on the Brussels stock market. He also finds support for the rational partisan theory, but importantly notes that election results contain less information of future policies in a proportional electoral system than in a majority representation such as the US. The political system in Belgium is fairly complicated and characterized by multi-party governments formed after elections. Among the existing literature, Vuchelen (2003) likely provides the research closest to the Finnish environment.

In the international environment, it should also be noted that the government usually has more power over economic policy than monetary policy, due to the influence of central banks that are politically somewhat separate from the government. This is especially important when considering 21st century data from the European Union, as the governments of independent countries have little power over the European Central Bank. In the United States however, the president appoints the chairman of the Federal Reserve, which forms a stronger connection between the central bank and the administration.

2.2 Why the electoral system matters

The extent to which investors can infer information from election results depends on the electoral system. In a majority representation, the outcome of an election is a single-party government, whereas proportional representation normally results in a multi-party government. Most of the research comes from the United States that has a two-party system with majority representation. In contrast, for example most of the countries in the European Union have a proportional electoral system. Therefore, it is important to examine what implications the differences have for the research of politics and stock markets.[2]

The high-level difference between the two is that in electoral systems based on majority representation, the uncertainty over the ideological composition of the next government and thus also their policies is almost completely eliminated with the election results, whereas in electoral systems with proportional representation, the uncertainty is only partially removed.

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[2] In this chapter, I mostly refer to Vuchelen (2003).

In the former, investors can quite reliably predict the future policies based on the election results, since the composition of the next government is clear. In the latter however, predicting the future policies is not as straightforward.

Proportional representation usually leads to multi-party coalitions. The formation of the coalition requires time after the election. The election results themselves may point to some direction regarding the political composition of the coalition. For example, the results may rule a certain party or parties out of the coalition, if they suffer a loss in the election. However, they can rarely predict the final composition. Therefore, in proportional electoral systems only part of the uncertainty is resolved immediately after the election.

Once the coalition is formed, the ideological composition may still not be quite as clear. For instance, in the United States the administration will be either Democrat (left-wing) or Republican (right-wing). This leaves little room for uncertainty. On the other hand, in a proportional system the coalition may be for example center-left, center-right, purple (left-right, or "red-blue"), or multipartite. The more significant parties there are, the more parties the coalition might have, and the more parties there are in the coalition, the more difficult predicting future policies becomes.

This means that traders will have to wait until the government programme is made public. The formation of the government resolves some uncertainty depending on the composition, but precise information about the actual policies will only be known once the government programme is available.

Vuchelen (2003) counts these four (the election results, the time required to form the coalition, the composition of the coalition, and the new government's policies) as separate political events that may each affect the stock market. In a proportional electoral system, uncertainty is therefore gradually resolved following the process of forming a new government.

Also, multi-party governments tend to be more unstable than single-party governments, and the composition of the government may change unexpectedly without an election. Forming a new government in the middle of a parliamentary term is somewhat common in multi-party systems. This translates to investors' expectations of the future policies as well. As the life expectancy of the newly formed government lowers, so does the life expectancy of their policies. There is naturally more tension when the number of parties increases. This is well represented also in the Finnish political history.[3]

In majority representation, the election results are the main event that resolves nearly all uncertainty. Investors can be somewhat certain about the direction of future economic and monetary policies. In proportional representation however, out of the four event mentioned

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[3] Data will be further described in chapter 4.

above the main event is the formation of the coalition. Election results only give direction for expectations, but information about the composition of the government is likely enough to eliminate most uncertainty regarding future policies, and the government programme can be thought of as a confirmation of what was expected based on the composition of the coalition. Therefore, in a proportional electoral system, we should see a time lag between the election results and the stock market reaction as the formation of the coalition takes time compared to majority representation.

Therefore, I consider the formation of the coalition the point of change in the government partisanship. This is also supported by the fact that based on the governmental and parliamentary term lengths, there have on average been two coalitions for each parliament in Finland.

Due to the uncertainty built in the multi-party systems, predicting future policies based on election results or the composition of the government is more difficult. Therefore, stock market reactions to comparable political events may be milder and the events are more distributed over time compared to two-party systems with majority representation.

3 Research question and hypotheses

I investigate the relationship between government partisanship and the stock market in Finland. Finland is a parliamentary republic with a multi-party political system and proportional representation. The political scene is traditionally characterized by multiple large and several smaller but significant parliamentary parties. Likewise, there are usually one or two large and a few smaller parties in the cabinet[4] (Finnish: valtioneuvosto). Due to the number of significant parties and an active political stage, we see a lot of variation not only in the ideological composition of the government over time but also in the length of the government term. Considering the analytical framework, Finland fits well the frame of a proportional electoral system, showing frequent political events that are relevant to investors.

The research question prompted by the partisan theory is: whether government partisanship affects the short-term and long-term performance of the Finnish stock market. I therefore study whether a government partisanship change has an immediate effect on the monthly stock prices and whether the government partisanship affects long-term stock market returns during the incumbency of the government.

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[4] The Cabinet of Finland is the coalition formed after a parliamentary election, officially referred to as the Finnish Government. However, what is generally referred to as the *government* includes not only the cabinet but also the parliament and various governmental agencies directed by the cabinet. In this thesis, the word *government* refers to the coalition formed after a parliamentary election, the Cabinet of Finland.

The first part of the research question relates to investors' expectations of future economic and monetary policies. The partisan theory predicts that left-leaning parties choose lower unemployment and higher inflation than right-leaning parties. Left-leaning (right-leaning) parties are also expected to promote demand-side (supply-side) policies, including higher firm taxation under left-leaning governments. This should equate to better firm results, higher expected future dividends and investor real returns, higher trading volume, and a more attractive stock market under right-leaning governments compared to left-leaning governments. Assuming the semi-strong form of market efficiency, these expectations should translate to stock market reactions when the information comes public.

In the long term, the actual policies over the governmental term are considered, and not the policies expected at the time of the Government change. However, the partisan approach applies here as well, with the same predictions.

In accordance with the partisan theory, I test the following hypotheses:

1) A change from left to right (right to left) in government partisanship has a positive (negative) stock market reaction when the information is made public.

2) Long-term stock market returns are higher during the incumbency of right-leaning governments than left-leaning governments.

4 Data and methodology

To test the hypotheses, I use a sample of monthly data from 1917 to 2013. The sample begins from the independence of Finland, thus covering all governments of Finland as an independent nation. The data I use include stock market total returns, government bond returns, inflation, and political variables. All returns are real returns, unless otherwise mentioned.

The returns data from 1917 to 2009 come from Nyberg and Vaihekoski (2009 and 2011). The stock market index is a monthly value-weighted, all-share total return index for the Finnish stock market, hand collected by Nyberg and Vaihekoski beginning from the establishment of the Helsinki Stock Exchange in 1912 until 1970, after which other indices are available. They also gather bond returns and inflation from various sources to form the longest available historical monthly return series for Finland. For full description of their sources, data-collecting procedures, and an extensive descriptive analysis, see Nyberg and Vaihekoski (2009 and 2011).

From 2009 on, the data is continued with the last sources used in the earlier data. The stock market index is continued with the OMXH total return index for Nasdaq OMX Helsinki stock exchange. Bond returns are continued with Thomson Reuters Finnish government benchmark bonds with all current maturities[5]. This continues the data with the same source, but represents what is available to the investors, thus excluding discontinued maturities. Inflation comes from the monthly Cost of Living index (1951/10 = 100) through Statistics Finland. The continuing annualized data is converted to monthly to match the other data. The continuing data excluding inflation comes from Thomson Reuters Datastream.

The main political variable is the partisanship of the Government. To construct this variable, I place all parties that have been part of the Finnish Government on a political left-to-right axis represented by a scale from 1 to 5[6], as a simple dichotomous left-or-right measure would hardly be representative of the ideological spectrum (see e.g. Fording and Kim, 2002). I then take the Ministers of each Government (Valtioneuvosto, 2014), and use a simple average to place the government on the left-to-right scale as follows:

(1)

$$Government\ partisanship = \frac{\sum(Ministers\ from\ Party_i * Partisanship\ of\ Party_i)}{Total\ number\ of\ Ministers}$$

I use the Parliament seating arrangement as a measure of the partisanship of a party. Another way to form a measure of partisanship would be party manifesto analysis (see e.g. Kin and Fording, 2002), but I argue that using the seating arrangement forms a more objective and consistent measure. The parliament parties are seated based on their political ideology from left to right, therefore their relative position in the seating arrangement can be used as a measure of the party partisanship. This is also supported by analysis based on candidate answers on questions for online voting advice applications (Finnish: vaalikone), as political maps created based on candidate answer analysis (see e.g. Törmänen, 2011; Helsingin Sanomat, 2012) match well with the recent Parliament seating arrangements. However, this kind of quantitative candidate answer analysis has only been done for a few years as the online technology has become available. Thus, the seating arrangement provides the best consistent and objective measure of party partisanship available for the sample period. The annual parliament calendars, which contain the seating arrangements, are publicly available in the Library of Parliament. For a full list of the governmental parties, the governments, and their partisanship values, see Appendix 1.

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[5] Maturities included are 2, 3, 4, 5, 6, 8, 10, and 15 years.
[6] 1 = left, 2 = center-left, 3 = center, 4 = center-right, 5 = right

Under the Constitution, the parliamentary term in Finland is four years. However, the political scene has been active, and from 1917 to 2013, there have been 72 governments while only 29 parliamentary elections. The mean length of the government term has only been 16 months, whereas the average number of months between elections has been 39.8. The standard deviation of the government term length has been 13.6 months. Before 1983, the mean term length was only just over a year at 12.7 months, after which the political stage has become more stable, and for the last 30 years, the mean term length has been just over three years at 36.8 months. Overall, the term length has been surprisingly short and unstable, which makes it reasonable to assume that the government changes have been mostly unexpected and non-cyclical. The period from May 1983 to April 2003 is the only exception with five consequent 4-year governmental terms.

The average government partisanship during the sample period has been very close to the political center[7] at 3.03, but as a notion of the political history of Finland, there is a very significant u-curve.[8] The curve shows that the governments were generally right-leaning in the early 20th century, and became more left-leaning towards the middle of the sample period, but have then become more right-leaning again. Considering each government as one observation, the standard deviation in the partisanship has been 0.54, and the average absolute change in partisanship when a new government is appointed has been 0.47. Figure 1 shows the government partisanship index for the sample period, as well as the u-curve illustrating the general partisanship movement over time.

In addition to the political factors deriving from the government partisanship, I include parliamentary elections in the tests, as they resolve uncertainty, and are therefore expected to have a stock market reaction.

I use standard OLS regressions to test the hypotheses. I explain the Finnish stock market monthly real excess return with the political factors. I also control for the so-called January effect seasonal anomaly. Finnish government benchmark bond returns are used as the risk-free rate to calculate the stock market excess return. All returns are real returns adjusted for inflation with the Cost of Living index, unless otherwise mentioned.

In the next section, I go through the empirical results. In addition to presenting the results using continuous political variables, I categorize the political variables into dichotomous variables, or "dummy variables", to make the results easier to interpret. This also accounts for the possibility of non-linear effects, for example that the stock market may react to a change to one direction but not the other. For the first hypothesis, the numeric

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[7] Relative to the general political ideology in Finland.
[8] P-values for all the coefficients of a second order polynomial regression explaining government partisanship with time are smaller than 0.001.

change in government partisanship is simply divided to positive and negative changes to represent changes from left to right, and right to left, respectively. For the second hypothesis, the governments are positioned to the left-to-right axis by their partisanship according to standard rounding rules: below 1.5 = Left, 1.5 to 2.5 = Center-Left, 2.5 to 3.5 = Center, 3.5 to 4.5 = Center-Right, and over 4.5 = Right. Values on the breaks are rounded up. Accordingly, during the sample period there have been 13 center-left, 42 center, and 17 center-right governments.
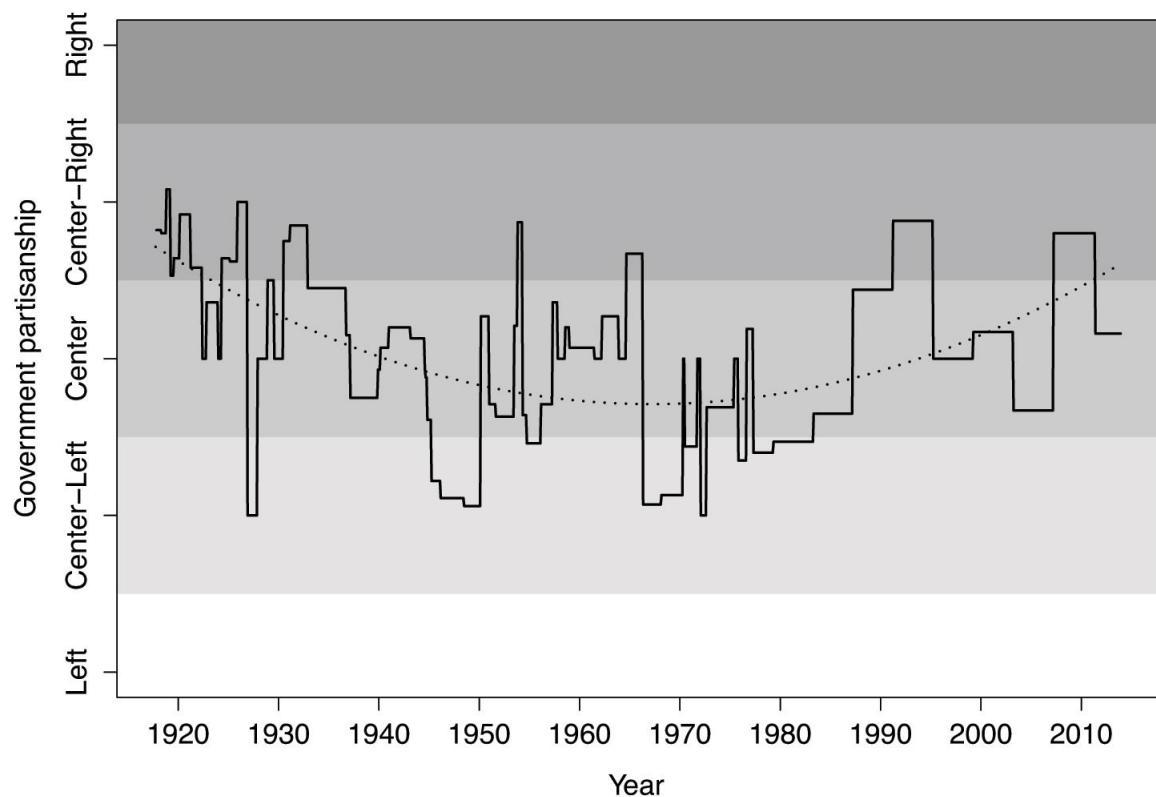
Figure 1. Partisanship of the Finnish Government from 1917 to 2013. This figure displays the Finnish Government partisanship over time for the entire history of Finland as an independent nation from 1917 to 2013. Partisanship is displayed on a scale from 1 to 5 from the political left to right. Correspondingly, the background colors represent the categorization of governments to left, center-left, center, center-right, and right. The darker the color is, the more right-leaning the government over the colored area is. The dashed line shows the average political ideology of the government over time represented by a second-order polynomial regression.

5 Results

5.1 Stock market reactions to change in government partisanship

Table 1 shows the regression results for the first hypothesis. Regressions A and B use the continuous numeric change in government partisanship at the end of the month, whereas regressions C and B use two dummy variables for a right-to-left, and a left-to-right change in government partisanship. Also, regressions A and C consider the change during the same month, whereas regressions B and D consider the lagged (by one month) effect of the change. All regressions build from the following model:

(2)

$$OMXH_t - Bond_t = \propto + \gamma_1 January_t + \beta_4 Election_t + \beta_5 PartisanshipFactor$$

where $OMXH_t$ is the real stock market total return during month t, $Bond_t$ is the monthly return of the Finnish government benckmark bonds, and thus $OMXH_t - Bond_t$ is the excess real return in the Finnish stock market (at the end of month t). $January_t$ is a dichotomous variable that equals 1 when month t is January (otherwise 0), $Election_t$ is a dichotomous variable that equals 1 when there is a parliamentary election during month t, and lastly *PartisanshipFactor* is replaced with the regression-specific partisanship-related variable or variables.

The partisanship variables are the following: $Change_t$ is the numeric change [9] in Government partisanship during month t, $Change_{t-1}$ is the change during the previous month, $Change(RtoL)_t$ and $Change(LtoR)_t$ are dichotomous variables that equal 1 when there is a right-to-left or left-to-right, respectively, change in government partisanship during month t (otherwise 0), and lastly $Change(RtoL)_{t-1}$ and $Change(LtoR)_{t-1}$ are the lagged versions of the dichotomous variables for a right-to-left and left-to-right change. The reference level is therefore no change during month t or month t - 1.

The estimation results show that the control variable for the January effect is significant at the 95% level (p = 0.03). The stock market has on average provided a monthly real excess return of 1.6% in January compared to other months.

The results also show a significant positive reaction associated with a parliamentary election. The dummy variable $Election_t$ (which equals 1 when there is a parliamentary election during month t) is significant at the 99% level in all regressions (p < 0.01), and also

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[9] Numeric change on the left-to-right scale from 1 to 5. Therefore, a positive change indicates a more right-leaning government, and a negative change a more left-leaning government.

Table 1.

Regression results for stock market reactions to change in government partisanship

This table reports the regression results for monthly stock market real excess returns when the political composition of a new government is announced. Regressions A and B report the reaction using continuous numeric variables for the partisanship change, whereas regressions C and D use dichotomous variables for a right-to-left and left-to-right change in partisanship, the reference level being no change. Regressions A and C consider the reaction during the same month, and regressions C and D consider the reaction with a one-month time lag.

	A		B		C		D	
(Intercept)	-0.002		-0.002		-0.002		-0.002	
	(0.410)		(0.410)		(0.451)		(0.343)	
January$_t$	0.015	**	0.015	**	0.015	**	0.015	**
	(0.030)		(0.030)		(0.029)		(0.030)	
Election$_t$	0.034	***	0.034	***	0.034	***	0.034	***
	(0.006)		(0.006)		(0.006)		(0.005)	
Change$_t$	0.004							
	(0.744)							
Change$_{t-1}$			0.001					
			(0.964)					
Change(RtoL)$_t$					-0.006			
					(0.607)			
Change(LtoR)$_t$					0.002			
					(0.832)			
Change(RtoL)$_{t-1}$							-0.001	
							(0.919)	
Change(LtoR)$_{t-1}$							0.012	
							(0.304)	
Residual standard error	0.064		0.064		0.064		0.064	
Degrees of freedom	1144		1144		1143		1143	
Multiple R^2	0.010		0.010		0.011		0.011	
Adjusted R^2	0.001		0.008		0.007		0.008	

P-values are reported in parentheses.
*, **, *** indicates significance at the 90%, 95%, 99% level, respectively.

economically very significant, showing a 3.4% real stock market excess return when there is a parliamentary election. This supports the uncertain information hypothesis (Brown et al., 1988), as the election results eliminate some of the uncertainty around a government change, leading to a positive reaction regardless of the actual election results. Regressions A and C test the immediate [10] stock market reaction to a Government partisanship change. In

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[10] At the monthly frequency of observations.

regression A, the variable *Change$_t$* is insignificant both economically and statistically. This implies that there is no immediate reaction to the change. Regression C confirms this, as the dummy variables for a right-to-left and left-to-right change are both insignificant.

As most Government terms in the data begin in the latter half of the month, it is possible that the reaction is not immediate, but comes with a time lag. Regressions B and D test whether there is a one-month time lag between the event and the reaction. However, the partisanship variables remain statistically insignificant.

The regression results therefore show no statistically significant stock market reactions in to a government partisanship change. However, note that the signs for the coefficients are as expected based on the partisan theory: a change from left to right (right to left) has a positive (negative) sign. Therefore, the rationale introduced in chapter 2.2 seems to hold true here: I argue is that the likely reason for the insignificant result is the political complexity and instability of the government. Unexpected and non-cyclical government changes are somewhat frequent; therefore, predicting policies far into the future based on the partisanship of the government is also quite unreliable. Since the policies mostly affect firm returns in the long term, and the length of the government term is volatile, there is not enough reliable information for the investors to lead to a significant stock market reaction when the composition of the new government is announced.

To further investigate the result, I examine the real stock and real bond returns individually. The results for this examination show that while the real excess return does not react significantly, the real stock and real bond returns both react positively to a change from left to right in Government partisanship. [11] The real stock market returns show a 2.3 percentage point rise (p-value = 0.036) with a one-month time lag, and the real bond returns show a 1.5 percentage point rise (p-value = 0.004) also with a one-month time lag. Neither stock nor bond returns react significantly to a change from right to left.

Therefore, it must be noted that even though the stock market real excess returns do not show a statistically significant announcement reaction to a change in government partisanship, the real stock and real bond returns individually react in a similar manner, thus making the reaction in the excess return insignificant.

5.2 Long-term stock market performance under the government term

Table 2 shows the regression results for the second hypothesis. Regressions E and F test the effect of the partisanship of the incumbent government on stock market performance under

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[11] See regression results in Appendix 2.

the governmental term. The regressions build from the same model:

(3)

$$OMXH_t - Bond_t = \propto + \gamma_1 January_t + \beta_4 Election_t + \beta_5 PartisanshipFactor$$

where *OMXH$_t$* , *Bond$_t$* , *January$_t$*, and *Election$_t$* are the same as previously. In regression E, *PartisanshipFactor* is replaced with *Partisanship$_t$* which is the continuous numeric government partisanship value for month *t*, and regression F uses a categorized version instead with dummy variables that equal 1 for each government type (CL = center-left, C = center, and CR = center-right) and 0 otherwise. The reference level in regression F is a centrist government.

The results for the *January$_t$* and *Election$_t$* variables stay similar in values and significance. However, the estimation results for the partisanship variables show a different outcome. The continuous variable *Partisanship$_t$* shows no significant difference between different governments, but the categorized regression F shows that the monthly real excess return under right-leaning governments has on average been 1.0 percentage points lower than under centrist governments. The difference is significant both economically and statistically (p-value = 0.050). For example, assuming a zero monthly return for a centrist government, the difference translates to a 11.4 percentage point lower annual excess real return for a center-right government. It is also important to note that left-leaning governments do not statistically significantly differ from the centrist governments, but economically they seem to be between centrist and right-leaning governments. The results imply that the left-leaning and centrist governments have actually been the better for the stock market than right-leaning governments. Interestingly, the relationship between government partisanship and real excess returns seems to be non-linear, and governments in the political center have at least economically been associated with higher real excess returns than both left-leaning and right-leaning governments.

The examination of nominal stock market excess returns and inflation independently suggests that the differences come from lower nominal stock returns under more right-leaning governments, and higher inflation during left-leaning governments.[12] Nominal stock market excess returns are highest under left-leaning governments, and lowest under right-leaning governments, but the high inflation during left-leaning governments taxes the real returns, leading to the highest real excess return under governments in the political center.

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[12] See Appendix 2 for regression results.

Table 2.

Regression results for long-term stock market performance under government term

This table reports the regression results for long-term stock market performance under different governments. Regression E uses a continuous numeric variable for government partisanship, and Regression F categorizes different governments to dichotomous variables for center-left and center-right governments, the reference level being a government in the political center.

	E		F	
(Intercept)	0.009		0.001	
	(0.420)		(0.788)	
January$_t$	0.015	**	0.015	**
	(0.031)		(0.031)	
Election$_t$	0.034	***	0.034	***
	(0.005)		(0.006)	
Partisanship$_t$	-0.003			
	(0.310)			
Partisanship(CL)$_t$			-0.004	
			(0.449)	
Partisanship(CR)$_t$			-0.010	**
			(0.050)	
Residual standard error	0.064		0.064	
Degrees of freedom	1150		1149	
Multiple R^2	0.011		0.014	
Adjusted R^2	0.009		0.010	

P-values are reported in parentheses.
*, **, *** indicates significance at the 90%, 95%, 99% level, respectively.

The partisan theory cannot explain this result, since the theory predicts that the returns under right-leaning governments should be higher, not lower, as their policies are more favorable for investors and firms. Rational partisan theory specifically only assumes temporary effects, but the broader partisan theory suggests long-term effects, as the actual realized government policies naturally have a long-term influence in the economy and the stock market. Even though the result does not support the partisan theory, it is consistent with earlier empirical findings in the literature, specifically the so-called democrat premium (e.g. Henzel and Ziemba, 1995; Santa-Clara and Valkanov, 2003), as right-leaning governments are found to be associated with lower stock market excess returns. Most studies do not provide any theoretical explanation for this, but merely report the empirical finding that goes against the traditional belief that right-wing governments are better for the stock market.

There are however some studies offering an explanation for the phenomenon that stock markets seem to do better under left-wing governments in many countries. Sy and Zaman

(2011) provide a possible explanation based on risk by letting the systematic risk vary across presidencies. They argue that the economic policy differences affect the risk of securities. For example, higher inflation would lead to tighter expected future monetary policy, which is bad for smaller firms. Therefore, investors will ask for greater compensation under Democratic terms, especially for holding small firms. Using data from 1926 to 2007, they find that the systematic risk in the US is not constant, but instead significantly higher under Democratic presidencies. By allowing a conditional risk in their model, they show a lower abnormal return. Sy and Zaman also investigate exposures to market, size, and value factors (Fama and French, 1996). They find that with a non-constant risk the three factors can explain most of the presidential puzzle. For example, they show that the difference in abnormal return for the smallest size portfolio drops from 22.36 per cent to only 2.93 per cent under Democratic presidencies when using the three-factor model with conditional risk. Sy and Zaman thus conclude that "the presidential premium can be interpreted as a compensation for risk". To see if this may explain the left-wing premium in Finland as well, I find that the annual volatility calculated from the monthly returns is not significantly dependent on government partisanship, but the monthly inflation has been significantly lower under center and center-right governments than center-left governments. Testing the explanatory power of the full three-factor model in Finland would however require more data collection for constructing the different long term portfolios, but it is a prominent topic for future research, as the theory is not ruled out by the monthly data.

In their recent study, Belo et al. (2013) test the relationship between stock returns and exposure to government spending. They find that under Democrat presidencies, firms with high exposure to government spending outperform those with low exposure to government spending, and underperform under Republican terms. Importantly, they also show that "the puzzle increases monotonically with the industry exposure to government spending, from 2.6% per annum in industries with low exposure to 13.5% in industries with high exposure". Exposure to government spending is arguably a significant topic of discussion in the Finnish stock market, as government expenditure as a percentage of GDP in Finland is one of the highest in the world (The Heritage Foundation, 2014). Finland is number nine on the list, but the only Western democracies higher on the list are Denmark and France ([7th] and [8th], respectively). I argue that this may have significant explanatory power considering my empirical results, and provides another important topic for future research.

The regression results do not provide support for the hypothesis that stock markets perform better under right-wing governments. Instead, they explicitly show evidence for an opposite hypothesis. However, the finding joins the empirical evidence in the existing literature.

6   Conclusion

I study the relationship between the Finnish Government partisanship and stock market returns immediately after the appointment of the government, and during their term. My sample period begins from the independency of Finland in 1917 and covers over 96 years to the end of 2013. My main empirical results can be summarized as follows.

First, the stock market real excess returns do not show a significant reaction to a change in government partisanship when the composition of the new government is made public. The signs of the coefficients follow the partisan theory, but are not statistically significant. I argue that this may be explained by the general instability of the Finnish Government as compared to the expected 4-year term length, and also the difficulty of predicting future policies due to the large and varying number of parties in the government. Also, I note that even though the real excess returns do not react to a partisanship change, both real stock returns and real bond returns individually react positively to a left-to-right change in government partisanship. However, as the stock and bond markets react similarly, the reaction in the stock market excess returns is not significant.

Second, the Finnish stock market has performed better under left-leaning and centrist governments than under right-leaning governments. Real excess returns have been highest under governments in the political center, while nominal excess returns have been highest under left-leaning governments. This is explained by significantly higher inflation under left-leaning governments. In both real and nominal terms, the right-leaning governments have been associated with the lowest excess returns. This goes against the partisan theory, but is consistent with empirical findings in the existing literature, specifically the democrat premium or the presidential puzzle. Further research is required to fully explain this finding, but I argue that exposure to government spending may have significant explanatory power in Finland. Existing literature has linked the presidential puzzle to industries with high exposure to government spending (Belo et al., 2013), and government spending compared to GDP in Finland is one of the highest in the world.

In addition, I find that the stock market reacts positively immediately after a successful parliamentary election regardless of the election results. The monthly real excess return has on average been 3.4 percentage points higher when there is a parliamentary election, which is economically very significant. This is consistent with the uncertain information hypothesis (Brown et al. 1988) which states that resolving uncertainty should on average have a positive reaction regardless of the actual content of the news. Interestingly, the reaction is economically and statistically more significant than the reaction to the information about the political composition of the new government. This is inconsistent with the reasoning that in a

multi-party system with proportional representation, the formation of the coalition should resolve more uncertainty than the sole election. However, the positive reaction to an election regardless of the election results also supports the political business cycle theory that expects cyclical stock market movements connected to political cycles such as parliamentary and presidential terms.

The results suggest multiple topics for future research. First, this thesis does not consider whether the political event (an election, a government change) has been expected or unexpected. Expected events occur based on the political cycles, such as the four-year parliamentary term, while unexpected events usually happen after a political crisis. This may be important especially in Finland, where a significant part of the elections and government changes have been unexpected. Second, investigating whether exposure to government spending affects stock returns (Belo et al., 2013) in the Nordic countries, where government spending is relatively high, would provide important evidence in solving the presidential puzzle. Also, further testing the explanatory power of the three-factor model with conditional risk, as suggested by Sy and Zaman (2011), would help in developing a more complete asset-pricing model that can take the political factors into account. Collecting the historical data for this would in itself be a significant contribution to research in Finland, as the monthly value-weighted and equally weighted indices constructed by Nyberg and Vaihekoski (2009) remain the only long-term stock market indices in Finland covering the entire independence of the country. Finally, a post-Euro analysis in Europe would allow for more reliable future implications. The European Central Bank controls monetary policy; therefore, economic policy is currently the main linking factor between government partisanship and stock markets in individual member countries of the EU, as monetary policy is not under the power of individual governments.

In conclusion, my empirical results show that politics and the partisanship of the government have a significant influence on the Finnish stock market. This is important information to investors, as they have the voting power to influence the partisanship of the next government.

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Appendix 1
Governmental parties

This table lists all political parties that have been members of the Finnish Government at least once during the period 1917-2013. The parties are sorted by partisanship from left to right. If the party has changed their name, the new name is listed and the previous name is shown in parentheses. Non-party ministers are government officials who are not associated with any single party.

Party			Partisanship	
English (previously)	Finnish (previously)	Finnish Abbreviation	Value	Description
Finnish People's Democratic League	Suomen Kansan Demokraattinen Liitto	SKDL	1	Left
Left Alliance	Vasemmistoliitto	Vas.	1	Left
Social Democratic Union of Workers and Smallholders	Työväen ja Pienviljelijäin Sosialidemokraattinen Liitto	TPSL	1	Left
Greens	Vihreät	Vihr.	2	Center-Left
Social Democratic Party of Finland	Suomen Sosiaalidemokraattinen Puolue	SDP	2	Center-Left
Centre Party (Agrarian League)	Suomen Keskusta (Maalaisliitto)	Kesk. ML	3	Center
Finnish Rural Party	Suomen Maaseudun Puolue	SMP	3	Center
Liberal League	Vapaamielisten liitto	VL	3	Center
Liberal People's Party	Liberaalinen kansanpuolue	Lib.	3	Center
Finnish Christian Democrats (Finnish Christian League)	Suomen Kristillisdemokraatit (Suomen Kristillinen Liitto)	KD SKL	4	Center-Right
Finnish Party	Suomalainen Puolue	SP	4	Center-Right
National Progressive Party	Kansallinen Edistyspuolue	Ed.	4	Center-Right
People's Party of Finland	Suomen Kansanpuolue	KP	4	Center-Right
Swedish People's Party of Finland	Suomen ruotsalainen kansanpuolue	RKP	4	Center-Right
Young Finnish Party	Nuorsuomalainen Puolue	NSP	4	Center-Right
National Coalition Party	Kansallinen Kokoomus	Kok.	5	Right
Patriotic People's Movement	Isänmaallinen Kansanliike	IKL	5	Right
Non-party minister	Ammatti- / virkamiesministeri		3	

Appendix 1 Continued
The Finnish Governments from 1917 to 2013

This table lists all Finnish Governments from 1917 to 2013. All dates are in format day/month/year. The *Partisanship* value describes the political position of the government from left to right on a scale from 1 to 5.

No.	Prime Minister	Time in office			Party of Prime Minister		Partisanship
		From	To	Days	English	Finnish abbr.	
1	Svinhufvud	27/11/1917	27/05/1918	182	Young Finnish Party	NSP	2.73
2	Paasikivi	27/05/1918	27/11/1918	185	Finnish Party	SP	3.00
3	Ingman	27/11/1918	17/04/1919	142	National Coalition Party	Kok.	3.62
4	Castren K	17/04/1919	15/08/1919	121	National Progressive Party	Ed.	3.20
5	Vennola	15/08/1919	15/03/1920	214	National Progressive Party	Ed.	3.00
6	Erich	15/03/1920	9/04/1921	391	National Coalition Party	Kok.	3.67
7	Vennola II	9/04/1921	2/06/1922	420	National Progressive Party	Ed.	3.00
8	Cajander	2/06/1922	14/11/1922	166	Non-party minister	VMM	3.00
9	Kallio	14/11/1922	18/01/1924	431	Agrarian League	ML	3.00
10	Cajander II	18/01/1924	31/05/1924	135	Non-party minister	VMM	3.00
11	Ingman II	31/05/1924	31/03/1925	305	National Coalition Party	Kok.	3.55
12	Tulenheimo	31/03/1925	31/12/1925	276	National Coalition Party	Kok.	3.62
13	Kallio II	31/12/1925	13/12/1926	348	Agrarian League	ML	4.00
14	Tanner	13/12/1926	17/12/1927	370	Social Democratic Party	SDP	2.00
15	Sunila	17/12/1927	22/12/1928	372	Agrarian League	ML	3.00
16	Mantere	22/12/1928	16/08/1929	238	National Progressive Party	Ed.	3.00
17	Kallio III	16/08/1929	4/07/1930	323	Agrarian League	ML	3.00
18	Svinhufvud II	4/07/1930	21/03/1931	261	National Coalition Party	Kok.	3.67
19	Sunila II	21/03/1931	14/12/1932	635	Agrarian League	ML	3.77
20	Kivimäki	14/12/1932	7/10/1936	1394	National Progressive Party	Ed.	3.18
21	Kallio IV	7/10/1936	12/03/1937	157	Agrarian League	ML	3.00
22	Cajander III	12/03/1937	1/12/1939	995	National Progressive Party	Ed.	2.58
23	Ryti	1/12/1939	27/03/1940	118	National Progressive Party	Ed.	2.86
24	Ryti II	27/03/1940	4/01/1941	284	National Progressive Party	Ed.	3.00
25	Rangell	4/01/1941	5/03/1943	791	National Progressive Party	Ed.	3.13
26	Linkomies	5/03/1943	8/08/1944	523	National Coalition Party	Kok.	3.06
27	Hackzell	8/08/1944	21/09/1944	45	Non-party minister	VMM	2.87
28	Castren U	21/09/1944	17/11/1944	58	National Coalition Party	Kok.	2.81
29	Paasikivi II	17/11/1944	17/04/1945	152	Non-party minister	VMM	2.56
30	Paasikivi III	17/04/1945	26/03/1946	344	Non-party minister	VMM	2.17
31	Pekkala	26/03/1946	29/07/1948	857	Finnish People's Democratic League	SKDL	2.11

Appendix 1 Continued

No.	Prime Minister	Time in office			Party of Prime Minister		Partisanship
		From	To	Days	English	Finnish abbr.	
32	Fagerholm	29/07/1948	17/03/1950	597	Social Democratic Party	SDP	2.06
33	Kekkonen	17/03/1950	17/01/1951	307	Agrarian League	ML	3.13
34	Kekkonen II	17/01/1951	20/09/1951	247	Agrarian League	ML	2.65
35	Kekkonen III	20/09/1951	9/07/1953	659	Agrarian League	ML	2.63
36	Kekkonen IV	9/07/1953	17/11/1953	132	Agrarian League	ML	3.21
37	Tuomioja	17/11/1953	5/05/1954	170	Liberal League	VL	3.47
38	Törngren	5/05/1954	20/10/1954	169	Swedish People's Party	RKP	2.64
39	Kekkonen V	20/10/1954	3/03/1956	501	Agrarian League	ML	2.46
40	Fagerholm II	3/03/1956	27/05/1957	451	Social Democratic Party	SDP	2.57
41	Sukselainen	27/05/1957	29/11/1957	187	Agrarian League	ML	3.07
42	von Fieandt	29/11/1957	26/04/1958	149	Non-party minister	VMM	3.00
43	Kuuskoski	26/04/1958	29/08/1958	126	Non-party minister	VMM	3.00
44	Fagerholm III	29/08/1958	13/01/1959	138	Social Democratic Party	SDP	3.07
45	Sukselainen II	13/01/1959	14/07/1961	914	Agrarian League	ML	3.07
46	Miettunen	14/07/1961	13/04/1962	274	Agrarian League	ML	3.00
47	Karjalainen	13/04/1962	18/12/1963	615	Agrarian League	ML	3.00
48	Lehto	18/12/1963	12/09/1964	270	Non-party minister	VMM	3.00
49	Virolainen	12/09/1964	27/05/1966	623	Centre Party	Kesk.	3.40
50	Paasio	27/05/1966	22/03/1968	666	Social Democratic Party	SDP	2.07
51	Koivisto	22/03/1968	14/05/1970	784	Social Democratic Party	SDP	2.13
52	Aura	14/05/1970	15/07/1970	63	Non-party minister	VMM	3.00
53	Karjalainen II	15/07/1970	29/10/1971	472	Centre Party	Kesk.	2.44
54	Aura II	29/10/1971	23/02/1972	118	Non-party minister	VMM	3.00
55	Paasio II	23/02/1972	4/09/1972	195	Social Democratic Party	SDP	2.00
56	Sorsa	4/09/1972	13/06/1975	1013	Social Democratic Party	SDP	2.69
57	Liinamaa	13/06/1975	30/11/1975	171	Non-party minister	VMM	3.00
58	Miettunen II	30/11/1975	29/09/1976	305	Centre Party	Kesk.	2.35
59	Miettunen III	29/09/1976	15/05/1977	229	Centre Party	Kesk.	3.19
60	Sorsa II	15/05/1977	26/05/1979	742	Social Democratic Party	SDP	2.40
61	Koivisto II	26/05/1979	19/02/1982	1001	Social Democratic Party	SDP	2.47
62	Sorsa III	19/02/1982	6/05/1983	442	Social Democratic Party	SDP	2.47
63	Sorsa IV	6/05/1983	30/04/1987	1456	Social Democratic Party	SDP	2.65
64	Holkeri	30/04/1987	26/04/1991	1458	National Coalition Party	Kok.	3.44
65	Aho	26/04/1991	13/04/1995	1449	Centre Party	Kesk.	3.88
66	Lipponen	13/04/1995	15/04/1999	1464	Social Democratic Party	SDP	3.00
67	Lipponen II	15/04/1999	17/04/2003	1464	Social Democratic Party	SDP	3.17
68	Jäätteenmäki	17/04/2003	24/06/2003	69	Centre Party	Kesk.	2.67
69	Vanhanen	24/06/2003	19/04/2007	1396	Centre Party	Kesk.	2.67
70	Vanhanen II	19/04/2007	22/06/2010	1161	Centre Party	Kesk.	3.80
71	Kiviniemi	22/06/2010	22/06/2011	366	Centre Party	Kesk.	3.80
72	Katainen	22/06/2011		1043	National Coalition Party	Kok.	3.16

Appendix 2
Additional tests

This table reports the additional regression results mentioned, including the effects on inflation-adjusted stock and bond returns during the next month after a government change, and the long-term effects on nominal stock market excess returns and inflation under different governments. The variables in the regressions are the following: $January_t$ equals 1 when month t is January and 0 otherwise, $Election_t$ equals 1 when there is a parliamentary election during month t, $Change(RtoL)_{t-1}$ and $Change(LtoR)_{t-1}$ equal 1 when there is a change in government partisanship from right to left, or left to right, respectively, and 0 otherwise, and $Partisanship(CL)_t$ and $Partisanship(CR)_t$ equal 1 when a left-leaning or right-leaning, respectively, government is in power during month t.

	Inflation-adjusted $OMXH_t$	Inflation-adjusted $Bond_t$	Nominal $OMXH_t - Bond_t$	$Inflation_t$
(Intercept)	0.004 **	0.001	0.005 *	0.004 ***
	(0.029)	(0.475)	(0.073)	(0.000)
$January_t$	0.017 **	0.001	0.015 **	0.000
	(0.012)	(0.734)	(0.027)	(0.859)
$Election_t$	0.031 ***	-0.001	0.033 ***	-0.002
	(0.008)	(0.815)	(0.008)	(0.686)
$Change(RtoL)_{t-1}$	-0.000	0.006		
	(0.989)	(0.241)		
$Change(LtoR)_{t-1}$	0.023 **	0.015 ***		
	(0.036)	(0.004)		
$Partisanship(CL)_t$			0.003	0.007 ***
			(0.539)	(0.000)
$Partisanship(CR)_t$			-0.008 *	0.002
			(0.087)	(0.190)
Residual standard error	0.061	0.029	0.064	0.021
Degrees of freedom	1143	1143	1149	1149
Multiple R^2	0.015	0.009	0.014	0.016
Adjusted R^2	0.011	0.006	0.010	0.013

P-values are reported in parentheses.
*, **, *** indicates significance at the 90%, 95%, 99% level, respectively.

Appendix 3
# Stock market index and real excess returns under government terms
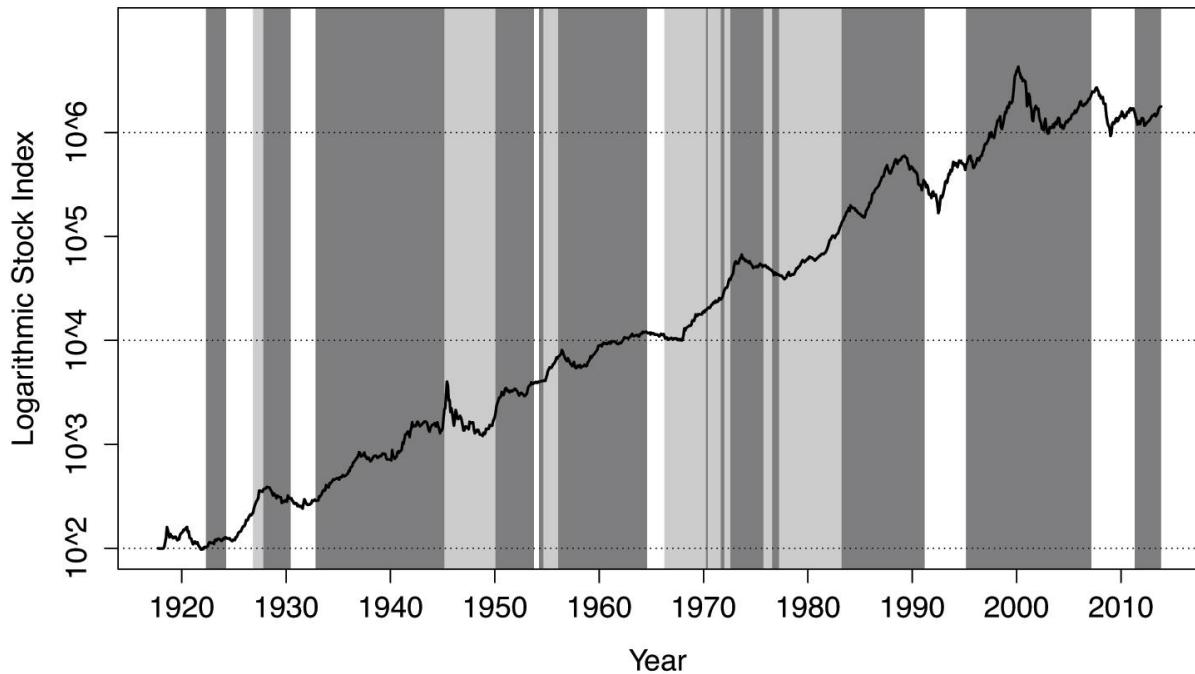
Figure 2. Logarithmic stock market index and government terms. This figure displays the Finnish stock market index on a logarithmic (base 10) scale over the terms of the Finnish Governments. The stock market index from 1917 to 2009 is the value-weighted total return index collected by Nyberg and Vaihekoski (2009), and continued with the OMXH total return index from 2009 to 2013. Governments are color-coded as follows: white = center-left, light gray = center, and dark gray = center-right.

Appendix 3 Continued.
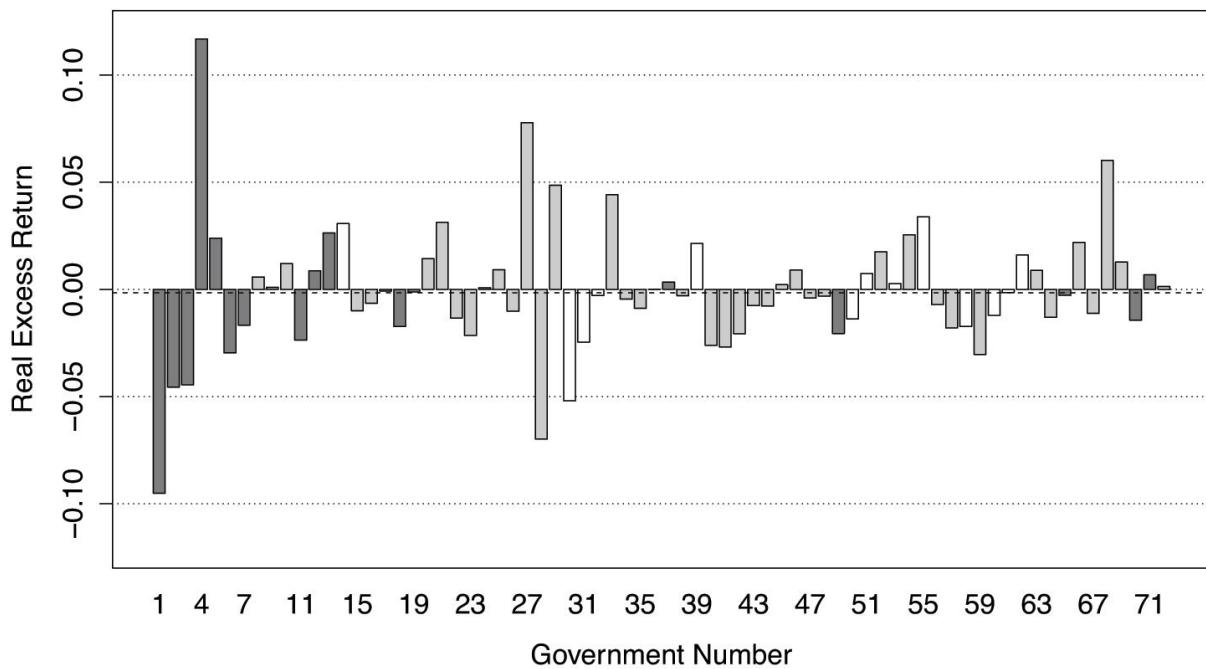
Figure 3. Stock market real excess returns under the 72 Finnish Governments. This figure displays the real excess returns under all 72 Finnish Governments. The excess return is calculated using a value-weighted total return index for the Finnish stock market, and Finnish Government benchmarks bonds as risk-free rate. The returns are adjusted for inflation with the monthly Cost of Living index. The returns displayed are geometric means of monthly real excess returns under each government. Governments are color-coded as follows: white = center-left, light gray = center, and dark gray = center right. The dashed line shows the geometric average (-0.16%) under the whole sample period from 1917 to 2013. Numbering of the governments reflects the numbering in Appendix 1.