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The Effects of Consumer Confidence on Election Outcomes: Evidence from the G-7 Countries.

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ABSTRACT

In the wake of political clamor and polarization caused by the recent COVID-19 pandemic, this paper will focus on economic determinants of election outcomes. Especially by treating the Consumer Confidence Index (CCI) as the main predictor of elections, models were made to answer several research questions. Taking a sample of election outcomes alongside economic variables of the G-7 countries over the period 1995-2020, this paper analyzes the effect CCI (and other economic variables) exert on 1) the re-election probability of the incumbent, 2) the voter turnout in an election and 3) the populist vote share per election. The results show mild statistically significant results for CCI predicting a re-election, also when controlling for a resigned government. CCI has an influence on the percentage of voter turnout and is statistically significant, populist vote share however yielded only mild significant results for CCI. Nevertheless, various economic factors also showed to be statistically significant in explaining either of the dependent variables which led to multiple policy implications given in this paper concerning both incumbent and opposition parties.

Table of contents

1. Introduction

This paper will measure the effect of the Consumer Confidence Index (CCI) on the outcome of national elections. The relationship between economic conditions and political results has been of particular interest in research papers, not only today but also in the past (e.g., Kramer, 1971; Peltzman, 1987 and Hardevoulis & Thomakos, 2008). As a start we go back to Ancient Greece, where the foundation for these national elections was laid. Democracy, originating from the Greek words *dēmos* which means people and *kratos* which means rule i.e., the people rule. Nowadays in most countries this means people get to vote on a person and/or party who gets to represent them in the parliament or other government seat and rule the country. Every democracy in the world has its own form, some countries have a president, and some have a monarch, yet with the addition of some sort of parliament to rule or oppose this power. Sometimes these leaders only have a ceremonial function, and the real power lies with another person like a prime minister. In one way or another the population has a say in how the country is governed. Yet this freedom is not being experienced by every person in the world. According to The Economist Intelligence Unit (2021) only 75 of the 167 countries can be classified as either a full democracy or flawed democracy, this is just 45%. This is done by this platform via their famous Democracy Index which is released on a yearly basis[1]. This index ranks countries on a scale of 0-10 on how democratic they are.

Now more than ever this is a hot topic. With a lot of countries in a lockdown or just coming out of one due to COVID-19, people's rights and freedom have been contained for more than a year now. While most of the people accepted these measures because they had ulterior motives, being controlling the virus spreading and protecting older and weaker persons from serious illness and death. This of course, caused friction and polarization among the population, with all sorts of opinions about the virus itself but also the government and what they should do and cannot do (see Altiparmakis et al. (2021) for an extensive overview of eleven countries and their responses to the COVID-19 pandemic and the populations approval of this; Meyer (2020) shows the responses of populist governments to the pandemic). Bearing in mind the most recent outcomes of the Democracy Index, The Economist (2021) concluded 2020 was the worst year for democracy since their index started back in 2006. The average score of a country was lowest at 5.37 and more than one third lived in an authoritarian country the past year. It caused some countries who were a full democracy to drop to a flawed democracy, like France but a country like Taiwan went from flawed to full because of their great results from the election. While most western countries had their scores set back due to the COVID-restrictions, it is certain they will rise again after the virus gets contained, vaccinations start to increase, and people will get their freedom back one by one. Not all was bad last year in the light of democracy, voter turnout increased overall, for example during the presidential election in the United States the turnout was the highest since the 1980's and presumably even longer (Pew Research Center, 2021).

Not only democracy was hit hard by the pandemic but also the economy. Lockdowns initiated in various countries meant for example the closing of restaurants, non-essential shops, and entertainment venues. All this to keep people from going out too much and spreading the disease, which meant there were fewer occasions for them to spend money. Borders were

[1] Indices of the investigated countries are shown in table 1 of Appendix B.

closing which meant already booked vacations were being repaid in the form of a coupon to go later and thus more money exiting the economy. Yet there were also a few sectors who flourished during these times, think of supermarkets, webstores like Amazon and Alibaba and information and communications technology (ICT) services to facilitate working from home. In comparison, American Airlines experienced a 62% decline in revenues over 2020 and their first negative net income since 2013 (Macrotrends, 2021). On the contrary Amazon's revenue was up $100 billion (+34%) and their net income grew an astonishing 84% (Forbes, 2021). So naturally, as an economist you will immediately spot that this is not in accordance with the Pareto Efficiency Theory as described in his 1897 paper, since one is clearer better off while another one is worse off.

The analysis in this paper is not only limited to 2020 but will look over the period 1995-2020 into the G7 countries[2], and during this period there have been numerous financial crises which may or may not have impacted national elections and therefore rewarded or punished the incumbent government. Among others, the most famous and impactful being the Dotcom Bubble of the early 2000s, the financial crisis of 2008 and the Euro crisis in the beginning of the past decade. Also, during this period multiple disease outbreaks occurred, some locally but also worldwide like the Ebola virus and Zika virus. The ongoing COVID-19 pandemic and the HIV/AIDS epidemic among these the most deadly and influential. Which means never in the investigated period has the economy been influenced that much by a disease like last year. But in comparison to the financial crises that happened, how bad was it? During the Dotcom Bubble the Nasdaq was at its peak in 2000 and eventually fell 76.81% in 2002, it took the index thirteen years to reach this same peak again (Investopedia, 2019). Last year however the Dow Jones fell 27.56% from the beginning of 2020 to its ultimate some 3 months later in March. It also took the index only about 5 months after to be at the same point they started and ended the year with a return of 21.55%[3] (Statista, 2021). While during the 2008 financial crisis, US Gross Domestic Product (GDP) declined 0.3% and 2.8% in 2008 and 2009 respectively and unemployment peaked at almost 10% (Investopedia, 2020). US GDP fell 3.5% during 2020 and unemployment was 8.1%. With unemployment seeming not to be worse than in 2008, when looking at monthly data, during April 2020 it was even 14.8%, before gradually moving down toward 6%. GDP can also be divided into quarters, if we do this it holds that in quarter 2 the GDP fell 31.4% but the following quarter it already grew 33.4% again (Statista, 2021). This means it is not exclusively worse during a pandemic nor a financial crisis but during the pandemic the economy revived quicker.

Not only will economic control variables be used in order to determine the effect of CCI but also opinion polls will be used. Prior to and during an election various institutions will try to 'predict' the outcome of the election through surveys among the population. This is done both before the election (sometimes even every week) and while the votes are still being counted, these are so-called exit polls. The analysis will only consist of pre-election polls and tries to find out if they have any explanatory power in predicting the winner. It makes sense people are influenced by the outcomes of these polls both negatively as well as positively (see Sudman (1986) for an example of voting behaviour influenced by polls).

[2] These are Canada, France, Germany, Italy, Japan, United Kingdom (UK) and United States (US/USA).
[3] At the end of the year, it was 67.78% higher than its lowest point in March.

Now on to the main determinant, Consumer Confidence Index (CCI). CCI is an index that measures country-based optimism regarding the economy among the population. Later, in section 3 the data and its uses will be explained. For now, it suffices to explain the concept and go over the historical trend. Polling company Ipsos reports the highest Consumer Confidence since the start of the pandemic at the start of 2021 (Ipsos, 2021). While still being below pre-pandemic levels and below the 10-year average, this indicates people see the future becoming brighter every month. Of the 10 highest growers, none are G7 countries. Even more remarkable, both Japan and USA had a decline in index between December 2020 and January 2021. In Appendix B, graph 1 is a figure which portrays the CCI of the G7 countries combined over the period 1995-2020. The data is extracted from OECD data (see Appendix D) and displays an index with 100 being the long-term average[4]. Bursts and booms can directly be observed from this, the Dotcom bubble in early 2000s caused a rise, the financial crisis of 2008 a decline just like the COVID-19 pandemic. The effects of the Euro crisis are less visible, probably because of the lack of effect it had on non-European countries.

As mentioned earlier this paper tries to examine the role that CCI plays in the outcome of national elections. To be specific the main research question is *does the Consumer Confidence Index predict whether or not the incumbent government gets re-elected?* Based upon earlier literature (Vuchelen, 1995; Hardevoulis & Thomakos, 2008) this will be true in the following way, prior to elections when CCI is high relative to long-term average, the incumbent government is more likely to get re-elected. Also, because voter turnout is something crucial for the functioning of a good democracy, the following question will be investigated: *does CCI influence the voter turnout of a national election?* On this question evidence from Passarelli and Tuorti (2014) proves a low CCI will positively influence the voter turnout as most electors will want to vote away the incumbent party, yet it could also be that it will not be influenced by poor performances since abstaining from voting was also found significantly. Next question investigates something that has become very apparent recent years namely, *do the changes in CCI give rise to populism?* For this it would also be logical to think that low CCI gives way to populistic leaders and politicians, this is just a first hunch and will be further explained in the next section. The final question to be used in this paper is *will there be a difference in chance compared to the main research question when an election is due to the collapsing of a government instead of regular elections?* Of course, when there is no more trust in a government or something scandalous happens it could happen the whole government has to/decides to resign and new elections will occur. This paper will look at the consequences of such an event, does CCI still have the same influence as it has with normal elections? According to Dewan and Dowding (2005) the effect is not negligible due to a correction effect in government popularity. During the sample not only has it happened that early elections were held but also that governments changed during one term, both of these cases will be examined.

[4] CCI data is constructed monthly, for the analysis as a whole is determined quarterly data would be more appropriate. Therefore, shown indices for CCI are constructed with the following formula: $CCIquarterly = \left(CCI_{\alpha} * CCI_{\beta} * CCI_{\delta}\right)^{1/3}$ **(I)**

Where α is either month 1, 4,7 or 10, β is either month 2, 5,8 or 11 and δ is either month 3, 6, 9 or 12.

The rest of the paper proceeds as follows, section 2 will be a literature review, section 3 explains the data and methodology, section 4 shows the results, section 5 discusses policy implications and section 6 concludes.

2. Literature review

In this section relevant literature related to the topics investigated will be discussed (e.g., Kramer (1971), Peltzman (1987), Lewis-Beck (1986), Hardevoulis & Thomakos (2008), Dornbusch & Edwards (1990), Mudde & Kaltwasser (2017), Settle & Abrams (1976), Dewan & Dowding (2005)). Because, to my knowledge, there is only one paper that considers the relationship between CCI and elections (Hardevoulis & Thomakos, 2008), most of the following will be about the influence of economic factors on elections.

2.1. The beginning: 1970's

During the 1970's the first research to voting behaviour being influenced by economic factors began. Kramer (1971) seeks to find the relationship between the economy and the outcome of elections in the United States[5]. He finds real personal income to be the most important factor, when this declines 10% the incumbent party would lose about 4 or 5 percent of the votes, all else equal. He also found that for a politician running for congress is of the same party as the current president, votes could increase by 10% when the country is in an economic upturn. Following these results, Stigler proved that his conclusions were wrong. In his 1973 paper, he concludes the differences between Republicans and Democrats (in the United States) are not that big. The conclusion was that the two parties differ mostly on their way of distributing income, influenced by an "only suggestive" analysis of inflation being negatively related to the incumbent's share in votes he advises that the root of connecting with one party or the other lies with this income (re)distribution[6]. McCraken (1973) looks at the micro evidence, being the opinions of the population, to see if this strokes with the macro-outcomes. He presents results of a survey between white-collar and blue-collar workers asked about how they view their personal economic and governmental situation. He also includes sentiment about how many people would choose Nixon as their first President and concludes that political sentiment is more influenced by for example economic developments if effective enough. With possibly only inflation as an exception, no aggregate economic variables influence voter turnout nor outcomes of the two parties in congressional elections in the US (Arcelus & Meltzer, 1975). They conclude most of the shifting for both normal voters and partisan voters causes most of the differences in outcomes. This change depends on the incumbent party, with Democrats earning a 4% advantage when the incumbent is a Democrat. In his 1975 paper Nordhaus seeks to find a relationship between elections and the political business cycle. With use of the Phillips curve (Phillips, 1958), a trade-off between inflation and employment, he concludes that when politicians face a choice between present and future welfare, they will be biased to be make decisions which favour the present generation and could benefit his term(s) in office. Bloom and Price (1975) make four conclusions in their research on voter response in gubernational

[5] During this early stage of the literature, most is written about US elections. Whether it is presidential, congressional or gubernational.

[6] In a small essay by Okun (1973), he writes about what he does and does not agree on with Stigler, also bringing Kramer's findings into the story.

and national elections. (1) economic declines hurt the incumbent President, regardless of his/her party, (2) voters only consider short-term outcomes on economic policies, (3) their model holds for a large set of economic conditions and (4) the findings of Arcelus and Meltzer (1975) and Stigler (1973), that do not go hand in hand, can be fixed by adjusting the problem with their methodologies. The paper of Meltzer and Vellrath (1975) tries to explain voter behaviour with use of the political business cycle[7] and conclude voters choose a different party regarding to issues they find more important at the time of an election. The authors look at the period 1960-1972, because in 1960 Nixon lost the election and in 1972, he won. While the economy was no worse in both years, inflation was higher in 1960 which might explain Nixon's performance in these elections. Also, the tax reforms play a large enough role in outcomes, like the one in 1964. Fair (1978) wants to make a model of general voting behaviour to capture all the other evidence of previous literature and wants this to explain US Presidential elections. He concludes that change in growth rate per real capita of Gross National Product (GNP) or the change in unemployment rate both have the most important effect on votes for a president. Of the other variables tested, only the absolute growth rate of the GNP deflator seems to come somewhat close to be explanatory.

2.2. An extension to the original literature

Economic voting across Great-Britain, France, Germany, and Italy is present and clear (Lewis-Beck, 1986). Evaluations of economic performances yield statistically significant results in measuring the likelihood of the incumbent getting re-elected (Lewis-Beck, 1986). After the emergence on literature about economic performance and elections in Europe, with opposed results, Lewis-Beck tries to solve these and comes to this conclusion. In a fairly new approach Peltzman (1987) focuses on gubernational elections to overcome the small samples associated with elections of the President, bearing in mind the lesser effect a governor can have on the economy compared to a President. He finds voters are very well informed about the differences in state and national elections and their vote is influenced as expected. He finds national income growth and inflation decline to influence vote shares about the same as Kramer (1971) and Fair (1978), with a big standard deviation which could explain the shift in votes between the two parties. Right-wing governments are more effected by inflation and left-wing and centre government by unemployment (Powell & Whitten, 1993). This paper analyses 19 countries all over the world in a multivariate analysis, thus solving part of the problem of less elections as mentioned earlier. They also found that incumbents in a majority overall lose about 2% of votes, depending on economic performance, political conditions, and others. Coalition government or minority governments seem to be less influenced by this.

Where this paper examines the role of CCI in explaining elections, there is also quite some literature on elections explaining CCI, in the form of event studies. With CCI in Belgium being influenced by the effect of political events (Vuchelen, 1995). Unexpected elections and government changes being the most influential. Not only is CCI influenced by political events but also via the media (de Boef & Kellstedt, 2004). They conclude that CCI becomes more positive when the media covers more positive news, the authors also recommend to further

[7] This term was also coined in the paper of Nordhaus (1975). And together with his finding of incumbents trying to make decisions with trading off inflation and employment, the political business cycle can be seen as periods of austerity in the early years of governing to end with a potlatch before the election.

investigate the causal link between politics and economics. Snowberg et al. (2006) is looking to solve the problem of reverse causality bias between elections and the economy. They investigate movements of financial markets like, equity prices, oil prices, interest rates and bond yields and find that for the 2000 and 2004 US Presidential election these markets were higher when markets expected the Republican candidate was winning according to exit polls[8]. On the other end of this research, we have a paper by Blinder and Watson (2014). They also attempt to solve the reverse causality bias by looking how macroeconomic variables are influenced by politics. They find a large difference between real GDP growth in the US when Democrats are in charge compared to Republicans, being 1.8% higher for Democrats[9]. Marc and Reuter (2015) exhibit a study compared to Vuchelen (1995), they investigate the link between CCI and elections and find elections having a positive significant effect on CCI in Austria, Germany and France, the research is done for EU member states with both fixed and variable election dates (note however, they did not find a relationship for Belgium, contrary to the findings of Vuchelen (1995). Fujiwara et al. (2020) considers something more of the present time, being the influence of social media on election outcomes. They compare Twitter users per county in the US and find that exposure to Twitter lowered the vote share of Republicans on the presidential election, influenced by the mostly liberal views portrayed on Twitter.

The following two research papers follow most closely the interests of this papers' investigated topic. First, Hardevoulis and Thomakos (2008), they perform an event study among EU-15 countries to evaluate the movements of CCI around elections. Their conclusion is that CCI rises prior to an election and thereafter drops again. Additionally, they also find CCI to be a good explanatory variable of election outcomes. A more recent paper tests the power of CCI against macroeconomic variables in predicting elections, while also looking at price and non-price indicators that serve as a proxy for voters rewarding or penalizing the incumbent government. No evidence on CCI influencing the probability of re-election is found, yet real unit labour cost and government effectiveness as proxies for the decision on whether to reward the incumbent and unemployment seem to be better explanatory variables (Mačkić, Sorić & Lolić ,2017). Not only economic determinants will be the independent variables but also results of opinion polls will be controlled for, literature about this concerns mostly the inaccuracy of polling. For example, Traugott and Price (1992) investigated the outcomes of opinion polls and the real election outcome of the 1989 gubernational election in Virginia. The opinion polling company MDOR was way off from the result and the roots of these errors lie in their methods. After people voted they were asked what they voted, this led to people telling not their true vote because they probably did not vote the 'socially desirable'. Especially in counties with most white inhabitants the polls were way off because they indicated to support a black candidate when in fact they did not. For the 2004 presidential election, Traugott (2005) again investigated the outcomes of various opinion polls and concluded that they performed above average compared to the preceding period from 1956 onwards, with also the prediction it would be a very close one. With some polling institutions being way off on their prediction, he found

[8] Expectations were a 2-3% increase in equity values and a 10-12 basis point increase in bond yield under George Bush (Republican), who won both elections.

[9] They also investigate some G7 countries namely, Canada, France, Germany, and the United Kingdom. In Canada the same effect as the US was established, in France and the UK the opposite effect could be seen yet not statistically significant and in Germany no effect was identified.

different media coverage, voter methodology and data collection to be of influence on these differences. Callegaro and Gasperoni (2008) investigate the failure of opinion polls to predict the close race during the 2006 Chamber of Deputies election in Italy. They found sampling errors, a 15-day embargo on the publishing results prior to the election, a coverage error due to households having only a mobile phone or no phone at all and a reluctance of voters to tell they voted centre-right.

2.3. Notes on populistic movements

In Mudde and Kaltwasser (2017) a perfect description and historical overview is given of populism. Key takeaway essential for this research is the difference between left-wing populism which focuses socioeconomic problems, mainly in the US and Latin America and right-wing populism characterized by anti-immigration and xenophobia often present in Europe. In their influential paper, Dornbusch and Edwards (1990) conclude that populistic economics will eventually fail. Investigating the administrations of Allende in Chili and Garcia in Peru, only left-wing populists are considered. Where left-wing populism is characterized by a political movement which promises to fight for the people against the elite, Dornbusch and Edwards (1990) conclude that in the end it is those people that are hurt the most by these regimes. To find out if leaders matter for the economic growth of a country, it is concluded that indeed they do, being it more when countries are autocratic where leaders can decide everything by themselves instead of in (parliamentary) democracies (Jones & Olken, 2005). Guriev (2018) explores the economic drivers behind the latest wave of populism and concludes that unemployment, skill-biased trade, and inequality played an important role. Mentioned in previous paper is also Barrera et al. (2017) which shows us that even when French voters learned the true facts of Marine Le Pen's quotes, they were still likely to vote for her showing that untrue remarks could still make you win, fortunately the outcome of the election showed that an honest and charismatic politician is still in favour. The outcomes of this research are also able to help us explain and maybe understand the current wave of conspiracy theories going around relating to COVID-19, this is a great subject for further research. 15 years after a populist leader gains power, a country's GDP per capita is down by 10% (Funke et al., 2020). Due to the involvement of nationalism, protectionism and macroeconomic policies which destroy a country's balance, comparable to the findings of Dornbusch and Edwards (1990). In economic terms we could also see a country's leader as the CEO of a company who is trying to make as much profit as possible. A notable research by Johnson et al. (1985) showed that shareholder wealth is associated with continuity in the employment of the management. In an extensive study the investigated sudden deaths of CEOs and found that this caused an abnormal stock price reaction. Bertrand and Shoar (2003) are also in the economic angle and studied the characteristics of managers and how this affected performance. They found manager fixed effects to matter and higher performance fixed effects to affect their own compensation and the corporate governance of the firm. These last two papers are a nice sidestep to the business world and are evident how a CEO can impact the firm he leads, comparing this to leaders of a country also in the same position. Where it has become clear that populist leaders tend to rule alone and destroy a country macroeconomically speaking looking at the previous provided evidence, a populist leader could be considered a bad CEO.

2.4. Effects on voter turnout

The total number of people who vote should of course be as high as possible for it is important everybody gets their voice heard, but to the best of my knowledge never have there been elections with 100% turnout (in the sample used in this paper, this is also not the case)[10]. In their 1976 paper Settle and Abrams construct a model to explain what drives voter turnout. They reach four conclusions; (1) support for the rational theory of voter behaviour as they find turnout percentage decreases as the majority party receives more votes, because people believe their vote won't matter, (2) expenditures on campaigns also has a positive yet small and not significant effect on turnout, (3) promotion of the candidate via media (tv and radio in the 1970's) also positively and significantly influence the election turnout and (4) also income may play a role in turnout, because of the cost-benefit analysis done by voters it could not be profitable for high(er) income voters. Personal canvassing positively influences turnout, direct mail promotion slightly and telephone calls do not (Gerber & Green, 2000). Their experiment around the 1998 election investigated the reaction of 30,000 voters in Connecticut towards different approaching methods, confirming their hypothesis that the falling voter turnout is a result of less face-to-face politics. Voter turnout decreases significantly the more internationally integrated a country becomes (Steiner, 2010). In this analysis of 23 democracies that are part of the OECD between 1965-2006, the evidence suggests this is the main cause of reduction in voter turnout. Unemployment has a significant positive effect on voter turnout, both at state, county and individual level, also personal experiences with unemployment could play a role (Burden & Wichowsky, 2012). Motivation for this study was the notable increase in voter turnout in the 2008 US presidential election while the country was in a deep recession. Passarelli and Tuorto (2014) examine the results of the 2013 parliamentary elections in Italy. After the country had been through several rough patches politically with discontented inhabitants, the survey presented voters were either going to refrain from voting to show this discontent and the more politically involved voter was to vote for the radical Five Star Movement party.

2.5. The effect of a resigned government

The resignation of prime minister Takeshita in Japan caused US companies with interests in Japan to have abnormal returns, both negative and positive due to uncertainty in the first days after the resignation while thereafter returns became negative (Asri, 1996)[11]. Where also the amount of business done in Japan positively influenced these abnormal returns. At the time of writing the literature was not unilateral on how the risk of cabinet resignation behaved over time, Diermeier and Stevensson (1999) try to solve this[12]. They find that the risk rate of a government resigning increases over the time it is in office. Of course, it could also be that only

[10] Every country has a voting age which in turn could also influence the turnout. The literature is divided on this point, Franklin (2020) argues lowering the voting age to 16 would increase turnout. Eichhorn (2015) concludes a lowered voting age increases engagement in politics by younger people. On the contrary, Chan and Clayton (2006) and Bergh (2013) both argue the lagging maturity with 16- and 17-year-olds would negatively influence election outcomes. Countries in this sample all have a voting age of 18 with some exceptions; Japan lowered the voting age from 20 to 18 in 2016 and in the United States in some states 17-year-olds are allowed to vote if they turn 18 in the election year.

[11] The resignation of Takeshita was followed by a scandal, the time between this scandal and his resignation was about nine months, therefore this paper is an event study over this period and captures all the important moments happened during this time and what the market did with this information.

[12] See further references therein for more literature on the different thoughts on this subject.

one minister resigns due to a scandal or poor performances, Dewan and Dowding (2005) want to find out how this affects the overall popularity of the rest of the government, important in the next election. They find evidence for a corrective effect which is, popularity increases again after it is negatively influenced by the resignation of one government member. Economically speaking war and terrorism are very expensive and the way governments handle this can decide how the public looks at them, it could either be good or bad for the current government. In an extensive review of 150 countries, Gassebner et al. (2011), find that terrorism shortens the length of the sitting government. Important to note is that this holds for both democracies and autocracies and is tested for in a wide range of different types of terrorism. Martínez-Gallardo (2012) shows for 12 Latin American countries with presidential systems that their reign is shortened when they do not care that much about building a coalition or when other parties find it too costly to join this coalition. On the other hand, when the government executes effective legislatures and has high approval rates the cabinet becomes more stable. Schincariol and Yeros (2019) look at the effect the impeachment of Brazilian President Dilma Rousseff and her successor Temer had on the economy. Temer promised a more neoliberal approach to ensure economic recovery but instead his policies cause further stagnation, more debt, and less capacity of the government to respond, and so he was forced to resign but didn't and was eventually evicted in the 2018 election where he did not participate. This is a paper that shows us how impeachment/resignation is not always the solution when a country is in a bad state.

3. Data and method

This section will first describe the origin of the data and some descriptive statistics. It will be divided into a section about the electoral data and economic data, this gives a clearer overview of the used variables. After this, the used method will be explained. For each of the (sub-)questions, the method and the dependent variable is different, so this will be clearly demonstrated, before going on to the results.

3.1. Electoral data[13]

The electoral data, retrieved via sources named in footnote 13, consists of a total of 47 elections in seven countries during the period 1995-2020. For each election the results have been stored and numerous variables came to light. Every party that partook in an election is sorted by number of votes, total percentage of the votes and potentially the number of seats they won. From this information it was possible to determine the winner of the election and make a dummy variable that indicates if the incumbent won the election or not. Same goes for the resignation of a government, elections are held every number of years differing per country, yet sometimes they are held earlier when a government resigns or is voted out of office by the parliament. For this situation there is also a dummy variable to indicate the one or the other. Voter turnout has also been collected and of course the results from the total of populists participating in the election[14]. Populist results have been added together in terms of total votes, vote share and total seats to determine the presence of populism per election. Now, onto the

[13] This data has been retrieved from *electionresources.org* and *electionguide.org*. Any missing data has been updated by information found on *Wikipedia.com* or the corresponding government websites.

[14] Data on populists has been obtained by *The Popu-List (van Kessel et al., 2019)*, *The Global Party Survey (Norris, 2020)* and *Appendix H* in Funke et al. (2020).

more difficult part of this data and that is the difference in polity among the countries. Every country is of course a democracy, but countries can form this in whatever way they want. It starts with different types of leaders, some countries have a monarch and some a president, and this can further be extended to a chosen president or ceremonial. The constitutional monarchy is the first government type in this sample, here the parliament rules the country but there is a monarch which is the head of state. This holds for Canada, Japan, and the United Kingdom. Next, we have Germany and Italy being a parliamentary republic, in both these countries the president is chosen by the parliament via absolute majority, with the president holding a ceremonial position. Lastly, there is the presidential system, in which the president is chosen by an election and holds ruling power. This is the case in the United States and in France, yet France is typically classified as a semi-presidential republic for it also has a prime minister chosen by the president. These different systems cause some problems with interpreting the results of an election, but they have been solved in the following way. Canada, Germany, Japan, and the UK caused little problems for they all have a federal election that determines the head of state and thus it is easy to determine whether the incumbent won. Italy holds elections for both chambers at the same time and as a result this paper includes only the results of the Deputy Chamber election because this winner gets to form a government. A special situation in this country is that typically there is a centre-left and centre-right coalition prior to the election consisting of many parties where most of the times one would win, and all the parties govern together. For the populist case this made it difficult because some of the parties are classified as populist in a coalition but not all, so only those have been counted and not the whole coalition. In France, the outcome of the presidential election has been considered since this is the leader of the country, also the populist presidential candidates have been used. Only when looking for parliamentary seats have the individual parties been used during the legislative election. The first election of 1995 has not had a legislative election at the same time so the earlier one of 1993 has been used for the number of populist seats[15]. When looking at the incumbent, the winning party of the election is used, and since there are never early elections also a resignation is not considered, even though some presidents encounter multiple cabinets. The US most important election is that of president and so this will be used, with populist candidates being identified and no resignation since this has not happened. For the incumbent the party of the winner is used since candidates can only have two terms, but parties can be in charge limitless, and for seats the number of electoral votes won by the candidates has been used since this is the prominent way to determine an election winner in the US. With these differences and assumptions in mind it is possible to use them for investigating the research questions. In the Appendix C is explained which parties/candidates are classified as populist and why.

3.2. Descriptive statistics electoral data

The summary statistics of the most important variables are shown in tables 1 and 2 (these can be found in Appendix A, and this holds for all other tables mentioned in this section). Table 1 shows all the variables' mean, standard deviation, minimum and maximum across all

[15] Together with this there was also an adjustment to the French presidential term. Before 2002 the term was seven years but from the election in 2002 onwards, this term was reduced to five years.

countries for the total sample. Table 2 goes more into depth on the dummy variables. From this overall, the 'no' option dominates the 'yes' option meaning, most of the elections did not cause a re-election, most elections did not happen after a government resignation and most of the governments were non-populist parties. Because this total overview is less of interest, tables 3 to 12 show the summary statistics of the variables sorted by country. This is of greater interest because it can really show the political field and how this differs among countries, therefore this will be further discussed. Table 3 shows the composition of re-election. Italy had a total of zero re-elections in the total sample, Canada, Japan, and the UK with 5, had the most re-elections, for Canada and Japan this was 62.5% of the sample and 71.4% in the UK. Yet when looking at table 4 it can be seen that these three countries also form the top 3 with resignations respectively 4,6 and 4, causing a resignation more than 50% of the time. With France and the US having zero resignations, caused by the way their presidential system is organized. According to table 5, France and Germany had no populist government during the sample. Italy, Japan, and the UK with respectively 3,7 and 4 administrations, had populist governments more than 50% of the time. Statistics on the voter turnout are shown in table 6 and graph 2 and 3 (graphs can be found in Appendix B). Graph 1 shows the evolution of voter turnout in the full sample for all the countries, where big ups and downs can be identified, so it is also shown when differentiated by countries. Table 6 shows the summary statistics and graph 3 the evolution of the turnout by country. With this information we can identify the differences between countries and see for example how Canada, France, Germany, and Italy have relatively stable turnouts and the rest has got more spikes over time. Further on in this paper the effect of CCI on voter turnout will of course be discussed but already now when looking at graph 1 and graph 2 which show the average CCI in the G7 countries and the voter turnout, it is possible to identify higher turnouts when CCI is lower, and vice versa. For example, in the period of the financial crisis starting 2008, elections held during that period had more turnout than the subsequent economically better times. Now, moving on to the data describing the presence of populism in a country. Tables 7,8 and 9 show the summary statistics of the used data to identify populism. Total earned votes, percentage of the vote share and total seats earned, respectively. The total votes are not as interesting as the vote share and total seats because different countries have different populations and thus very large numbers of votes say nothing about the amount of populism when population is also very big. From tables 8 and 9 we identify Italy as the most populist country of this sample with an average of 51.02% of votes going to populists, resulting in average of 306.83 seats, in the Italian Deputy Chamber with a total of 630 seats, this is about 48%. All the other countries do not have vote shares that pass the majority line, and we identify Germany as the least populist country with only 11.73% of votes going to populist resulting in merely 65.83 seats on average, which is only 9% of the total Bundestag which holds 709 seats. Note that this percentage comprises the number of seats in the parliament as of 2021, due to population and demographic changes, the total seats changed alongside. Looking at the percentage of parliament populists hold, France with 3.8% has the lowest share and Japan with 53.5% has more than half of their seats filled with populists on average (table 9). Graphs 4 and 5 show scatterplots of the vote share over time, graph 4 shows a rather horizontal line meaning populism has not grown a lot during this sample. Yet when looking at individual levels in graph 5, we see quite horizontal lines as well for Canada, Japan, and the US, but the European countries all show an increase, be it small or large. This effect could be explained by the ongoing

refugee crisis in Europe which caused a boost for right-wing populist parties, in regions where people are more exposed to the (economic) effects of free trade resulting in anti-immigration and racist views help right-wing populists (Hays et al., 2019). And economic insecurity also increases these anti-immigration beliefs (Kuntz et al., 2017). Tables 10, 11 and 12 show the same statistics regarding the winner of an election. Again, total votes are of lesser interest so we will look at table 11 for the vote shares. Evident is that the highest averages lie with the presidential republics of France and the US, and all the parliamentary democracies are just over one-third of the vote share. Victories are greatest in the US with almost 60% of the electoral votes going to the winner on average, followed by Japan, the UK and France who are also above the majority line of 50%. Germany dangles in the lower region of this with only 36.9% of votes going to the winner. Something which is not uncommon in countries with a lot of different parties, this is also the reason why Germany has had a lot of government coalitions during the sample instead of one-party governments, this also holds for Italy which had an average of 48%. Second to last in this statistic is Canada with 45.7% on average, yet they, for most of the time, had a minority government ruling with support of other parties. Graph 6 shows the scatterplot of all the vote shares of winner in the sample, with some outliers there is a small decline noticeable towards 2020. In graph 7, which dissects the results per country, we see relatively stable shares for Japan, the UK and the US. France, Germany, and Italy have the most of what looks like a small decline and France goes up and down all the time.

3.3. Economic data[16]

This section will discuss the economic data that has been used. Out of a large database of variables these have been selected, the process of this selection will follow in the later section 'Method'. Because of the way elections are held in contrast to the releasing of various macroeconomic variables, lag variables have been used to estimate coefficients. Elections are held at specific points in time and the economic variables used are quarterly data so to capture the effect best, lag variables are indeed the best option to trace back. Lag length will also be further explained in the section 'Method'. The economic data considered consists of multiple variables capturing macro- and microeconomy, they are retrieved over the full period considered namely 1995-2020 for each country. Every variable has been retrieved from data sources as quarterly data or is transformed from monthly to quarterly data in the same way as shown in footnote 4 earlier. Some of the data like population numbers for example is only available yearly, this has been left untouched since it is harder to transform yearly data into quarterly than with monthly and it did not cause any troubles. Moreover, the data consists of various types of numbers, ratios, indices, normal amounts, and some regular integers which could mean anything. Ratios have not been adjusted. Indices also not, but important to note is that the base year for these variables differs among countries and variables, this should not cause a big problem in the estimation. Every variable that indicates an amount is transformed into billions of US dollars, this was necessary because some variables were only available in

[16] This data has been retrieved from *The Global Economy*, *Tradingeconomics.com*, the *OECD database*, *the Executive Approval Project (2019)* and government websites. Any missing data has been retrieved from other sources which are mentioned in Appendix D individually.

millions and/or in local currency[17]. Four research questions are examined, which also means there will be four different regressions. Question 1 and 4, which both investigate the probability of a re-election depending on CCI are basically the same expect in 4 the dummy variable for a resignation will be included to investigate whether this has any effect on the outcome. This regression will consist of the following variables, CCI, monthly inflation, a war proxy, approval ratings and government spending/GDP ratio, corresponding lags will later be explained. Now for question 2, a model that tries to explain voter turnout percentage depending on CCI. This model consists of CCI, exchange rate, unemployment rate, budget balance, monetary policy proxy, consumption/GDP ratio, war proxy, natural logarithm of GDP, balance of trade (BoT) and a balance of trade/GDP ratio. The last model for question 3 regarding the rise of populism with a probable explanation by CCI, consists of the following variables, CCI, wage growth, consumption/GDP ratio, natural logarithm of GDP, balance of trade, balance of trade/GDP ratio, (CA)/GDP ratio and a fiscal policy proxy. Last that remains to be explained is the proxies mentioned. The war proxy comes from Fair (1978), it shows the ratio of armed forces to population in order to give an accurate view of a country' involvement in wars or terrorism activities. Because of earlier mentioned literature (e.g., Arcelus & Meltzer (1975), Kramer (1971) and Fair (1978) discussing the impact of war/terrorism on elections this is thought of as an important determinant. Fiscal policy proxy measures the government debt to GDP (Funke et al, 2020). A looser fiscal policy causes less tax revenues and thus more public debt and vice versa, therefore a good indicator of what the country' tax and spending policy is. Carefully considering this proxy, the thought of a monetary policy proxy to stand for household debt to GDP came to mind and is therefore also included. With a loose monetary policy there is more money available, and this ratio should be higher. These loose policies are mostly implemented by Democrats (left-wing) and tighter policies by Republicans (right-wing) (Blinder & Watson, 2014). Loose policies cause rising inflation but decreasing unemployment according to the Phillips curve (Phillips, 1958). Democrats are often thought of as controlling unemployment while Republicans want to control inflation (Blinder & Watson, 2014; Powell & Whitten, 1993).

3.4. Descriptive statistics economic data

Table 13 shows the summary statistics regarding the economic variables (again, the table can be found in Appendix A). These will be discussed in this section. When looking at the observations column there are some missing data points although this should not be too big of a problem in the model since there are only 47 elections and not every data is therefore used. Starting off with CCI which is averaged at 100.001 points over the period, almost exactly its base. The total of the sample stretches between 95.11 and 103.41 points. The exchange rate of local currency to USD has an average of 15.51 which is mainly due to the high rate between the Japanese Yen and USD being an outlier. Therefore, it also has a large standard deviation of 36.81. the average unemployment rate was 7.08 percent, which is within regions around the natural unemployment rate found in the literature (Weiner, 1993: 5.1%-7.3%; Salemi, 1999:

[17] Formula for transforming local currency to US dollars, with data on the *local currency/USD* exchange rate available: $Amount\ in\ \$ = Amount\ in\ local\ currency\ \times \frac{1}{Exchange\ rate\ local\ currency/USD}$ **(II)**

To transform an amount in millions to billions the following is needed: $Amount\ in\ billion\ \$ = \frac{Amount\ in\ million\ \$}{1{,}000}$ **(III)**

4.0%-7.2%; King & Morley, 2007: 1.8%-9.5%). 1.74% was the average wage growth during this time period in all the countries with peaks at 9.66% but also a decline of 4.71%. Quarterly inflation averaged at 0.02%, with at the lowest point even a deflation over 1.26% and highest inflation recorded at 0.80%. The budget balance, recorded in billions of US dollars, reporting basically if the government profited or not, averaged at -8.25 billion dollars deficit. The biggest deficit reported was 633.54 billion dollars and the biggest surplus was 133.03 billion dollars. Next is the proxy for monetary policy. This represents the debt holdings of households to GDP in percentages. The average was 63.45%. With the maximum at 112.62% of the GDP, so more debt was held than the GDP of the country at that time. The lowest point was merely 17.1%, so the debt was about $\frac{1}{6}$ of GDP. The current account is the balance of net payments in goods and services made to foreign countries (Investopedia, 2021). When dividing this by the GDP we get a ratio that is almost 0 for the whole sample yet having some explanatory power in the regression regarding populism, more on that later. GS/GDP is the ratio of government spending to GDP, and this was averaged at 0.20, with the maximum at 0.27 and the minimum at 0.14. Differences in these spending ratios could be explained by the more socialist European countries having higher taxes and spending more on social welfare in contrast to the more capitalist United States (Alesina et al., 2001). The fiscal policy proxy, a ratio of government debt to GDP shows how much countries must borrow compared to their GDP. High taxation countries have more budget and thus more money available to spend. The average ratio was 3.47, and maxed at 10.19, this means a debt of over 10 times a country' GDP. The lowest point is just 0.0015[18]. The percentage of consumption to GDP indicates how big the share of consumption is in a country. This averaged at 58.52% and was between 49.87% and 69.06%. The war proxy indicates a ratio of the armed forces in a country divided by its population. A higher ratio means armed forces increased which could be due to participation in a war or terroristic threats that influence the country. Also, when a country is involved in this, population could decline due to casualties and thus increasing the proxy again, this proxy averaged at 0.0041. Approval ratings is the percentage of positive approval ratings on the leader of the country, being it a coalition government or a president (Executive Approval Project, 2019). The average was 42.51%, with the minimum at just 11.47% and a maximum of 72.11%. The range of ratings runs from 0 to 100. The natural logarithm is taken from the GDP in billions of dollars to filter out the outliers. Average was 6.72, in a range between 5.16 and 8.60[19]. Balance of trade indicates a country' exports and imports, not the included services compared to the current account. A negative balance of trade means a net importer and a positive balance means a net exporter. The average was -4.05 billions of dollars, in this sample the countries were on average net importers. The minimum was -144.35 billion dollars and the maximum 65.22. So, over time there were net importers and net exporters in this sample. Last variable is dividing the balance of trade by GDP giving a ratio of how the trade balance holds against the GDP. Sometimes this is negative and sometimes positive, the average of 0.001423 being close to 0 shows some movement of mean reversion (Investopedia, 2021). Table 14 is an overview of the openness

[18] The standard deviation of this variable 1.5902, according to the empirical rule on standard deviations this means 68% of the time the countries had more debt than their GDP. $3.4732 \pm 1.5902 = (1.883; 5.0634)$ (de Moivre, 1718) **(IV)**

[19] The not reported range of GDP in billions of dollars is 174.6858-5,436.85. Proving how effective it is to take the natural logarithm to control for outliers.

index per country in 2019 (The Global Economy, 2021). This is measured as $\frac{Exports+Imports}{GDP}$, **(1)** the more a country trades with foreign countries the higher this index becomes.

3.5. Method

Now, the used method will be described. Because there are four different research questions, the estimated models will be shown individually. But as mentioned earlier question one and four look very much alike, they will be discussed together. All models are estimated in the form of a regression function, questions one and four are probit models and two and three are standard Ordinary Least Squares (OLS) regression models.

3.5.1. Model building

In order to capture the effects of the economy on election outcome, lag variables have been used. The dependent variable of the political data happens only once in a few years while the economic data is quarterly measured. The economic situation is better captured with the use of these lagged variables because without them, important information about a country' state could be missed. People who vote tend to be influenced by the economic situation (Lewis-Beck, 1986; Anderson, 2000; Lewis-Beck & Nadeau, 2011), therefore it is important to capture this situation. Yet, people also seem to have a short-term memory when it comes to economic outcomes (Bloom & Price, 1975; Benhabib et al., 2004; Benhabib et al., 2010), and that is why in the construction of the models a maximum of four lags (or one year) prior to the election has been implemented. To decide which lags to choose, the correlation of the variables from lag zero to lag four has been calculated and thereafter ordered from low to high. To come to the full model, a hybrid method between General-to-Specific (GETS) and Specific-to-General (SPEC) modelling[20] was used, first every variable including lags was added to the model. In all the cases this gave an impossible result, therefore every time the lowest correlated variable was removed until a result showed. At that point, the variable with the lowest p-value was removed each time until all the coefficients were significant at at least the 10% level. From this point on, the higher removed correlated variables were added again to see if this improved the model in terms of R^2 or Mean Squared Error (MSE). As mentioned earlier, the models could suffer from reverse causality bias, because while CCI may explain/predict the election outcome it could also be that the election outcome explains the level of CCI. This will not be fixed as it goes beyond the scope of this paper, but a possible solution for this will be mentioned later.

3.5.2. Re-election models

The models that investigate the re-elections of governments are estimated via probit regression[21]. This is because re-election is in essence a dummy variable that gives a '1' when

[20] GETS modelling means that one starts with the biggest possible model and from thereon removes coefficients one by one starting with the highest p-value and estimate the model again until everything is significant (Campos et al., 2005). SPEC modelling is the opposite and starts by calculating correlation of the X and Y variables and each model adding the most correlated variable until the best model appears (Herwartz, 2007). See also (Lütkepohl, 2007).

[21] Because panel data is used, also the Stata command *xtprobit* was tested, this yields similar results and therefore only the probit regression is shown.

reelected and a '0' when not. After applying the forementioned method, the following probit regression was obtained:

$$\begin{aligned} Re-election_{i,t} &= \alpha + \beta_1 * CCI_{i,t-1} + \beta_2 * CCI_{i,t-2} + \beta_3 * Inflation_{i,t-1} + \beta_4 \\ &* War\ proxy_{i,t-1} + \beta_5 * War\ proxy_{i,t-2} + \beta_6 * Approval\ rating_{i,t-2} + \beta_7 \\ &* \frac{GS}{GDP_{i,t}} + \varepsilon_{i,t} \end{aligned} \quad \textbf{(2)}$$

Where 'i' stand for the country and 't' for the time period denoted as 'Quarter X, Year Y'. This model is also calculated with country fixed and clustered standard errors and these results will be shown in section 4. Now, because this question (4) wanted to answer if CCI also explains the re-election if the government resigns prior to an election, the same is estimated with a dummy variable included regarded resignation:

$$\begin{aligned} Re-election_{i,t} &= \alpha + \beta_1 * CCI_{i,t-1} + \beta_2 * CCI_{i,t-2} + \beta_3 * Inflation_{i,t-1} + \beta_4 \\ &* War\ proxy_{i,t-1} + \beta_5 * War\ proxy_{i,t-2} + \beta_6 * Approval\ rating_{i,t-2} + \beta_7 \\ &* \frac{GS}{GDP_{i,t}} + \beta_8 * Resignation\ Dummy_{i,t} + \varepsilon_{i,t} \end{aligned} \quad \textbf{(3)}$$

Where the same applies for 'i' being the country and 't' the time.

3.5.3. Voter turnout model

The model that investigates CCI's influence on voter turnout is a standard OLS regression. Voter turnout is measured as a percentage of total voters of the total population eligible to vote. This model was also retrieved in the same way via SPEC and GETS modelling and the result is as follows:

$$\begin{aligned} Voter\ turnout_{i,t} &= \alpha + \beta_1 * CCI_{i,t-1} + \beta_2 * CCI_{i,t-2} + \beta_3 * CCI_{i,t-3} + \beta_4 * CCI_{i,t-4} + \beta_5 \\ &* Exchange\ rate_{i,t} + \beta_6 * Exchange\ rate_{i,t-1} + \beta_7 * Exchange\ rate_{i,t-2} \\ &+ \beta_8 * Exchange\ rate_{i,t-3} + \beta_9 * Exchange\ rate_{i,t-4} + \beta_{10} \\ &* Unemployment\ rate_{i,t} + \beta_{11} * Unemployment\ rate_{i,t-1} + \beta_{12} \\ &* Unemployment\ rate_{i,t-2} + \beta_{13} * Unemployment\ rate_{i,t-3} + \beta_{14} \\ &* Unemployment\ rate_{i,t-4} + \beta_{15} * Budget\ balance_{i,t-1} + \beta_{16} \\ &* Monetary\ policy\ proxy_{i,t} + \beta_{17} * Monetary\ policy\ proxy_{i,t-1} + \beta_{18} \\ &* Monetary\ policy\ proxy_{i,t-2} + \beta_{19} * Monetary\ policy\ proxy_{i,t-3} + \beta_{20} \\ &* Monetary\ policy\ proxy_{i,t-4} + \beta_{21} * \frac{Consumption}{GDP}_{i,t-1} + \beta_{22} \\ &* War\ proxy_{i,t-3} + \beta_{23} * \ln(GDP)_{i,t-1} + \beta_{24} * \ln(GDP)_{i,t-4} + \beta_{25} \\ &* Balance\ of\ trade_{i,t-2} + \beta_{26} * \frac{BoT}{GDP_{i,t}} + \varepsilon_{i,t} \end{aligned} \quad \textbf{(4)}$$

With again the same assumptions about 'i' and 't'. In this case as well will the results of country fixed effects and clustered standard errors be shown. Especially in this model will it be

interesting to see what these adaptions because as discussed in section 3.1 and 3.2, voter turnout differs a lot among countries as well.

3.5.4. Populist model

The last model corresponding to question three investigates the effect of CCI on populism. This is also done by a standard OLS regression because the dependent variable of the model is total populist vote share in percentages. Not only vote share but also total votes and total seats won are variables that could declare the amount of populism in a country. Yet, vote share is the clearest overview of the populist amount. With total votes, it is difficult to compare across countries because of differences in population. Total seats are also not a very good reflection of populism in a country. This is due to some countries having a district system that can tip the number of seats to the majority despite having a lot of populist voters that are now left unheard or vice versa[22]. With that in mind, the following model is estimated:

$$\begin{aligned} Populist\ vote\ share_{i,t} &= \alpha + \beta_1 * CCI_{i,t-2} + \beta_2 * CCI_{i,t-3} + \beta_3 * CCI_{i,t-4} + \beta_4 * Wage\ growth_{i,t} \\ &+ \beta_5 * Wage\ growth_{i,t-2} + \beta_6 * Wage\ growth_{i,t-3} + \beta_7 \\ &* \frac{Consumption}{GDP}_{i,t-1} + \beta_8 * \frac{Consumption}{GDP}_{i,t-4} + \beta_9 * \ln(GDP)_{i,t-4} + \beta_{10} \\ &* Balance\ of\ trade_{i,t-2} + \beta_{11} * \frac{BoT}{GDP_{i,t}} + \beta_{12} * \frac{BoT}{GDP_{i,t-1}} + \beta_{13} * \frac{BoT}{GDP_{i,t-2}} \\ &+ \beta_{14} * \frac{BoT}{GDP_{i,t-4}} + \beta_{15} * \frac{CA}{GDP_{i,t-4}} + \beta_{16} * Fiscal\ policy\ proxy_{i,t} + \varepsilon_{i,t} \end{aligned} \quad \textbf{(5)}$$

With again the same assumptions about 'i' and 't' and country fixed effects and clustered standard errors that will be shown. Again, the country effects will be interesting because populism activity is also very differentiated among countries, as shown in section 3.1 and 3.2.

4. Results

This section will discuss the obtained results regarding the previously mentioned research questions. As read in section 1, the relationship between election results and CCI could suffer from reverse causality bias and this problem will also be discussed along with the same problem that could be found when looking at the relationship between resignation and CCI. First, some general remarks on the output that can be found in tables 15, 16, 17 and 18 (these can be found in Appendix A). Each of the formulas is estimated four times being, raw model, country fixed effects model, clustered standard errors by country model and both country fixed effects and clustered standard errors. In all four tables we note that models 1 and 3 and models 2 and 4 are very similar in results. Moving from a raw model to one with clustered standard errors (or any type of adjusted standard errors) does not change coefficients, only the standard errors (UCLA, 2016). Therefore, log likelihood and root MSE did also not change only the coefficients became more significant in most cases due to the new standard errors. This clustering is done because

[22] Recent example of this comes from the 2016 US presidential election. The battle between Donald Trump and Hillary Clinton for the presidency earned Trump almost 63 million votes and Clinton almost 66 million votes, yet Trump won. With Trump earning 304 electoral votes and Clinton just 227 despite Clinton winning the popular vote. This is due to lower populated states being awarded less electoral votes and, in that way, Trump could still win the election without having the most people vote for him. *Source: 270towin.com*.

it could be argued that election results differ across countries and therefore it is important to make sure they are treated as such. Models 2 and 4 also look alike, the fixed effect model (2) changed its coefficients and standard errors, when this model also gets the standard errors clustered, this only changes the standard errors again and the p-value. The country fixed effects ensure the relationship between the dependent variable and CCI without the influence of time-invariant variables like countries (Torres-Reyna, 2010). Again, the reason to do this is because of the argument that among countries there could be differences present. Model 4 which consists of both fixed effects and clustered standard errors then again changed standard errors in contrast to model 2, and p-value of course, but the coefficients remained the same.

4.1. Research question 1

The posed question in this section that this paper tries to answer is *does the Consumer Confidence Index predict whether or not the incumbent government gets re-elected?* In table 15 the probit regression output is stated for all the four estimated variants of the model. We see that CCI_{t-1} is significant in models 1, 3 and 4. In models 1 and 3 this holds that if the index grows with 1 point, the chance of being re-elected rises with 5.6591, in model 1 this is significant at the 10% level and in model 3 at the 1% level. For models 2 and 4, the chance of being re-elected rises 23.3961 when CCI increases 1 point, significant at the 1% level. CCI_{t-2} appears to be negatively related to the chance of being re-elected. With a decrease of 5.1399 of your chances in models 1 and 3, significant at the 10% level and 1% level respectively. And a 24.1171 decrease in model 4, significant at the 1% level (again model 2 was not significant). When looking at the other variables, we see that in model 2 nothing is significant and in models 3 and 4 everything is significant. In the base model, $inflation_{t-1}$ and Approval $ratings_{t-2}$ seem to be the most significant explanators being significant at the 5% level. Inflation has a negative influence on re-election, if inflation increases by 1% your chances decline with 9.3134. Approval ratings on the other hand have a small positive effect of 0.4818 on the chance of re-election, when the rating increases with 1 point. A weird phenomenon is the sign switch in CCI's influence over time, this could be evidence of politicians trying to increase CCI with certain policies very short before the election that were not available 2 quarters prior to the election. This type of governing is not a-typical with sitting governments around elections (Angelova et al., 2021). In this particular model we further identify a one quarter lag of inflation and a two quarter lag of approval ratings as the more important factors in explaining re-election when looking at their significance level in the raw model. The presence of inflation as explanatory variable in this case instead of unemployment indicates a more right-wing preference among the sample of voters. Because Democrats (left-wing) often target unemployment and Republicans (right-wing) want to keep inflation low in the US (Blinder & Watson, 2014, p. 7), we can conclude from this model that people care more about inflation when it comes to punishing or rewarding the government for their accomplishments. A high inflation rate in this case suggests lower chance of re-election. In accordance with the Phillips curve, high inflation goes hand in hand with low unemployment (Phillips, 1958), which indirectly implies unemployment rates being low also matter in this case if the Philips curve holds. Also, the approval ratings of the current government are a good explaining variable based on significance. This is not unexpected since this variable directly tells us the percentage of positive opinions on the government and could therefore indicate the total percentage the

incumbent could win during an upcoming election, and even predict if they will win the whole election. Interesting evidence from this model is that almost all (only GS/GDP not) variables are lagged and therefore past information matters more to voters than the most recent, meaning most voters will have already decided what to vote some time before the actual election. Of course, swing voters and last-minute deciders are still present, with these groups the politicians have the most influence and the most to gain.

4.2. Research question 2

This section will present the results of the OLS regression regarding the question *does CCI influence the voter turnout of a national election?* Results of the four models are shown in table 16 together with R^2 and the root MSE, as seen the results in models 2 and 4 are not interpretable. They both have an R^2 of 1.0000 and a root MSE of 0, this is very implausible, and the problem is caused by having more variables in the regression than observations (Portnoy, 1984). Since elections are not held very often, data is scarce and because of this standard errors, t-statistics and p-values are impossible to estimate, therefore these results will not be explained further. In the raw model we already see a lot of variables being significant at the 1% level and when we add clustered standard errors, they remain significant and get smaller standard errors, as expected, and intended. Only a one quarter lag of budget balance is not significant in the raw model, but it is at only the 10% level when standard errors are clustered. First, looking at the coefficients of CCI we see that for the first, second and fourth lag an increase of 1 point in CCI index causes the voter turnout to decline by 37.1954, 33.4247 and 24.7056 respectively. Which is a logical explanation, when you as voter believe the government is doing their job well you have less of an incentive to go vote. Yet, a third lag shows a positive coefficient of 61.6828, despite the significance level it could be that a third lag does not have any explanatory power. With the exchange rate every lag from zero up until four is included and is significant at the 1% level. Again, we see sign switching, lags zero and three are both negative and lags 1, 2 and 4 are positive. Exchange rate is measured as local currency/USD, when this rises it means local currency is in demand which could be positive for the macroeconomic situation in the country. Lags 1, 2 and 4 acknowledge these positive influences and cause voter turnout to rise by 1,016.921, 684.2164 and 1,182.495 respectively when the exchange rate rise by 1. On the contrary when the exchange rate rises in the quarter of the election or in the third quarter prior to the election the voter turnout declines by 821.8154 and 1,994.428 when the exchange rate rises by 1. This model includes lag zero until three of the unemployment rate and does not include the inflation percentage. Lags zero and two are in this case negative and one and three are positive, so again we the sing switching. It seems controversial that people tend to go voting more often when unemployment rises a quarter before the election and go voting less when unemployment rises in the same quarter as the election. A possible explanation for this is that the election is held in the quarter of lag zero in this case, yet it is never held at the last day of the quarter and thus newly elected or incumbents could adapt the policy in accordance with people and therefore reducing their incentive to go vote because they are happy after the election. The difference in preference of variables of the Philips curve (Phillips, 1958) as shown in section 4.1 already is again interesting in this model. Since inflation is not included in this model, we must believe left-wing voters are more influenced by variables to go voting. This explanation is plausible since Republicans (right-wing) are believed to have a greater share of

loyal voters while loyal voters of the Democrats (left-wing) is more stable (Meltzer & Vellrath, 1975). The next significant determinant of voter turnout is the monetary policy proxy, measured as household debt/GDP. This variable again includes lags zero until four, so up and until one year prior to the election. A higher ratio means that monetary policy is loose, and money is more available with lower interest rates as a consequence. We see that a loose monetary policy in the quarter of the election and one quarter before the election causes voter turnout to rise with 13.3707 and 30.2487 respectively. Also, in lag 3 we see a positive effect of 38.1626 if the ratio rises by 1. On the contrary, two quarters before the election and one year before the election we see monetary policy having a negative effect on voter turnout, of 66.8316 and 16.1351 respectively. All these coefficients are again significant at the 1% level. Consumption/GDP ratio in the quarter prior to the election has a positive effect of 6.4162 on voter turnout, significant at the 1% level. When people have more disposable income they can spend more money, and that makes this ratio rise. Income increases happiness of people in the short run (Easterlin et al., 2010)[23] and this could further be amplified by voting for the incumbent and making clear your preference for the situation and their economic policy. The third lag of the war proxy is significant in this model. It is a positive coefficient of 19,775.73 meaning that a war increases voter turnout. It could seem disturbing that only the third lag is included which is not something which is in line with earlier seen results of variables, yet it could be caused by the nature of this variable. The variable is defined as armed forces/population, since these variables are measured on a yearly basis instead of quarterly it is imaginable that coefficients will look alike throughout the year and therefore one coefficient seems already enough. Regarding the logarithm of the GDP, only lags one four are significant. We do identify a sign switch again in that lag one is positive with 150.7502 and lag four is negative at 160.8247. This means that if the logarithm of GDP rises with 1 the voter turnout increases or decreases with the respective coefficient. Since older recordings of the logarithm variable cause turnout to decline and newer to incline, it could mean that people are biased towards the present as is often present in economic experiments (e.g., Benhabib et al., 2004; Benhabib et al., 2010) or governments influence the economy in such a way that GDP is at such a point that causes people to go vote, it could both be that they are happy or unhappy with this level. Last two significant variables concern the balance of trade, the difference between exports and imports. We see that a rising balance of trade (being a net exporter) 2 quarters prior to the election has a positive influence on turnout. Formally, a 1 billion dollar increase in this balance causes turnout to rise by 2.2526. When we divide this balance by GDP and examine the ratio balance of trade/GDP, a negative significant coefficient is identified. When this ratio rises by 1 the voter turnout declines by 2,106.335, this holds for the quarter of the election. Differences in these coefficients could be the result of different preferences among the population regarding globalisation and trade. Countries that introduce tariffs and promote homemade products tend to have lower balances of trade, people who are not agreeing with these policies could be incentivized to go voting, and vice versa of course.

4.3. Research question 3

[23] For more information on this subject which is characterized by the *'Happiness-Income Paradox'* see (Easterlin, 1973; Easterlin, 2001 & Easterlin & Angelescu 2009).

In this section the answer to the question *do the changes in CCI give rise to populism?* will be presented. Section 3.5.4 showed that again this model was big in terms of explanatory variables but luckily it was not too big as standard errors, t-statistics and p-values were calculated. This model was again estimated as a standard OLS regression with the same adjustments as mentioned earlier in terms of fixed effects and standard errors. The dependent variable of this model is the total populist vote share in percentages, for an explanation on why, this can be read in section 3.5.4. The results of all this are presented in table 17. So, again models 1 and 3 look alike in terms of coefficients and root MSE and the same holds for models 2 and 4. The main variable of interest, CCI, is only mildly significant, with lags 2, 3 and 4 included only the first two are significant at the 10% level and 5% level respectively. If CCI rises with one point two quarters prior to the election, the populist vote share declines with -4.5602 percent. If the same happens three quarters before, populist vote share rises with 9.6447. A fourth lag is not significant, yet we do see that this is a positive coefficient and so again we identify the sign switching as in the earlier models. Next, wage growth percentage is included, lags zero, two and three seemed to be the best explanators. This coefficient also shows a sign switch again, lags zero and three are negative implying that a wage growth of one percent declines populist vote share by 3.6036 and 3.0721 respectively, significant at the 10% level. At lag two a positive effect on the populist vote share is identified significant at the 1% level. A one percent increase of wage growth increases the populist vote share with 4.8026 percent. In the earlier models we already identified some variables that showed a similar sign switches in the form of lags zero and three being either positive or negative resulting in lags one, two and four being the opposite sign (table 16: CCI, exchange rate, monetary policy to some extent). For this variable we cannot prove if the same reversals happen, but it could be some sort of evidence in a pattern. Of the consumption/GDP ratio variables included, only the fourth lag of it is significant, at the 1% level. It means that if the ratio increases by one, populist vote share increases with 4.5088 percent. Lag one of this variable is negatively related to populist vote share yet it is not significant. Significant at the 10% level, is lag two of the balance of trade. This coefficient is positive meaning that if the balance of trade increases with one billion US dollars, populist vote share increases with 0.3474 percent. When we divide this balance by GDP to end up with balance of trade/GDP, lags zero, one, two and four are included. Only lags one and two are significant at the 10% level and 1% level respectively. Here again, we identify the earlier mentioned sign switching but not in the same design as before, lags zero (insignificant) and two are negative and lags one and four (insignificant) are positive. Last significant variable is the fiscal policy proxy, this is calculated as the government debt/GDP, for a more in-depth description see section 3.3. When this ratio increases one point, the populist vote share will increase with 3.1438 percent, this is significant at the 1% level. Whether people vote on a populist candidate is thus influenced by the fiscal policy, but since this holds for the variable measured at lag zero, there are two possible explanations. Or the incumbent changes their fiscal policy drastically close to the election hoping to convince new voters and this has not the desired outcome. Or it could be that only one lag is necessary and significant since fiscal policy is mostly equal during a governments reign (Martin, 2016) and thus people only care about it 'last-minute'. Not only did again the earlier identified sign switches again occur in this model, but also new variables are added in contrast to the other models. Variables like wage growth, CA/GDP and fiscal policy proxy have not been included before. The main reason for this lies

with the origin of populist movements as explained by among other Funke et al. (2020), populist leaders tend to adapt their rhetoric to appeal to the general public. It is often portrayed as 'the people versus the elite' (Dornbusch & Edwards, 1990). Factors like wage growth and fiscal policy directly appeal to people's' lives and therefore directly influence their preference of populism more than in the other models. Also, there are more variables regarding trade present in this model than the others. Factors in this is that populist movements often advocate in favour of the home country because of their nationalist views (see Trump's' 'America first' campaign (Kuznar et al., 2021) and therefore populism tends to rise or fall with the trading policies of a country, which is present in this model. When we cluster the standard errors, it is evident some variables become more significant (Wage growth lag two, consumption/GDP lag one, log of GDP lag four, balance of trade lag two, balance of trade/GDP lags zero, one and four) but also wage growth lag two and fiscal policy proxy lag zero become less significant due to this change. Most important for the question is that lag four of CCI now is significant at the 5% level, implying increase in CCI one year prior to the election declines the populist vote share by 3.4931. Root MSE remained the same at 5.9429 and the R^2 increased from 0.8261 in the first model to 0.9130 with clustered errors. When the raw model gets fixed effects instead of clustered errors there is a decline of significance is a lot of variables. CCI for example, is now not significant anymore, neither is the balance of trade and lag one of balance of trade/GDP. Lag four of consumption/GDP and the fiscal policy proxy remained significant but declined in power. The first lag of consumption/GDP is the only variable that gained significance from not being significant to significant at the 5% level. Overall, we can conclude that for this model wage growth is the best explanator of populist vote share with still the same significance levels. Lags zero and three are still negative but they are less negative; -3.2942 versus 3.6036 before and -2.6257 versus -3.0721 before respectively. The power of the second lag increased from 4.8026 to 6.0715. this is also the only variable significant at the 1% level. Root MSE of this model decreased to 4.5625 and the R^2 is now 0.8975. When we move onto the last model specification, with fixed effects and clustered standard errors, the root MSE remained the same and the R^2 increased to 0.9680. coefficients are the same as in model 2 only the standard errors and significance changed once again. Unfortunately, not for the better, significance dropped overall with only some variables being significant at the 5% level or 10% level. CCI is in this model significant in lags two and three at the 10% level and 5% level respectively. The second lag has a negative effect on populist vote share with a one point increase in CCI resulting in a 4.2589 decrease of populist vote share. The third lag is positive resulting in a 6.9553 percent increase of populist vote share after a one point increase of CCI. Again, the best explanators of populist vote share include wage growth and consumption/GDP. Accompanied by their microeconomic power of explaining personal situations, which often are the root of voting for either a left-wing or right-wing populist, these differences and similarities among the political right and left are presented in Louwerse & Otjes (2015). They study the behaviour of two populist parties in the Netherlands, the Socialist Party (left-wing) and the Party for Freedom (right-wing) and show how they vote in parliament regarding different problems which we can extrapolate to what their voters find most important.

4.4. Research question 4

This last question links back to the first in the sense that they measure the same thing except for one extra variable. The question answered in this section is *will there be a difference in chance compared to the main research question when an election is due to the collapsing of a government instead of regular elections?* Of course, the main variable of interest remains CCI and because the model is also a probit regression the same variables as in section 4.1 are included, except for an extra dummy regarding resignation. This variable is equal to one if the government resigned prior to an election and zero if not[24]. Results can be seen in table 18. Unfortunately, in models two and four the same problem happened because the variables exceeded the observations due to the addition of country fixed effects, thus resulting in a model that was impossible to estimate standard errors, t-statistics and p-values, therefore we will only focus on models one and three again. The raw model and the model with clustered standard errors has a pseudo R^2 of 0.7149 and their log likelihood is -8.4691. Which is an improvement relative to the model in the first question in terms of pseudo R^2 but a downturn for the log likelihood since this is better when it becomes bigger in absolute terms. Now, we will continue with discussing the results of the coefficients of this model, since models two and four were impossible to estimate these results will not be discussed further. Lags one and two of CCI were moderately significant at the 10% level and showed the same sign switching as seen in section 4.1, a one point increase one quarter before the election increases the incumbents chances with 5.7927 percent. On the contrary, when the same increase happens two quarters before, chances decrease with 5.2430 percent. The most significant factor in this model is two lags of the approval ratings at the 5% level. When the approval ratings rise with one percent, chances of re-election increase with 0.4914. A lag of inflation percentage is also significant at the 10% level. This coefficient is negative implying a one percent inflation rise, decreases the re-election chances with 10.1781 percent. Again, in this model the proxy for wars shows the same sign switching as seen in table 15. Lags one and two are included and both are significant at the 10% level. If the war proxy increases prior to the election with one point, the chances of re-election rise with 34,064.29, when the same happens a quarter earlier, chances decrease with 35,497.49 percent. The dummy resignation, the most important determinant of this model, is not significant. Its negative sign is something expected, since resignation is not positive in the eyes of a government (Dewan & Dowding, 2005). The -0.4752 coefficient implies the governments' chance of re-election declines with this percentage after they resign prior to the election. Unfortunately, we cannot say this with confidence since the coefficient is not significant at one of the levels. Even when the standard errors are clustered according to country, the coefficient of resignation does not reach significance. All the other variables become more significant except for the GS/GDP ratio, and all the standard errors become of course smaller. The first lag of the war proxy is now significant at the 5% level and the other unmentioned variables are significant at the 1% level. So, from this model we cannot conclude resignation influences the re-election, this could both be the result of econometrical problems as read in footnote 21 or

[24] As mentioned before, re-election and CCI could suffer from reverse causality bias but this same could be said for resignation and CCI. The first concerns a real reverse causality bias between the explained and explaining variables and the second with resignation is more in the sense an endogeneity problem. The next section will offer some solutions for both problems to be altered in possible further research.

voters simply fail to implement a resignation into their choice frame when deciding what to vote (see footnote 27 for an example of this).

4.5. Econometrical problems dissected

The building of this model went according to plan although before and after some minor problems with the model were identified. They do not seem too much of a problem that we cannot interpret the results but is important to mention it. Since it is beyond the scope of this paper to dive into detail on solving these problems, possible solutions will only be mentioned during this section but will remain open in order to stimulate further research to optimize the models. The identified problems are reverse causality bias between re-election and CCI, resignation and CCI effects on the outcome biased, impossible models and big coefficients.

4.5.1. Reverse causality bias[25]

This is the biggest problem this research could suffer from. Because not only can CCI influence the re-election but it also possible CCI influences re-election. Vuchelen (1995) for example, showed how CCI is influenced by two political events, unexpected elections, and government changes. Section 4 in this paper showed that CCI itself is also an explanatory variable when it comes to re-election in moderate ways so reverse causality is not ruled out. The solution for this problem comprises of two-stage least squares regression with instrumental variable(s). In order to find a good working instrumental variable two conditions, need to apply, the relevance condition and the exclusion restriction. The relevance condition is testable, and this should be done via OLS conducting the following regression formula:

$$X_{1,i} = \alpha * Z_i + \sum_{n=2}^{n} \beta_n * X_{k.i} + V_i \quad \textbf{(6)}$$

For which X is in this CCI, all the other X's are the explanatory variables in the regression, Z is the instrument and v is the error term. We should test whether α is non-zero, if so, it is a good instrument. The exclusion restriction is not testable and should be defended with economic sense. After finding a good instrumental variable two-stage least squares application should lead to the final model. From formula 6 we take the fitted value of $X_{1,i}$ and plug this into the regression to estimate the new better model:

$$Y_i = \delta_1 * X_{1,i} + \sum_{n=2}^{n} \delta_n * X_{k,i} + \varepsilon_i \quad \textbf{(7)}$$

Where Y_i in this case would be re-election, $X_{1,i}$ is the instrument and all the other variables are included in the sum operator. Possible instruments could be the death of the head of government or the gender of the head of government as considered in Jones and Olken (2005)[26], which uses death of a leader as an exogenous variable in their estimates of leaders' impacts on growth rates and find it to be a well-working instrument. Johnson et al. (1985) uses the same instrument of

[25] For the source of this explanation please see lecture 3 of the course 'Financial Methods & Techniques' by professor R. Quaedvlieg (2021) and Brooks (2019).

[26] Jones and Olken (2009) investigate the effect of an attempted assassination of a leader and whether this affects the playfield. They find that assassinations (of autocrats) increase the number of democracies.

death in explaining stock price reactions when a CEO dies and found this caused abnormal returns. Bennedsen et al. (2007) uses the gender of the firstborn child of the leaving CEO in a family company as instrument. They find negative causal impact on firm performance after a CEO transition, this effect is significantly larger when the gender instrument is used.

4.5.2. Resignation and CCI effects

When adding the dummy for resignation into the formula the goal was to get a clear view of the effect of CCI on re-election when controlling for among others resignation but also the other way around. This is a very tough situation since the coefficients of both variables could be biased by one another. To my best knowledge, no research has been done on the relationship between CCI and government resignations and since this is crucial for this problem to know, we cannot solve it yet. What we do know is that the Classical Linear Regression Model (CLRM) assumptions still hold whether both variables are correlated or not (Brooks, 2019) so we can still interpret the model as it is stated now.

4.5.3. Impossible models

The models in sections 4.2 and 4.4 when estimated with country fixed effects were not possible to estimate. The root of this problem lies within the nature of regressions not being able to predict when the following condition holds $Observations < Number\ of\ variables$ **(8)** (Portnoy, 1984). It is of course easy to solve this by expanding the time frame examined to increase observations. In the case of elections and economic variables this could also cause some problems especially because of the sample comprising seven countries. Not all countries have been recording these data forever and therefore the sample could again be biased when early in time only one or two countries are included where now every country has a fair share. As mentioned in Peltzman (1987) state elections (in the US) consists of way more datapoints than national elections so this could be a good alternative. Unfortunately, also this could cause problems because not all countries in this dataset have the same sort of state elections as in the United States as used in Peltzman (1987). But also, state governments do not have the same economic influence as national governments, and this could alter results.

4.5.4. Big coefficients

Looking at tables 15, 16, 17 and 18 (in Appendix A) we see that some coefficients are quite large. We know that in tables 15 and 18 the explained variable is maxed at 1 and for tables 16 and 17 the max is 100(%). Yet, a lot of coefficients exceed this maximum a lot, and these variables are mainly the ratios. This is because these ratios that are divided by GDP or population often result in numbers with three, four or five zeroes behind the decimal point. So, a one point increase is essentially ruled out but still the results have to be implied in that way where we basically see an impossible increase or decrease. In order to adjust this, we could alter the ratios by multiplying them to get a number closer to zero or by dividing the coefficient which is now seen in one of the previously mentioned tables and getting a more reasonable estimate. Because every ratio is different when looking at tenths, hundredths, or thousands this must be done individually, but either way both methods should give the same result.

5. Policy implications

Now, we will discuss what the forementioned results mean for the real world of politics. The acquired results regarding re-election, voter turnout and populist vote share can help politicians/parties with putting together their strategy for an upcoming election. In a healthy democracy the reigning government gets opposition from other parties when it comes to their decisions on order to refrain from becoming a totalitarian state. So, we will also focus on what the opposition can do with these results in trying to win an election and defeating the incumbent. Not unimportantly, suggestions for further research will be done throughout.

5.1. Potential bias in lags

As already mentioned in sections 4.1 to 4.5, we identified some abnormal behaviour among the coefficients. In various variables we saw that coefficients of lags one, two and four were equal in magnitude and the same holds for lags zero and three. This behaviour is not as expected, since we would think a variable has either a negative or positive effect unrelated to the timing prior to an election. The results tell us something different and we can conclude that the same variable has a positive (negative) effect in lags one, two and four while lags zero and three are negative (positive). Since the latter are more often insignificant, we could conclude that both lags do not have any effect whatsoever. This explanation is logical when we look at the coefficient for lag zero. Since election are not obligatory held at the last day of a quarter, and therefore it is plausible macroeconomic variables of the election quarter are not known to the public yet. This strengthens the assumption that a variable of lag zero has potentially no effect on the re-election. For this to hold also with the third lag seems less logical. When the first, second and fourth lag do have an effect, you would expect the third lag to also be included. This problem is a good subject for further research. Taking hyperbolic discounting and present bias (Benhabib et al., 2004 & Benhabib et al., 2010) into account, we can search if three quarters prior to an election is not considered by voters when deciding. Both lag one and two are close to the election date and the fourth lag represents the quarter exactly one year prior to the election. Where we could say the importance of lags one and two occurs via the present bias, the fourth lag can be influenced by the way CCI is constructed. CCI surveys often require contestants to think about their and their country's' economic situation one year ago (Dominitz & Manski, 2004), and so, we can see that comparisons to a year ago is something that plays a role in peoples' mind.

5.2. Sign switching

In the results shown in tables 15 to 18 we also saw variables being positive in one time period and then negative the following period, with a coefficient of the same magnitude. Intuitively this comes down to the following equation

$$X_t \approx -X_{t+1} \quad \textbf{(9)}$$

As identified in (Angelova et al., 2019), governments often alter policies prior to an election to satisfy voters. It is possible this also happened during the investigated sample and that is what caused the sign switching. For policymakers it is important they track approval of policies they implemented closely to alter when appropriate, because after all they are human and make mistakes. This allows for the assumption that bad policies follow adjustments and results in essentially a zero-effect on the re-election probability. Whether this assumption is true is an

interesting subject for further research, results obtained in this paper can be used for determining the variables to use.

5.3. Adjusting influential factors

The incumbent government wants to win the election again to hold their power. In order to do this, a good campaign strategy is necessary (Rhee, 2006). They have the direct influence on macroeconomic variables and can adjust them. This research showed numerous variables that influence the probability of re-election either negative or positive. A government can use these results in their strategy by changing them in their favour prior to the election but also by promising improvements during their campaign that speak to people and might persuade voters. As big parties that often govern and are sometimes re-elected, we see that those parties have a loyal electorate[27]. We see this type of musical chair plays more often when the number of options decreases in an election. Take for example the United States, two big parties dominate both houses and one candidate of each party is chosen every four, yet it is not always from the same party. The incumbent must try to persuade the so-called swing voters to take home the victory. This can be done by studying their preferences and altering their decisions and plans accordingly while still hoping that the original electorate is not changing to another party due to these changes, therefore it should not be any major change only subtle. According to the median voter theory (Black, 1948), a chosen policy that coincides with the preferences of the median voter causes you to win the election when opponents choose a different policy. At all times it is for the government to make sure the share of opposition votes remains low in order to keep their advantage. They can use results from table 17 to try and minimize the populists vote share by altering the coefficients that show a negative relationship. Intuitively, one would expect that a resigning government to some degree disappointed the voters in such a way that they will not be re-elected. Results as seen in table 18 show a negative yet insignificant coefficient for this and so the negative is not proven in this research and could be interesting for further research. In a recent real-world example of the Dutch General Election in 2021, this latter statement is strengthened[28].

5.4. Election strategy opposition

After all the information about incumbents' re-election it is also important to talk about how opposition parties can gain from this paper. Of course, they do not have direct influence on implemented policies and therefore it is harder for them to alter important factors to maximize their votes or minimize that of the incumbent. In a parliament they can vote in favour or against laws the government wants to implement and that is the power they must influence the

[27] The results of the elections used in this sample, obtained via *electionresources.org* and *electionguide.org* also showed a stable evolution in the amount of votes the overall biggest parties of a country got every election. Except for one party winning the most swing voters and winning the overall election. Data on this is available upon request.

[28] The Dutch government resigned in January of 2021 and had an election in March 2021, so the same quarter still. Although government party VVD took a hit in the polls they still won the election and were therefore not punished by their electorate and even won some seats (Kiesraad, 2021 regarding outcome; Ipsos, 2021 on opinion polls).

perception of the current government and their own perception during a term. For the population it is observable what all parties do and with that they can decide how they want to vote. In order to defeat an incumbent, the opposition needs to have a strong strategy which either must be completely different of the incumbent or almost the same but with characteristics that speak to the incumbents' voters, ideologically speaking. This definition loosely implicates as opposition you have the best chance when portrayed as a populist party, either left or right. The type of populism often depends on a country's' situation, where left-wing populism coincides with 'people versus elite' rhetoric and right-wing populism is known for nationalist, anti-immigrant and xenophobic views (Mudde & Kaltwasser, 2017). Recent years populism has risen, with an all-time high of 20 populist governments worldwide in 2011 and 2012 and last year at 17 populist governments (Meyer, 2021). Also, this year in the Dutch General Election the right-wing populist party Forum for Democracy had a big victory by winning six extra seats (*Parlement.com,* 2021). Their anti-lockdown beliefs caught on among the population and it is believed that this type of politics will be more often successful in the wake of the COVID-19 pandemic (Eberl et al., 2021). So, having established that populism will be the most successful way when running as opponent of the incumbent, the following formula quantifies how to this best:

$$\begin{aligned} \max(Opponnent\ win\ probability) &= \min(\mathrm{Re} - \text{election probability}) \\ &= \max(Voter\ turnout) \\ &+ \max(Populist\ vote\ share) + \min\ (Vote\ share\ winner)_{t-1} \end{aligned} \quad \textbf{(10)}$$

This formula of course does not result in an exact number but is rather a theoretical model to hold onto while planning an election strategy. As an opponent you want to maximize your own winning chances which is equal to minimizing that of your biggest opponent. Because if they hold their position, it is impossible as an opponent to win, and that is what politicians care most about (Downs, 1957). Maximizing voter turnout is done by persuading swing voters to vote for you instead of an established party but also to make sure non-voters go out and vote. Since systematic non-voters often have preferences and political beliefs that do not follow that of voters on both economic and non-economic issues (Schaffer, 1982)[29], this type of non-conformism can be triggered by populist views, and this is a great opportunity for the opposite party to gain momentum in an election. As Meyer (2021) shows, populism has been rising since the 1990's and is still at a highpoint in history. Therefore, maximizing populist vote share, which you need to win the election, should be easier today since populism is more mainstream than ever (see Ekström et al., 2020; Norocel, 2017). Last important determinant is the vote share the incumbent won at the last election needs to be minimized. It is obvious when adding all these factors does not lead to an exact probability, but it is important to see how following these steps will increase the opponents' chances. It can use the results retrieved in this paper by searching for the factors that most heavily influence one of the determinants in the formula and either try to implement them through parliament to give a signal to the public or make it clear in your campaign this is your plan. Whether this strategy works requires further research on this topic.

6. Conclusion

[29] see also Pettersen (1989) and Baran & Pilch (2013) for more on this subject.

In this paper the relationship between the Consumer Confidence Index (CCI) and election outcomes have been investigated. For this, the period 1995-2020 for the G-7 countries was used in order to answer a set of four different research questions. This section will draw a brief conclusion on each sub-question individually. The predictive and explanatory power of CCI in both the political and economic context have been proved in for example Vuchelen (1995) and Hardevoulis & Thomakos (2008). To try and limit the omitted the variable bias, quarterly macroeconomic data was used as control variables to estimate a better and more accurate model. Kramer (1971) was, to my knowledge, the first to explore the relation between economic variables and political outcomes, therefore this was also used in this context.

The main research question, *does the Consumer Confidence Index predict whether or not the incumbent government gets re-elected?* Included a total of seven variables among which two lags of CCI, these proved CCI in a raw has only a is moderately significant at the 10% level. One lag of CCI has a positive coefficient and two lags has a negative coefficient, which could lead us to believe the effect is zero due to the zero-sum game. Or policymakers alter their implemented policies prior to an election in such a way CCI increases and gives the incumbent a boost, see also section 5.2 on more about this switching of signs. When the standard errors are clustered according to country, we see CCI having the same effect in terms of coefficients yet now it is significant at the 1% level. In the raw model, we identified one lag of inflation and two lags of approval ratings to be statistically better predictors, these are significant at the 5% level. Rising inflation negatively influences incumbents' re-election chances and approval ratings positively influence them. As such, we can conclude inflation and approval ratings are the best predictors of re-election which is in line with theory (Palmer & Whitten, 1999; Kohli & Strong, 2019; Brody & Sigelman, 1983), and CCI is only somewhat predictive.

The second research question, *does CCI influence the voter turnout of a national election?* Comprises a big model with twenty-six explanatory variables. CCI from lags one to four are all significant at the 1% level. At lags one, two and four, a high CCI negatively influences voter turnout and accordingly low CCI increases voter turnout which is in line with Passarelli and Tuorto (2014). The deviation with lag three having a positive coefficient is further explained in section 5.1. Moreover, except for one lag of budget balance, every included variable was significant at the 1% level and thus is a good explanatory variable of voter turnout. When clustering the standard errors by country this improves the models' fit (R^2 increased from 0.9599 to 0.9945) and budget balance became significant albeit at the 10% level. For this model when we used both country fixed effects and country fixed effects combined with clustered standard errors, the models became impossible to estimate. And so, coefficients cannot be interpreted since it has no p-value or standard errors. This problem is caused by more variables than observations (Portnoy, 1984). So, we can conclude CCI is a good predictor of voter turnout, and its effect is in line with theory (Passarelli & Tuorto, 2014).

Next up, we focus on the question *do the changes in CCI give rise to populism?* This question is relevant, especially in today's world with rising populism (Meyer, 2021) and a pandemic which further causes populists to distinguish from the incumbents (Altiparmakis et al., 2021). A model consisting of sixteen variables has been estimated to explain the populist

vote share. Of CCI, lags two, three and four are included, lag two is negative and significant at the 10% level and lag two is positive and significant at the 5%. A negative coefficient of lag four (one year prior to the election) is not significant, again we see this switching of sign (section 5.2) so carefulness is required when interpreting these results. When the standard errors are clustered, the significance of lag four increases to the 5% level with still the same coefficients. Using country fixed effects seemed accordingly, looking at graph 7 in appendix B the differences in populist vote shares in shown per country and by one glance we identify big differences among countries. Country fixed effects changed coefficients of the variables although not the sign when considering CCI and above all it is not significant. If we use this model with clustered standard errors coefficients do not change but CCI becomes has the same significance as the raw model. Despite low power in the CCI coefficients the overall model shows a good fit and this increases when dissecting it more by country, strengthening the abovementioned argument about country differences (R^2 of 0.8261, 0.8975, 0.9130 and 0.9680 respectively). So, we can conclude CCI is not the best explanator of populism, yet other included variables proved to be better predictors. These include consumption/GDP, BoT/GDP, wage growth and fiscal policy. Variables including consumption, wage growth and fiscal policy can be explained as having a direct influence on people's wallets in the form of having more to spend. This manifests itself with more consumption, more income, and less taxes (again more income). Standing up for the middle class is in both left- and right-wing populism not uncommon (Mudde & Kaltwasser, 2017). The effect of the balance of trade is more a right-wing measure apprehended by nationalistic views restricting import and export. Henceforth, we conclude that these forementioned traditional populist economic variables are better explanator for the populist vote share compared to CCI although it is plausible CCI level is a good predictor of the level of populism.

The last research question, *will there be a difference in chance compared to the main research question when an election is due to the collapsing of a government instead of regular elections?* Will now be concluded. This probit model consists now of eight variables, the same as included with the main research and a dummy variable regarding the resignation of a government prior to an election. In the raw model, CCI again shows the same sign switching as identified before and its coefficients almost equal in absolute terms. Also, only lag one of CCI is significant at only the 10% level, therefore in this model we cannot say CCI predicts the re-election probability very good. But our main variable of interest, resignation, shows a negative coefficient as expected (Dewan & Dowding, 2005), although it is far from significant. When we cluster standard errors according to country, all variables become significant at the 1% level except for resignation which still is not significant. When using country fixed effects or both country fixed effects and clustered standard errors the output was again impossible caused by the fixed properties of regressions (Portnoy, 1984). Ignoring these impossible models, from both the raw and clustered error model we can conclude neither CCI nor resignation has a significant effect on the probability of the incumbent. Where CCI could still be argued it is effective in predicting but resignation in no way which is in line with recent real-world examples (see footnote 24).

7. References

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Appendix A

Variable	Observations	Mean	Standard deviation	Minimum	Maximum
Re-election dummy	47	.4681	.5044	0	1
Resignation dummy	47	.3617	.4857	0	1
Voter Turnout	47	67.5245	9.6433	49	83.8999
Total populist votes	47	1.96e+07	1.85e+07	2,420,619	7.42e+07
Populist vote share	47	36.9408	13.0265	5.037857	68.8
Populist seats	47	187.6809	113.4604	2	380
Votes winner	47	2.22e+07	1.88e+07	4982220	8.13e+07
Vote share winner	47	42.4471	9.426	25.4	82.2
Seats winner	47	274.3404	72.3414	124	418
Populist government dummy	47	.4255	.4998	0	1

Table 1: descriptive statistics of the electoral data. Taken over the full sample of elections between 1995 and 2020. Voter turnout and the vote share variables are in percentages.

Variable	Frequency (percentage) of 0	Frequency (percentage) of 1
Re-election dummy	25 (53.19)	22 (46.81)
Resignation dummy	30 (63.83)	17 (36.17)
Populist government dummy	27 (57.45)	20 (42.55)

Table 2: overview of the frequency of the dummy variables. A 0 means it has not happened and a 1 means it has happened.

Re-election dummy	Observation	Frequency of 0	Frequency of 1	Mean	Standard deviation	Minimum	Maximum
Canada	8	3	5	.625	.5175	0	1
France	5	4	1	.2	.4472	0	1
Germany	6	2	4	.6667	.5164	0	1
Italy	6	6	0	0	0	0	0
Japan	8	3	5	.625	.5175	0	1
United Kingdom	7	2	5	.7143	.4879	0	1
United States	7	5	2	.2857	.4879	0	1

Table 3: frequency of the dummy variable of re-election sorted by country. A 0 means it has not happened and a 1 means it has happened.

Resignation dummy	Observations	Frequency of 0	Frequency of 1	Mean	Standard deviation	Minimum	Maximum
Canada	8	4	4	.5	.5345	0	1
France	5	5	0	0	0	0	0
Germany	6	5	1	.1667	.4082	0	1
Italy	6	4	2	.3333	.5164	0	1
Japan	8	2	6	.75	.4629	0	1
United Kingdom	7	3	4	.5714	.5345	0	1
United States	7	7	0	0	0	0	0

Table 4: frequency of the dummy variable of resignation sorted by country. A 0 means it has not happened and a 1 means it has happened.

Populist government dummy	Observations	Frequency of 0	Frequency of 1	Mean	Standard deviation	Minimum	Maximum
Canada	8	5	3	.375	.5175	0	1
France	5	5	0	0	0	0	0
Germany	6	6	0	0	0	0	0
Italy	6	3	3	.5	.5477	0	1
Japan	8	1	7	.875	.3536	0	1
United Kingdom	7	3	4	.5714	.5345	0	1
United States	7	4	3	.4288	.5345	0	1

Table 5: frequency of the dummy variable of a populist government sorted by country. A 0 means it has not happened and a 1 means it has happened.

Voter turnout	Observations	Mean	Standard deviation	Minimum	Maximum
Canada	8	63.625	3.5608	58.8	68.3
France	5	78.9241	3.3458	75.5415	83.8999
Germany	6	76.25	4.4248	70.8	82.2
Italy	6	79.4333	4.3679	72.9	83.6
Japan	8	60.5537	5.8608	52.7	69.3
United Kingdom	7	65.6571	4.1521	59.4	71.4
United States	7	55.9857	5.5183	49	66.2

Table 6: summary statistics of voter turnout sorted by country. Numbers are percentages.

Total populist votes	Observations	Mean	Standard deviation	Minimum	Maximum
Canada	8	5,298,608	744,873.6	4,019,498	6,533,614
France	5	$1.00*10^7$	3,509,332	6,858,786	$1.55*10^7$
Germany	6	5,374,597	2,476,467	2,420,619	9,719,550
Italy	6	$1.85*10^7$	2,850,277	$1.41*10^7$	$2.26*10^7$
Japan	8	$2.26*10^7$	2,800,044	$1.99*10^7$	$2.90*10^7$
United Kingdom	7	$1.25*10^7$	2,618,286	9,134,498	$1.55*10^7$
United States	7	$5.99*10^7$	8,839,690	$4.73*10^7$	$7.42*10^7$

Table 7: summary statistics of the total of populist votes sorted by country. Numbers are total votes counted.

Populist vote share	Observations	Mean	Standard deviation	Minimum	Maximum
Canada	8	35.8625	3.4079	29.6	39.6
France	5	29.7	8.8411	18.6	42.9
Germany	6	11.7339	5.5217	5.0379	20.9328
Italy	6	51.0167	11.2549	37	68.8
Japan	8	37.1894	3.7582	32.1448	42.7313
United Kingdom	7	41.7143	6.4284	34.3	50.6
United States	7	47.8286	1.6700	45.7	50.7

Table 8: summary statistics of the populist vote share sorted by country. Numbers are percentages.

Populist seats	Observations	Mean	Percentage of seats	Standard deviation	Minimum	Maximum
Canada	8	113.75	.3365	30.6955	78	166
France	5	21.8	.0378	10.4976	8	36
Germany	6	65.8333	.0929	54.1347	2	163
Italy	6	306.8333	.4870	69.6087	220	379
Japan	8	249	.5355	59.2091	119	296
United Kingdom	7	276.5714	.4255	87.1739	170	380
United States	7	234	.4349	57.9309	159	311

Table 9: summary statistics of the populist seats earned sorted by country. Numbers are total seats.

Total votes winner	Observations	Mean	Standard deviation	Minimum	Maximum
Canada	8	5,576,122	665,841.9	4,982,220	6,942,937
France	5	$1.98*10^7$	3,674,761	$1.58*10^7$	$2.55*10^7$
Germany	6	$1.82*10^7$	1,908,895	$1.58*10^7$	$2.08*10^7$
Italy	6	$1.29*10^7$	3,116,338	8,646,034	$1.69*10^7$
Japan	8	$2.38*10^7$	4,230,256	$1.99*10^7$	$3.16*10^7$
United Kingdom	7	$1.19*10^7$	1,760,056	9,552,436	$1.40*10^7$

United States	7	$6.28*10^7$	$1.14*10^7$	$4.74*10^7$	$8.13*10^7$

Table 10: summary statistics of the total of votes of the winner sorted by country. Numbers are total votes counted.

Vote share winner	Observations	Mean	Standard deviation	Minimum	Maximum
Canada	8	37.775	2.4253	33.1	40.8
France	5	61.12	13.1976	51.6	82.2
Germany	6	39.2191	3.2947	35.0301	43.3584
Italy	6	35.75	7.1459	25.4	45.4
Japan	8	38.7751	3.9945	33.8836	44.8304
United Kingdom	7	39.7	3.5786	35.2	43.6
United States	7	49.9	2.3188	46.1	52.9

Table 11: summary statistics of the winners' vote share by country. Numbers are percentages.

Seats winner	Observations	Mean	Percentage of seats	Standard deviation	Minimum	Maximum
Canada	8	154.5	.4571	19.8494	124	184
France	5	299.6	.5192	41.8963	242	355
Germany	6	261.8333	.3693	34.3477	226	311
Italy	6	277	.4801	53.9407	220	368
Japan	8	272.625	.5863	30.8357	233	308
United Kingdom	7	357.5714	.5501	44.2375	306	418
United States	7	320.4286	.5956	40.1201	271	379

Table 12: summary statistics of the winners' seats earned sorted by country. Numbers are total seats.

Variable	Observations	Mean	Std. Dev.	Min	Max
CCI, index	716	100.001	1.6006	95.1144	103.4094
Exchange rate, local currency/USD	608	15.51	36.8096	.4892	132.4787
Unemployment rate, %	728	7.0838	2.5460	2.2299	13.7971
Wage growth, %	688	1.7430	2.1276	-4.7139	9.6557
Quarterly inflation, %	728	.0164	.2599	-1.2594	.8029
Budget balance, billions of US dollars	524	-8.2516	44.9995	-633.5416	133.0335
Monetary policy proxy, %	722	63.4748	20.3406	17.1	112.62
CA/GDP, ratio	728	-6.24e+15	2.07e+16	-6.58e+16	3.85e+16
GS/GDP, ratio	728	.1978	.0216	.1378	.2656
Fiscal policy proxy, ratio	651	3.4732	1.5902	.0015	10.1905
Consumption/GDP, %	728	58.5234	4.8916	49.87	69.06

War proxy, ratio	671	.0041	.0021	.0019	.0102
Approval ratings, %	674	42.5138	10.1652	11.4735	72.1144
LN GDP, integer	608	6.7217	.7766	5.163	8.601
Balance of trade, billions of US dollars	608	-4.0499	19.4095	-144.345	65.2150
Balance of trade/GDP, ratio	608	.0014	.0123	-.0194	.043

Table 13: summary statistics on all the economic variables used. Units of measurement are shown in the first column after the name of the variable. The base year regarding the CCI index is the long-term average which is equal to 100 (OECD, 2020).

Country	Openness index
Canada	64.98
France	64.52
Germany	87.99
Italy	59.96
Japan	36.82
United Kingdom	64.29
United States	26.31

Table 14: trade openness index by country. Index for Japan is for the year 2018, the rest of the indices represents 2019. Index is calculated by $\frac{Exports+Imports}{GDP}$*. Source: The Global Economy.*

Variable	Model 1	Model 2	Model 3	Model 4
CCI_{t-1}	5.6591*	23.3961	5.6591***	23.3961***
	(3.0538)	(24.5570)	(1.818)	(6.6452)
CCI_{t-2}	-5.1399*	-24.1171	-5.1399***	-24.1171***
	(2.8253)	(25.5142)	(1.8201)	(7.0854)
$Inflation_{t-1}$	-9.3134**	-20.1968	-9.3134***	-20.1968***
	(4.2741)	(19.6085)	(3.6251)	(5.1840)
War $proxy_{t-1}$	32,200.7*	264,104.3	32,200.7**	264,104.3***
	(17,933.67)	(276,706.4)	(13,661.35)	(90,641.06)
War $proxy_{t-2}$	-33,509.45*	-272,016.4	-33,509.45**	-272,016.4***
	(18,413.39)	(285,695.7)	(13,909.99)	(93,163.58)
Approval $ratings_{t-2}$	0.4818**	2.5415	0.4818***	2.5415***
	(.2322)	(2.6074)	(.1448)	(.7943)
GS/GDP_t	100.3989*	574.3514	100.3989***	574.3514***
	(60.9538)	(647.2295)	(25.0307)	(180.3551)
Constant	-87.7419*	-122.0206	-87.7419***	-122.0206***
	(50.6278)	(152.6893)	(21.5470)	(17.6919)
Observations	43	37	43	37
Pseudo R^2	0.7128	0.8129	0.7128	0.8129
Log likelihood	-8.5291	-4.7758	-8.5291	-4.7758
Country fixed effects?	No	Yes	No	Yes
Clustered SE's?	No	No	Yes	Yes

*Table 15: probit regression results regarding the main research question. Models 1 and 3 capture 15 complete election and models 2 and 4 21 complete elections. *** p < 0.01, ** p < 0.05 and * p < 0.1.*

Variable	Model 1	Model 2	Model 3	Model 4

CCI_{t-1}	-37.1954***	59.1354	-37.1954***	59.1354
	(5.8719)	(-)	(3.7389)	(-)
CCI_{t-2}	-33.4217***	-54.6344	-33.4217***	-54.6344
	(6.4445)	(-)	(4.6020)	(-)
CCI_{t-3}	61.6828***	-25.4524	61.6828***	-25.4524
	(9.8188)	(-)	(4.0881)	(-)
CCI_{t-4}	-24.7056***	24.4419	-24.7056***	24.4419
	(3.9457)	(-)	(1.9221)	(-)
Exchange $rate_t$	-821.8154***	927.4642	-821.8154***	927.4642
	(119.2889)	(-)	(66.7965)	(-)
Exchange $rate_{t-1}$	1,016.921***	-1,637.664	1,016.921***	-1,637.664
	(144.3129)	(-)	(100.5636)	(-)
Exchange $rate_{t-2}$	684.2164***	-720.7741	684.2164***	-720.7741
	(135.3047)	(-)	(73.6896)	(-)
Exchange $rate_{t-3}$	-1,994.428***	2,320.377	-1,994.428***	2,320.377
	(334.9538)	(-)	(189.4734)	(-)
Exchange $rate_{t-4}$	1,182.495***	-55.6139	1,182.495***	-55.6139
	(206.4865)	(-)	(110.1867)	(-)
Unemployment $rate_t$	-52.4883***	-.7009	-52.4883***	-.7009
	(8.3449)	(-)	(4.9165)	(-)
Unemployment $rate_{t-1}$	33.3616***	-46.9222	33.3616***	-46.9222
	(5.2741)	(-)	(2.1295)	(-)
Unemployment $rate_{t-2}$	-17.5676***	28.6651	-17.5676***	28.6651
	(3.2602)	(-)	(1.7796)	(-)
Unemployment $rate_{t-3}$	27.8407***	23.3222	27.8407***	23.3222
	(5.5121)	(-)	(3.4885)	(-)
Budget $balance_{t-1}$	-0.0945	-.6562	-0.0945*	-.6562
	(.0457)	(-)	(.0429)	(-)
Monetary policy $proxy_t$	13.3707***	-.9043	13.3707***	-.9043
	(2.6473)	(-)	(1.7733)	(-)
Monetary policy $proxy_{t-1}$	30.2487***	34.4091	30.2487***	34.4091
	(5.6001)	(-)	(4.1300)	(-)
Monetary policy $proxy_{t-2}$	-66.8316***	-51.2152	-66.8316***	-51.2152
	(11.6345)	(-)	(7.8624)	(-)
Monetary policy $proxy_{t-3}$	38.1626***	-8.9768	38.1626***	-8.9768
	(6.6389)	(-)	(3.0827)	(-)
Monetary policy $proxy_{t-4}$	-16.1351***	29.2950	-16.1351***	29.2950
	(2.9645)	(-)	(2.9313)	(-)
$Consumption/GDP_{t-1}$	6.4162***	.3547	6.4162***	.3547
	(1.3728)	(-)	(.7478)	(-)
War $proxy_{t-3}$	19,775.73***	992.1394	19,775.73***	992.1394
	(3,596.551)	(-)	(1,551.043)	(-)
$LN(GDP)_{t-1}$	150.7502***	293.3765	150.7502**	293.3765
	(34.4811)	(-)	45.3592)	(-)
$LN(GDP)_{t-4}$	-160.8247***	-206.617	-160.8247**	-206.617
	(35.4878)	(-)	(48.4529)	(-)
Balance of $trade_{t-2}$	2.2526***	1.6369	2.2526***	1.6369
	(.4415)	(-)	(.2065)	(-)
BoT/GDP_t	-2,106.335***	-1,093.236	-2,106.335***	-1,093.236
	(394.0226)	(-)	(184.1974)	(-)

Constant	-3,288.603***	-1,524.019	-3,288.603***	-1,524.019
	(528.9602)	(-)	(324.9938)	(-)
Observations	30	30	30	30
(Adjusted) R^2	0.9599	1.0000	0.9945	1.0000
Root MSE	2.0358	0	2.0358	0
Country fixed effects?	No	Yes	No	Yes
Clustered SE's?	No	No	Yes	Yes

*Table 16: OLS regression regarding research question 2. Output that resulted in such an impossible coefficient are indicated with '- ', this is the result of the sample being too small when it is divided into seven categories of countries. Not in every model the adjusted R^2 was calculated, this is the case in models 2,3 and 4. *** p < 0.01, ** p < 0.05 and * p < 0.1.*

Variable	Model 1	Model 2	Model 3	Model 4
CCI_{t-2}	-4.5602*	-4.2589	-4.5602*	-4.2589*
	(2.4988)	(2.3966)	(2.2120)	(1.7550)
CCI_{t-3}	9.6447**	6.9553	9.6447**	6.9553**
	(4.1652)	(3.9674)	(3.0119)	(2.0120)
CCI_{t-4}	-3.4931	-2.0464	-3.4931**	-2.0464
	(2.5231)	(2.1707)	(1.0859)	(1.3477)
Wage $growth_t$	-3.6036*	-3.2942*	-3.6036**	-3.2942**
	(1.7996)	(1.5158)	(1.3414)	(.9690)
Wage $growth_{t-2}$	4.8026***	6.0715***	4.8026**	6.0715**
	(1.5196)	(1.6062)	(1.5539)	(2.4861)
Wage $growth_{t-3}$	-3.0721*	-2.6257*	-3.0721*	-2.6257
	(1.6910)	(1.4427)	(1.4432)	(2.0356)
Consumption/GDP_{t-1}	-1.2472	-2.0790**	-1.2472*	-2.0790**
	(.9233)	(.8524)	(.6127)	(.8371)
Consumption/GDP_{t-4}	4.5088***	2.7282**	4.5088***	2.7282**
	(.9625)	(1.1685)	(.9693)	(.7556)
$LN(GDP)_{t-4}$	-4.3877	-10.0895	-4.3877**	-10.0895
	(2.7222)	(6.2925)	(1.3919)	(10.3270)
Balance of $trade_{t-2}$	0.3474*	0.0260	0.3474***	0.0260
	(.1901)	(.2101)	(.0745)	(.1398)
BoT/GDP_t	-706.4087	-608.2729	-706.4087**	-608.2729
	(574.312)	(594.9569)	(260.3183)	(657.6607)
BoT/GDP_{t-1}	1,570.707*	756.5363	1,570.707**	756.5363
	(772.2218)	(734.573)	(516.0374)	(690.6178)
BoT/GDP_{t-2}	-2,344.876***	-1,396.063**	-2,344.876***	-1,396.063*
	(552.1285)	(523.8106)	(328.9521)	(634.3427)
BoT/GDP_{t-4}	692.0861	863.4956**	692.0861*	863.4956
	(397.3939)	(348.7089)	(347.9618)	(520.1578)
CA/GDP_{t-4}	$1.45*10^{-16}$	$1.82*10^{-16}$	$1.45*10^{-16}$	$1.82*10^{-16}$
	$(1.03*10^{-16})$	$(1.40*10^{-16})$	$(1.52*10^{-16})$	$(2.25*10^{-16})$
Fiscal policy $proxy_t$	3.1438***	10.1226**	3.1438**	10.1226
	(1.0289)	(3.4119)	(.9238)	(7.8044)
Constant	-286.9451**	-41.4224	-286.9451**	-41.4224
	(101.3767)	(133.6603)	(99.0236)	(148.372)
Observations	33	33	33	33
(Adjusted) R^2	0.8261	0.8975	0.9130	0.9680
Root MSE	5.9429	4.5625	5.9429	4.5625

Country fixed effects?	No	Yes	No	Yes
Clustered SE's?	No	No	Yes	Yes

*Table 17: OLS regression regarding research question 3. Here again some models did not report the adjusted R^2, namely models 3 and 4. *** p < 0.01, ** p < 0.05 and * p < 0.1.*

Variable	Model 1	Model 2	Model 3	Model 4
CCI_{t-1}	5.7927*	304.79	5.7927***	304.79
	(3.2772)	(-)	(1.8139)	(-)
CCI_{t-2}	-5.2430*	-435.2543	-5.2430***	-435.2543
	(3.0090)	(-)	(1.8361)	(-)
$Inflation_{t-1}$	-10.1781*	-1,643.217	-10.1781***	-1,643.217
	(5.4256)	(-)	(3.5002)	(-)
War $proxy_{t-1}$	34,064.29*	7,535,693	34,064.29**	7,535,693
	(20,493.85)	(-)	(13,633.58)	(-)
War $proxy_{t-2}$	-35,497.49*	-7,346,672	-35,497.49***	-7,346,672
	(21,122.46)	(-)	(13,766.93)	(-)
Approval $ratings_{t-2}$	0.4914**	70.9627	0.4914***	70.9627
	(.2473)	(-)	(.1487)	(-)
GS/GDP_t	100.0858	7,495.137	100.0858***	7,495.137
	(64.1481)	(-)	(24.2096)	(-)
Resignation $dummy_t$	-0.4752	-467.6104	-0.4752	-467.6104
	(1.401)	(-)	(.9165)	(-)
Constant	-90.6221*	8,331.733	-90.6221***	8,331.733
	(55.0040)	(-)	(18.4964)	(-)
Observations	43	37	43	37
Pseudo R^2	0.7149	1.0000	0.7149	1.0000
Log likelihood	-8.4691	0	-8.4691	0
Country fixed effects?	No	Yes	No	Yes
Clustered SE's?	No	No	Yes	Yes

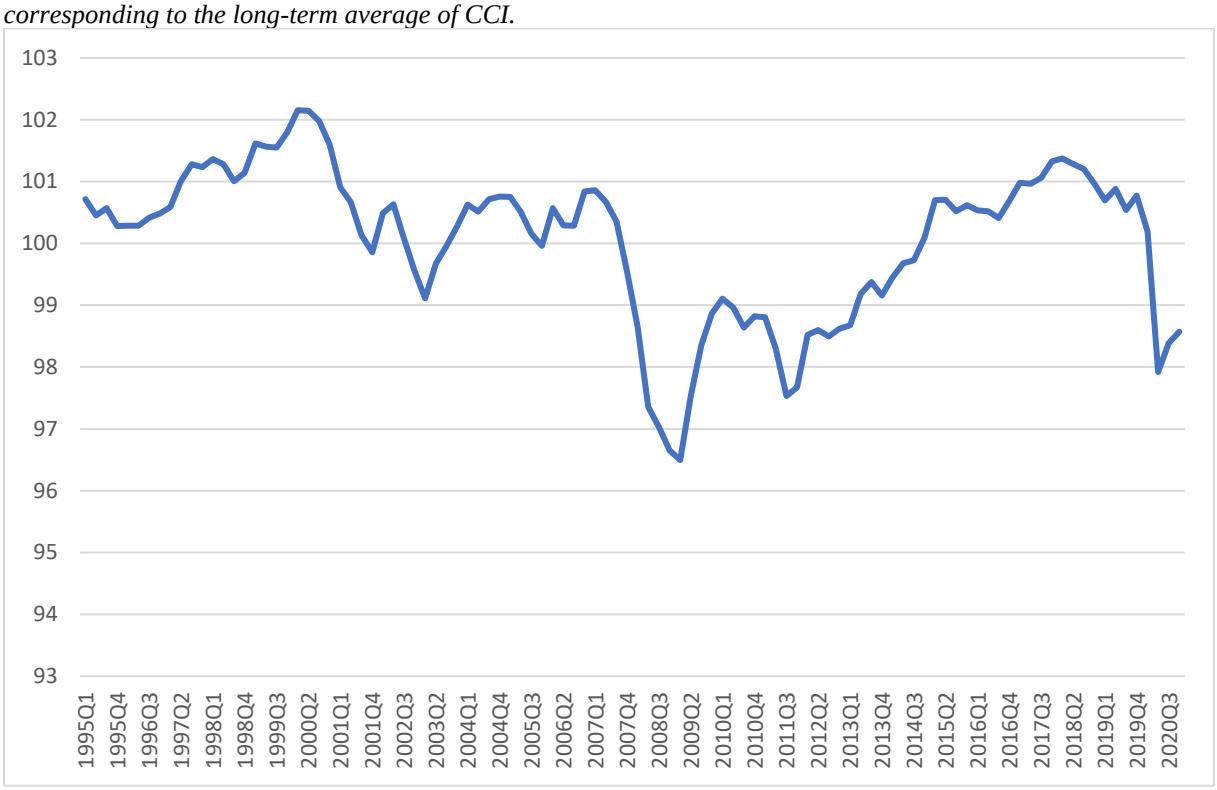
*Table 18: probit regression results regarding the fourth research question. Models 1 and 3 capture 16 complete election and models 2 and 4 37 complete elections. An impossible result is indicated with '-'. This is due to the small sample again when it is divided into seven different categories. *** p < 0.01, ** p < 0.05 and * p < 0.1.*

Appendix B

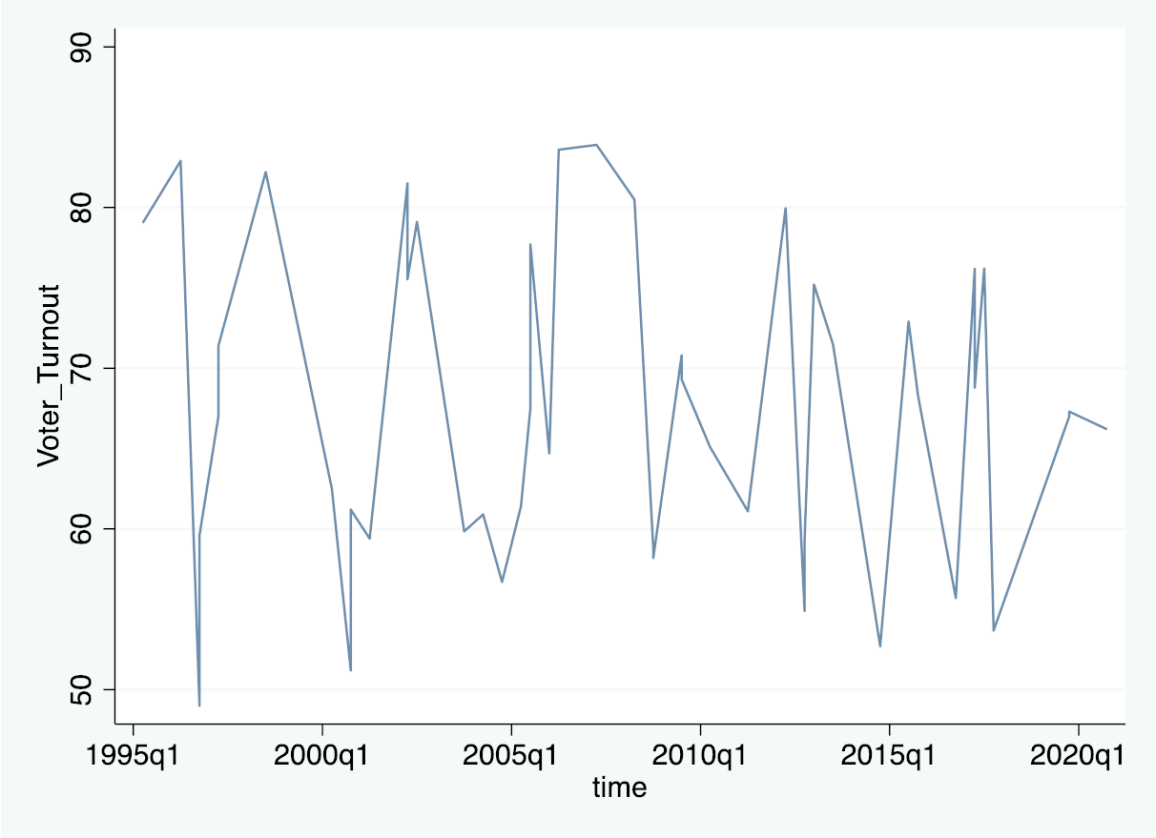
Country	Democracy index (rank)
Canada	9.24 (5)
France	7.99 (24)
Germany	8.67 (14)
Italy	7.74 (29)
Japan	8.13 (21)
United Kingdom	8.54 (16)
United States	7.92 (25)

Table 1: Democracy index over the year 2020 published on February 2nd, 2021, by The Economist. Source: https://www.economist.com/graphic-detail/2021/02/02/global-democracy-has-a-very-bad-year

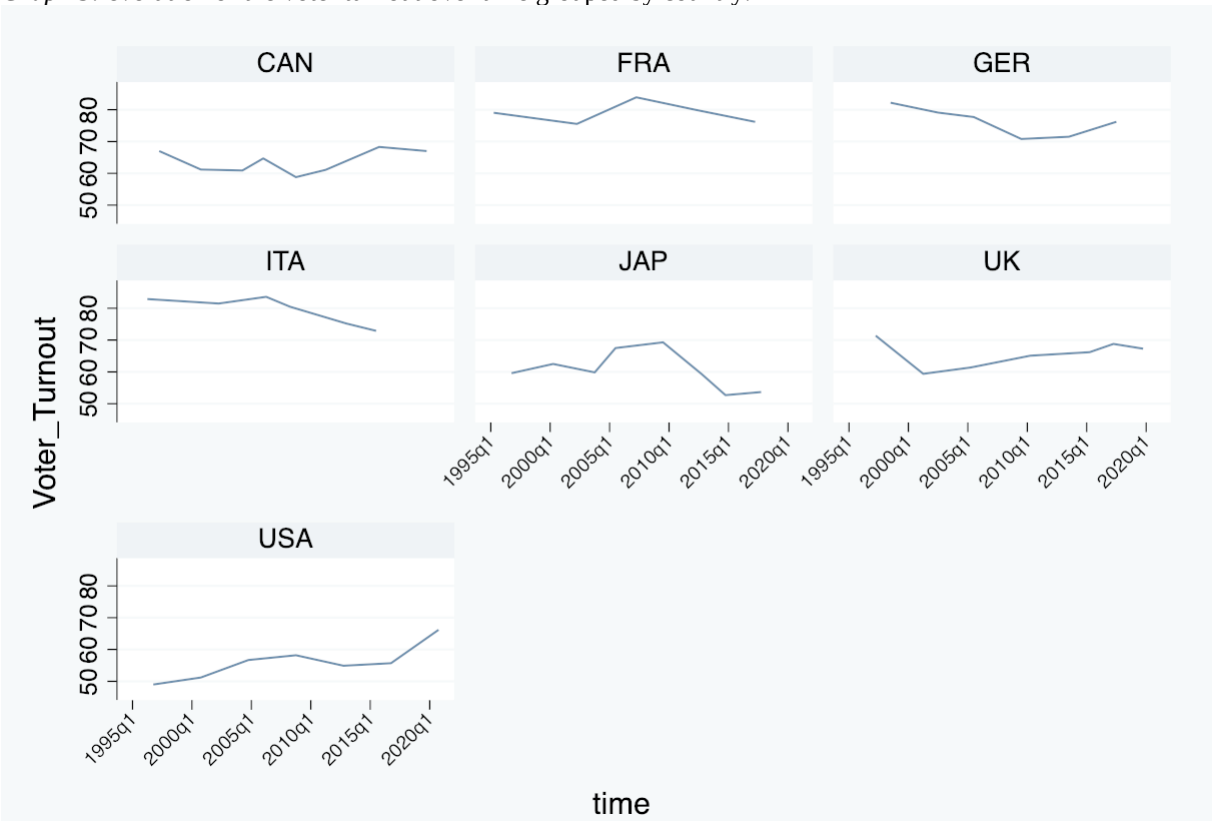
Graph 1: evolution of average CCI of all the G-7 countries during the investigated period. 100 is the base year, corresponding to the long-term average of CCI.



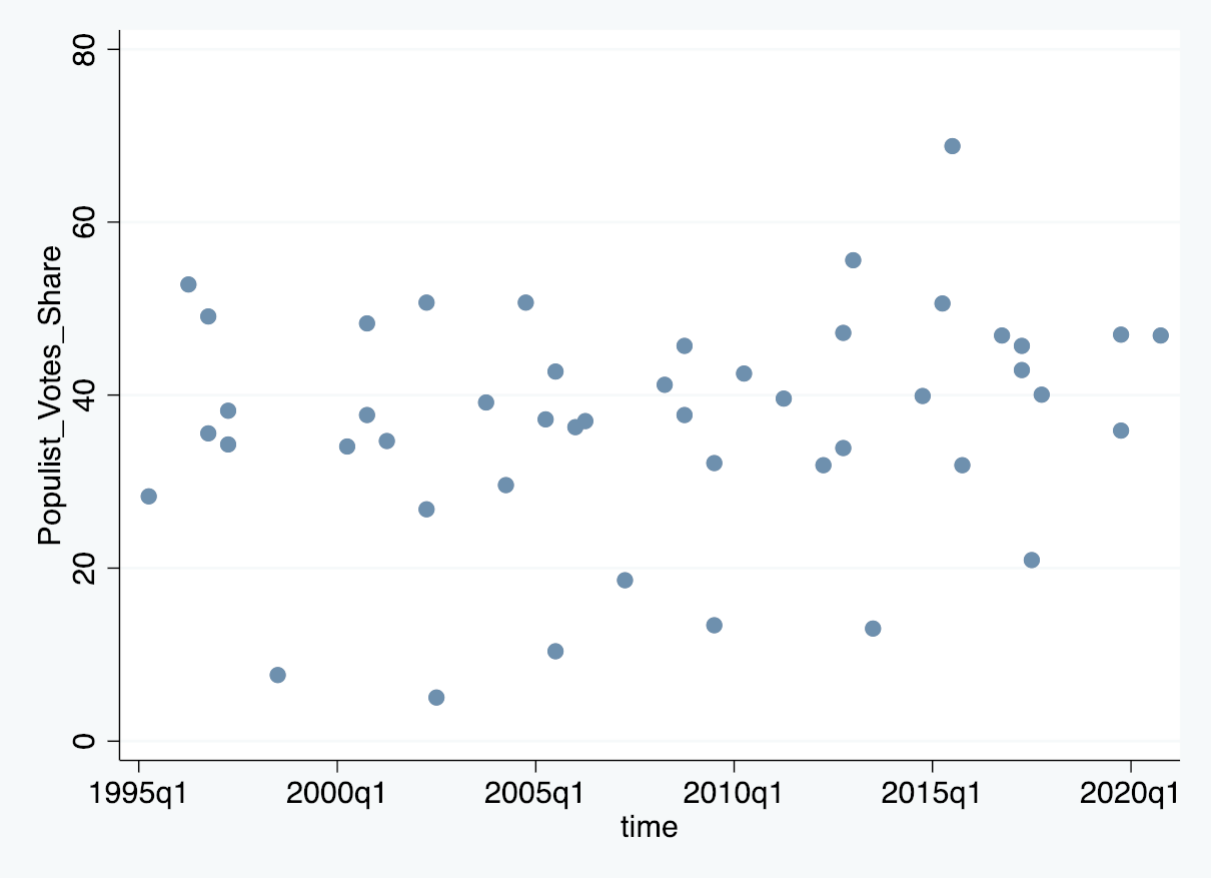
Graph 2: evolution of voter turnout over time in all countries.



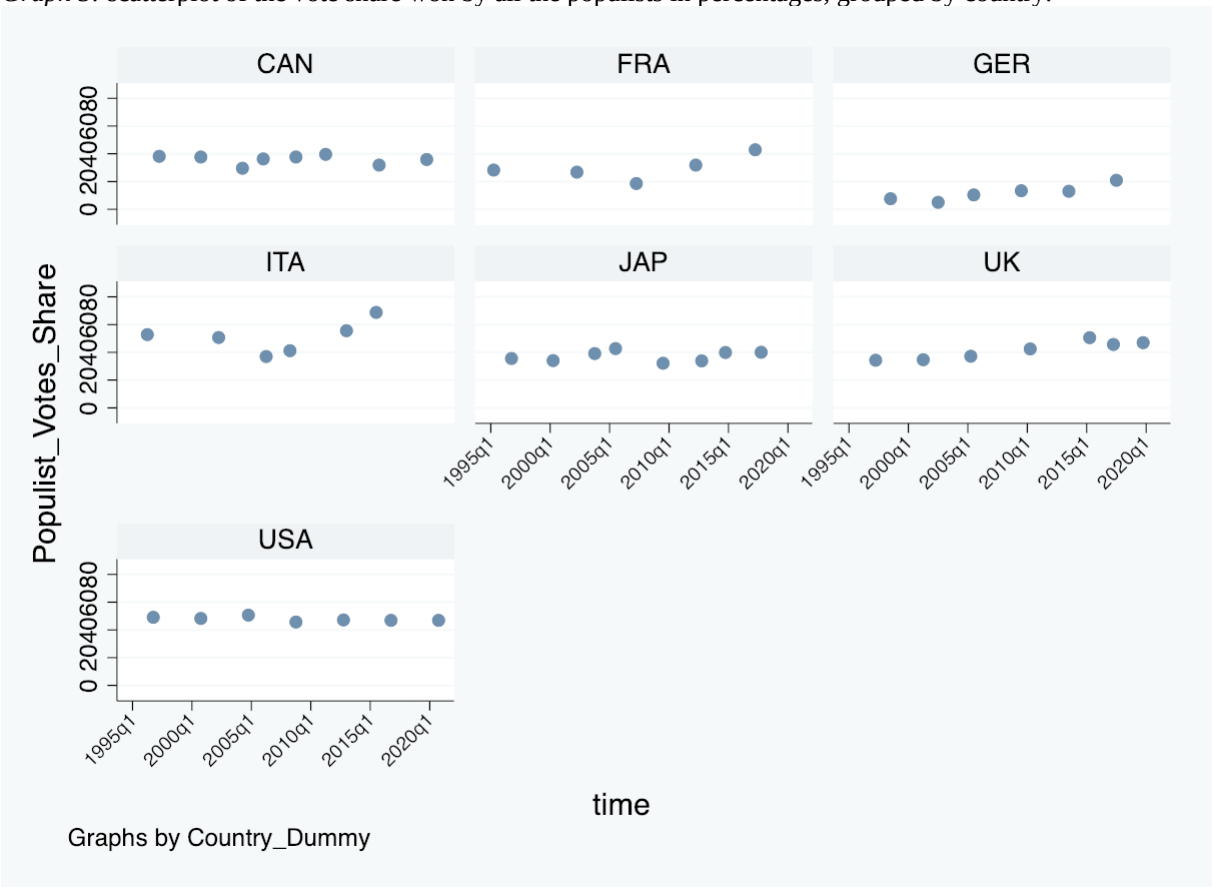
Graph 3: evolution of the voter turnout over time grouped by country.



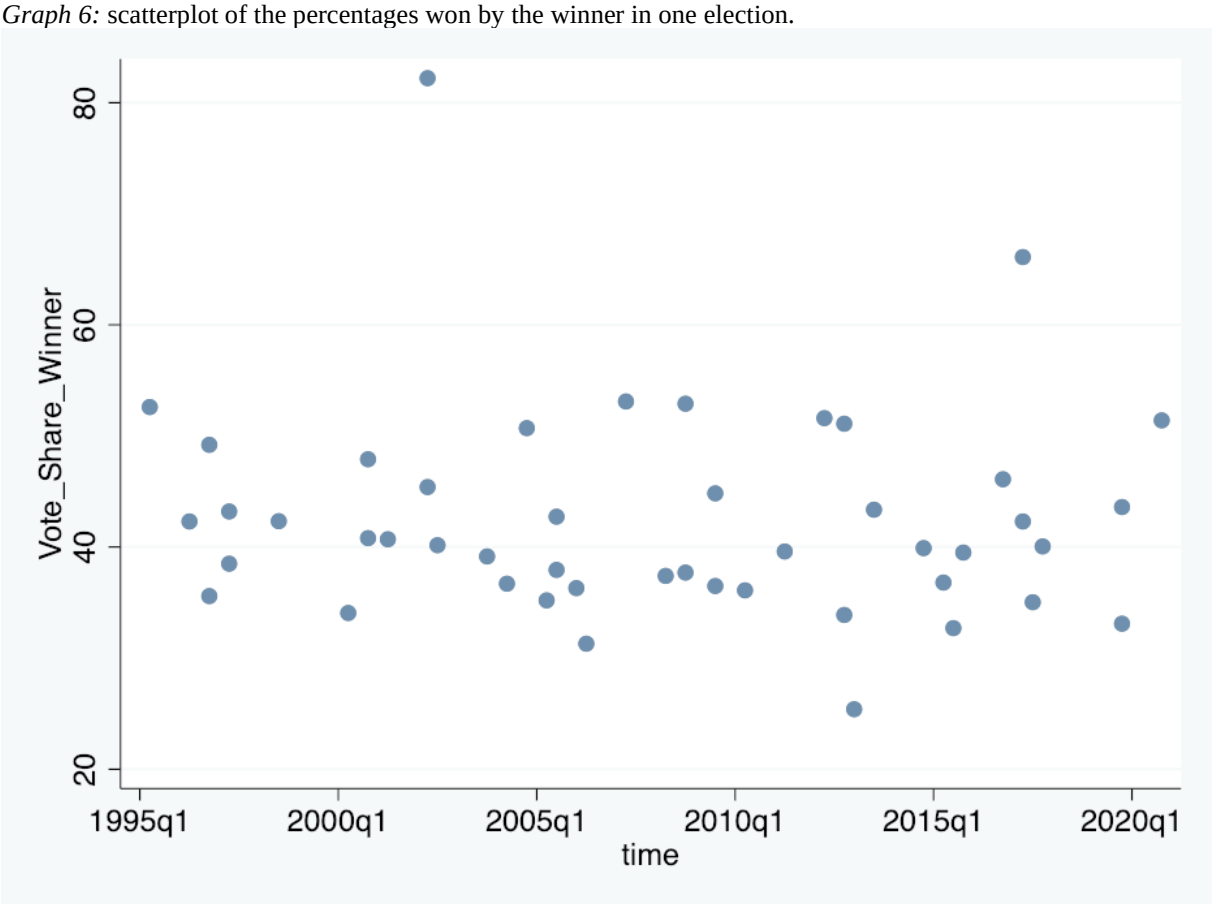
Graph 4: scatterplot of the vote share won by all the populists in percentages.



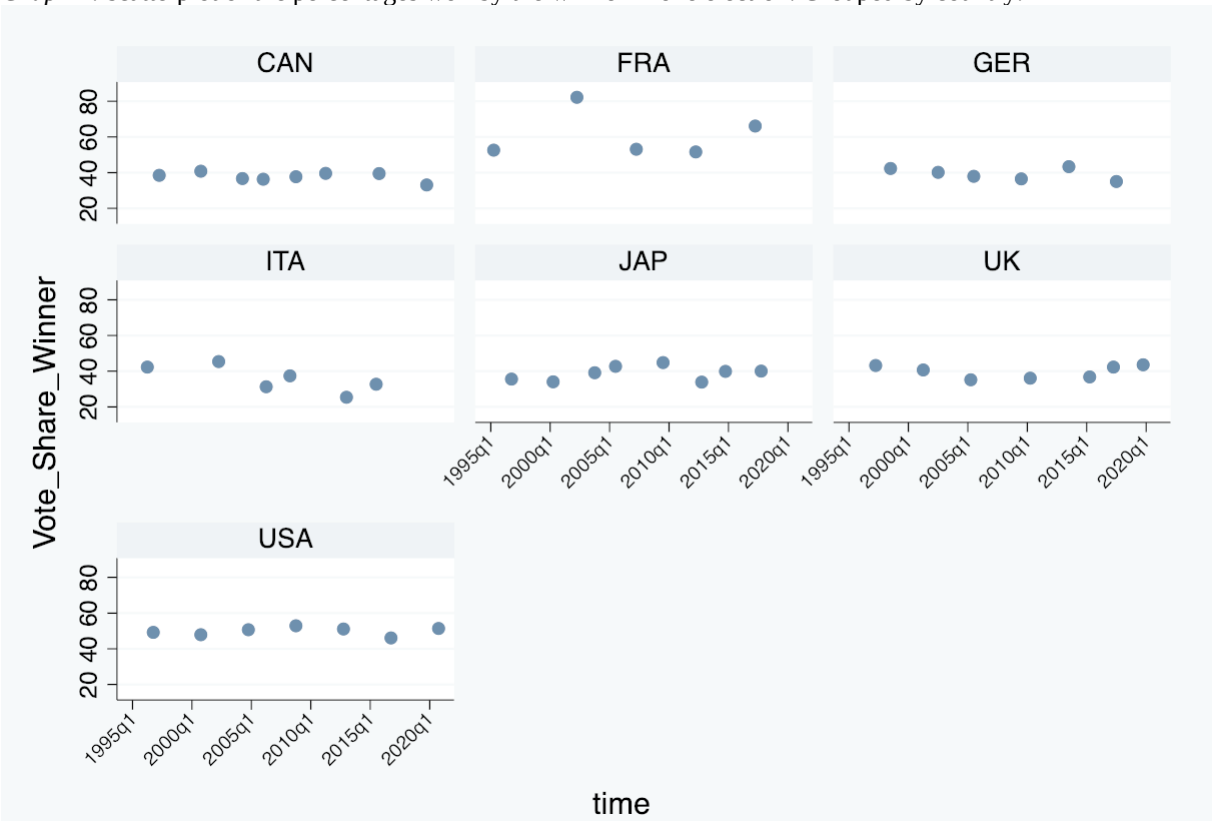
Graph 5: scatterplot of the vote share won by all the populists in percentages, grouped by country.



Graph 6: scatterplot of the percentages won by the winner in one election.



Graph 7: scatterplot of the percentages won by the winner in one election. Grouped by country.



Appendix C

In this appendix information regarding the classification of populist parties/politicians will be given. Each country will be treated independently to make the overview clear. The methods of determining this consist of four different sources which will lead to a table that indicates the populist parties' characteristics. The first source is *The Global Party Survey* (Norris, 2020), this survey investigates parties in almost every country and rate them on a scale of 1-5 on whether they fit the asked characteristic, since this is a recent survey not all the parties used in this papers' sample are included so, more sources need to be used. *The Popu-List* (van Kessel et al., 2019) lists all the populist parties in a country and classifies their specifics in terms of political standpoints. Unfortunately, this only applies to European countries and since three of the countries are non-European another source is needed. This is *Appendix H* in Funke et al. (2020) they use countries worldwide and more data of past leaders. They only mention the leaders of the party that were populists, but we can extrapolate this together with the other sources to conclude. Lastly, there were some parties/politicians not mentioned in neither of the sources, so these were classified manually. This is done by looking for parties that could be seen as classical populist in terms of rhetoric. Parties that included words in the sense of 'people', 'freedom', 'alternative', 'reform', 'radical', 'national', 'communist' or a country's name were examined further by searching the internet to see if they could be seen as populist and if so, how they lie within the political spectrum. Because populist parties often do not advertise with being populist, *Wikipedia.com* is believed to be a more reliable source to identify parties' ideologies instead of their own websites.

Canada

Party	Election years	Global Party Survey populist score	Popu-List populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology
Conservative (Progressive Conservative before 2004 election)	1997, 2000, 2004, 2006, 2008, 2011, 2015 & 2019	3.0	N/A	N/A	N/M	Right-wing conservatism, mildly populist
Reform Party (Canadian Reform Alliance in 2000)	1997 & 2000	N/M	N/A	N/A	N/M	Reformism, conservatism and right-wing populism
People's	2019	N/M	N/A	N/A	N/M	Conservatism, nationalism, libertarianism and right-

						wing populism

France

Party	Election years	Global Party Survey populist score	Popu-list populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology
National Front	2002, 2007, 2012 & 2017	4.0	Yes	Far-right	N/M	Nationalism, anti-immigration, Euroscepticism and right-wing populism
French Communist Party	2002, 2007, 2012 & 2017	N/M	No	Far-left	N/M	Communism and left-wing populism
Movement for France	2002 & 2007	N/M	No	Euroscepticism	N/M	Conservatism, soft Euroscepticism, Gaullism and right-wing populism
National Republican Movement	2002 & 2007	N/M	N/M	N/M	N/M	Nationalism, conservatism, anti-immigration far-right populism
Revolutionary Communist League	2002 & 2007	N/M	N/M	N/M	N/M	Trotskyism and far-left populism
La France Insoumise	2017	4.0	Yes	Far-left	N/M	Socialism, souverainism, nationalism, Euroscepticism and far-left populism
Arise the Republic	2012 & 2017	N/M	Yes	Far-right	N/M	Nationalism, conservatism, Euroscepticism, Gaullism and far-right populism
Radical Party	2012 & 2017	N/M	N/M	N/M	N/M	Radicalism, liberalism and

						mild right-wing populism

Note: as for the re-election probability, data from presidential elections is used but since the populism research question is estimated with data from legislative elections, this table covers all parties that partook in legislative elections and not necessarily in presidential elections.

Germany

Party	Election years	Global Party Survey populist score	Popu-list populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology
AfD	2013 & 2017	4.0	Yes	Far-right	N/M	Nationalism, conservatism, anti-immigration, anti-Islam, hard Euroscepticism and far-right populism
Die Linke (PDS before 2005)	1998, 2002, 2005, 2009, 2013 & 2017	3.0	Yes	Far-left	N/M	Socialism, anti-capitalism, anti-fascism and far-left populism
NPD (includes DVU after 2011)	1998, 2002, 2005, 2009, 2013 & 2017	N/M	N/M	N/M	N/M	Neo-Nazism, ultranationalism, anti-capitalism and far-right populism
REP	1998, 2002, 2005, 2009 & 2013	N/M	N/M	N/M	N/M	Nationalism, conservatism, Euroscepticism and right-wing populism
Schill Party	2002 & 2005	N/M	N/M	N/M	N/M	Conservatism and right-wing populism
DVU	1998, 2002, 2005 & 2009	N/M	N/M	N/M	N/M	Nationalism, conservatism, Pan-Germanism and far-right populism

Italy

Party	Election years	Global Party Survey	Popu-list populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology

		populist score				
Fiamma Tricolore	1996, 2001, 2006, 2008, 2013 & 2018	N/M	No	Far-right	N/M	Neo-fascism, Euroscepticism and far-right populism
Casa della Libertà	2001 & 2006	N/M	N/M	N/M	N/M	Liberalism, conservatism, mild right-wing populism
Rifondazione Comunista	1996, 2001, 2006, 2008, 2013 & 2018	N/M	No	Far-left	N/M	Communism, soft Euroscepticism and far-left populism
Lega Nord	1996, 2001, 2006, 2008, 2013 & 2018	4.0	Yes	Far-right	Right-wing populism	Federalism, conservatism, Euroscepticism and far-right populism
Forza Italia	1996, 2001 & 2006	4.0	Yes	N/A	Right-wing populism (Silvio Berlusconi)	Liberal conservatism and mild right-wing populism
Partito dei Comunisti Italiani	2001, 2006, 2008 & 2013	N/M	No	Far-left	N/M	Communism and far-left populism
Il Popolo della Libertà	2008 & 2013	4.0	Yes	N/A	N/M	Conservatism, liberalism and mild right-wing populism
Rivoluzione Civile	2013	N/M	No	Far-left	N/M	Communism, hard Euroscepticism and far-left populism
Movimento 5 Stelle	2013 & 2018	4.0	Yes	N/A	Left-wing populism	Direct democracy, environmentalism and left-wing populism
Fratelli d'Italia	2013 & 2018	4.0	Yes	Far-right	N/M	Conservatism, nationalism, Euroscepticism

						and far-right populism

Note: parties in Italy often form coalition on the center-left and center-right place of the political spectrum. Some parties in these coalitions can be considered populist and others not, only individuals parties are mentioned here and their affiliation with any coalition is left out.

Japan

Party	Election years	Global Party Survey populist score	Popu-list populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology
Liberal Democratic Party	1996, 2000, 2003, 2005, 2009, 2012, 2014 & 2017	3.0	N/A	N/A	Right-wing populism (Junichiro Koizumi)	Conservatism, nationalism and right-wing populism
Nippon Ishin No Kai	2017	4.0	N/A	N/A	N/M	Conservatism, federalism, limited government and right-wing populism

United Kingdom

Party	Election years	Global Party Survey populist score	Popu-list populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology
Conservative	1997, 2001, 2005, 2010, 2015, 2017 & 2019	3.0	No	Euroscepticism	N/M	Conservatism, liberalism, unionism and mild right-wing populism
Sinn Fein	1997, 2001, 2005, 2010, 2015, 2017 & 2019	3.0	Yes	Far-left	N/M	Republicanism, socialism, nationalism and left-wing populism
Democratic Unionist Party	1997, 2001, 2005,	3.0	No	Euroscepticism	N/M	Unionism, nationalism, conservatism,

	2010, 2015, 2017 & 2019					Euroscepticism and right-wing populism
UK Unionist Party	1997 & 2001	N/M	N/M	N/M	N/M	Unionism, anti-Devolution, Anti-Belfast Agreement and mild right-wing populism
Referendum Party	1997	N/M	N/M	N/M	N/M	Euroscepticism and populism without left or right ideologies
UK Independence Party	1997, 2001, 2005, 2010, 2015, 2017 & 2019	4.0	Yes	Far-right	N/M	Euroscepticism, conservatism, nationalism and far-right populism
Independent Kidderminster Hospital and Health Concern (also named Independent Community and Health Concern)	2001 & 2005	N/M	N/M	N/M	N/M	Social democracy, environmentalism, reformism and mild left-wing populism
British National Party	1997, 2001, 2005, 2010, 2015, 2017 & 2019	N/M	N/M	N/M	N/M	British fascism, white nationalism, ultranationalism, hard Euroscepticism and far-right populism
Respect-Unity Coalition (formerly Respect)	2005 & 2010	N/M	Yes	Far-left	N/M	Socialism, anti-capitalism, anti-imperialism, Euroscepticism and far-left populism
The Brexit Party	2019	4.0	N/M	N/M	N/M	Euroscepticism, anti-lockdown and right-wing populism

United States

Party	Election years	Global Party Survey populist score	Popu-list populism indicator	Popu-List ideology	Funke et al. (2020) mentions	Concluded ideology
Republican Party	1996, 2000, 2004, 2008, 2012, 2016 & 2020	4.0	N/A	N/A	Right-wing populism (Donald Trump)	Conservatism, centrism, libertarianism, and right-wing populism
Reform Party	1996, 2000, 2004, 2008, 2012, 2016 & 2020	N/M	N/A	N/A	N/M	Radical centrism, electoral reform and center populism
Constitution Party	1996, 2000, 2004, 2008, 2012, 2016 & 2020	N/M	N/A	N/A	N/M	Conservatism, Christian right and far-right populism

Note: United States hold a presidential election every four years where a political party gets to put one candidate forward to run for office, these parties are mentioned here and not the individual candidates since the candidates stand for the same beliefs as the party.

Appendix D

Variable	Source	Base year	Transformation
Consumer Confidence Index	OECD data	Long-term average = 100	N/A
Inflation	The Global Economy & Tradingeconomics.com	N/A	From monthly data to quarterly data
War proxy	Worldbank.org	N/A	Yearly data
Approval ratings	The Executive Approval project	N/A	N/A
GS/GDP	GS: tradingeconomics.com, GDP: The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data if applicable
Exchange rate	The Global Economy	N/A	From monthly data to quarterly data
Unemployment rate	The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data if applicable
Budget balance	The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data if applicable
Monetary policy proxy	The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data
Consumption/GDP	The Global Economy	N/A	N/A
Log of GDP	GDP: The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data if applicable, took natural logarithm of the GDP
Balance of trade	Tradingeconomics.com	N/A	From monthly data to quarterly data if applicable
BoT/GDP	BoT: tradingeconomics.com GDP: The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data if applicable per variable, then did the division
Wage growth	Tradingeconomics.com		From monthly data to quarterly data if applicable
CA/GDP	CA: The Global Economy & tradingeconomics.com GDP: The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data
Fiscal policy proxy	Government debt: The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data if applicable

	GDP: The Global Economy & tradingeconomics.com		
GDP	The Global Economy & tradingeconomics.com	N/A	From monthly data to quarterly data
Population	Canada: www150.statcan.gc.ca France: insee.fr Germany: worldometers.info Italy: worldometers.info Japan: macrotrends.net United Kingdom: ons.gov.uk United States: macrotrends.net	N/A	Yearly data is left untouched, Canada and France consist of quarterly data

Appendix E

Abbreviation	Explanation	First page mentioned
ICT	Information and communications technology	5
GDP	Gross Domestic Product	5
GNP	Gross National Product	8
CA	Current Account	16
MSE	Mean Squared Error	18

Table 1: list of abbreviations.