The Effect of Populism during a Pandemic: Evidence from the Netherlands

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This paper investigates the effect political parties have on compliance with nonpharmaceutical interventions during the Covid-19 pandemic and their effect on cases and fatalities. Citizens' compliance with these measures has an important effect on the public health and specifically in reducing the number of Covid-19 cases and fatalities. In specific, this paper looks at the case of the Netherlands, where right-wing party Forum voor Democratie (FvD) made a turn in Covid-19 stance and disregarded the measures taken by the Dutch government to contain the spread of the Coronavirus. This paper specifically looks at what effect this turn in stance had on the change in mobility, the number of cases, and the number of fatalities by using a difference in difference estimation. I conclude that there is no significant effect of the FvD vote share after their change in stance on general non-social distancing mobility. However, in some mobility categories, municipalities with a higher vote share for FvD show a bigger reduction in mobility after their change in opinion than municipalities with a lower vote share for FvD. Furthermore, I conclude that there is no significant effect of FvD vote share post change in opinion on the number of Covid-19 cases. Lastly, I conclude that there is a significant positive effect of FvD vote share post change in stance on the number of deaths due to Covid-19 at a 5% significance level.

1 Introduction

The worldwide outbreak of Covid-19, starting in Wuhan, China in December 2019 caused many governments around the world to take measures to help slow the spread of the virus and to prevent health care systems from collapsing. These Nonpharmaceutical Interventions (NPIs) varied from wearing masks and social distancing to working from home and total lockdowns. Citizens' compliance with these health measures has an important effect on the state of the public health and the diffusion of the virus.

This paper investigates the role populism plays in the spread of the virus and the compliance to the measures taken. In the case of the Coronavirus, populism means that politicians oppose the measures taken by the government to slow the spread of the virus. In this paper, the effect politicians have on the social-distancing behaviour of voters and the consequences for the public health is analysed by looking at the change in opinion on Covid-19 of Dutch right-wing party Forum voor Democratie (FvD). On May 20th the leader of FvD, Thierry Baudet, made a change in stance regarding the measures taken to fight the spread of the Coronavirus and pleaded for a reopening of society, while two months earlier he had pleaded for strict measures to be taken. This question is particularly interesting to examine because, if an effect is found, it could counter the median voter theory that states that parties determine their political policies dependent on the median voter that will win them the election. In this theory, the political party carries out the will of the electorate (Rowley, 1984). Instead, it could prove that, in some cases, the reverse effect is in order where political parties and politicians influence the public opinion (Carlsson et al., 2015; Grewenig et al., 2020). Pre- and post-trends in daily new cases and deaths due to Covid-19 on the municipality level will be examined as well as changes in mobility by using a difference in difference estimation.

I conclude that there is no significant effect of the FvD vote share after their change in stance on general non-social distancing mobility. Meaning that after FvD pleaded for a reopening of society, municipalities with a higher vote share for FvD did not show higher mobility than municipalities with a lower FvD vote share. However, in the mobility categories "retail and recreation", "parks" and "workplace" municipalities with a higher vote share for FvD actually show a bigger reduction in mobility after the change in opinion of FvD than municipalities with a lower vote share for FvD. Furthermore, I do not find a positive effect of FvD vote share post change in opinion on the number of Covid-19 cases. However, I do find a significant positive effect of FvD vote share post change in stance on the number of deaths due to Covid-19 at a 5% significance level. This paper contributes to existing scientific research in two main ways. Firstly, it is a contribution to the general literature on the causes and effects of behavioural differences in complying with the measures taken during the Covid-19 pandemic. Secondly, this paper contributes to the existing literature on political persuasion and populism. It is contributing evidence to literature where political parties influence public attitudes (Carlsson et al., 2015; Grewenig et al., 2020). In specific, it looks at the effect political parties and leaders have on the public opinion in a well-established democracy with a strong party system where decision-makers aim at a broad consensus.

This paper is built up as follows. First, an overview of the literature regarding coproduction and populism will be given as well as its effect on the Corona pandemic. The importance of co-production will be shown. Next, the change of stance by the FvD is explained and some first evidence that FvD voters indeed respond differently to Covid-19 threats and measures is given. Next, the data and methodology used to examine the effect populism has on the spread of the Coronavirus will be explained in sections three and four. In section five the results will be discussed and lastly, a conclusion and discussion will be given in section six.

2 Literature Review

As stated in the introduction, compliance to the NPIs is of big importance on the state of the public health and the diffusion of the Coronavirus. Considering that health is a public good, it is both non-excludable and non-rivalrous, the pandemic thus shows the importance of co-production. Co-production is a way through which inhabitants of a society contribute to the production of these goods (Bertelli & Cannas, 2020). More compliance to the measures in place will therefore lead to more public health. It is thus important to identify the determinants that affect the willingness to comply to these measures. A possible influence on this willingness could be populist opinions of political parties.

Populism is the idea that society can be separated into two groups in conflict with each other: "the people" and "the corrupt elite". Populist politicians state that they give voice to the general will of the people and stand in opposition to an "enemy", often the current system (Mudde & Kaltwasser, 2017). They accuse the elite of putting their own interest and internationalism above the needs of the nation and their own people (Rydgren, 2007). Populist politics are therefore not characterised by a common ideology but rather by a political style and spirit. These characteristics of populism feature both left-wing and right-wing populists.

Researchers have been studying the impact of populism and political partisanship on the people's views on various topics to show the effects it has on society. A survey held by YouGov, including 25.000 people of which 4.500 had populist views, concluded that populists are significantly more likely to believe in incorrect theories about vaccinations, global warming, and the 9/11 terrorist attacks. Two in five populists believe that regardless of who is in charge that there is a small group of people who secretly control the world together (Lewis et al., 2019). This belief shows similarities with the main idea behind populism where the general people are in conflict with the corrupt elite. The next subsections will give an overview of contexts where political opinions play a big role in the behaviour of people

Political partisanship and vaccinations

Kennedy (2019) found a highly positive association between the percentage of people who voted for populist parties and those who believe that vaccines are ineffective and unimportant. This vaccine hesitancy is also driven by the same dynamics as populism: a distrust towards the elite and experts. Kennedy (2020) also explains the importance of vaccination for society. Vaccinations provide individuals with immunity against diseases and can cause herd immunity when a big enough proportion of the people is vaccinated. This herd immunity will protect young children which have not been vaccinated yet and people who cannot get vaccinated due to medical conditions. It also lowers health care costs and will lead to more productivity at work.

The effect of vaccination hesitancy on the public health is shown by the consequences the research of Andre Wakefield on the Measles, Mumps, and Rubella vaccine (MMR) had on the health conditions in the UK. In his research, Wakefield found a link between the MMR vaccination and autism (Wakefield, 1999). Even though the results of his research were later marked as fraudulent, the vaccination rates in the UK fell from 92% in 1995 to 79% in 2003. This resulted in the number of confirmed measles cases rising from 56 in 1998 to 1,370 in 2008 (Public Health England, 2020).

Political partisanship and climate change

Next to the association between political partisanship and vaccine hesitancy, there is also evidence that populist voters are more likely to be sceptical about climate change and oppose climate policies that increase taxes on fossil fuels (Kulin et al., 2021). Populist parties often discard climate change as a hoax and oppose climate change mitigation policies. When former U.S. President Donald Trump was elected in 2016, he made decisions to slow down and stop

climate action. Research by Larsen et al. (2020) shows that these implemented policies could potentially lead to adding 1.8 gigatons of CO_2 to the atmosphere by 2035. The connection between support for populist parties and scepticism about climate change could therefore have an effect on global warming. Furthermore, not only climate policies play an important role in climate change, citizens also have an active role. Changes in citizen's behaviours towards more sustainable patterns and reducing their environmental footprint plays an important role in reducing climate change. Scepticism about climate change could therefore lead to serious damage to the environment and eventually to the economy (European Commission, 2020).

Political partisanship and hurricane risks

Lastly, the association between evacuations due to hurricane risks and political partisanship will be discussed. In 2017 the emergence of three hurricanes startled the United States: Harvey, Irma, and Maria. These hurricanes caused thousands of deaths and huge damage costs. Scientists believe that the occurrence of these tropical storms is to increase on the long term due to climate change (World Meteorological Organization, 2018). This increase highlights not only the importance of public belief in climate change, as discussed above, but also highlights the importance of public responsiveness to hurricane warning systems. Long et al. (2020) investigated the hurricane evacuation behaviour just before hurricane Irma came to land in Florida by using GPS data of smartphone users. They find that Trump voters were 11% less likely to evacuate than Clinton voters. Non-compliance to these safety measures will have severe consequences not only to individuals but also to society. Lower evacuation rates will lead to more deaths and people injured which will cause for higher public health costs and lower labour productivity.

Political partisanship and Covid-19

In the case of the Coronavirus, populism means that politicians discard the dangers and health effects of the virus to oppose the measures taken by the government. Considering that politicians do not only change their policy positions in response to the preferences of voters but that the reverse effect is also in order where political parties influence public attitudes (Carlsson et al., 2015; Grewenig et al., 2020), it is likely that these beliefs translate into differences in behaviour between supporters of populist parties and the rest of the population. This would lead to lower compliance with the nonpharmaceutical measures and less social distancing. In this case, the level of support for populist parties in an area could predict the number of Covid-19 infections and deaths.

Recent evidence from the U.S. on the difference in the change in mobility during the lockdown between Republican and Democratic counties confirms this theory (Allcott et al., 2020; Engle et al., 2020; Painter & Qiu, 2020). Painter & Qiu (2020) showed that residents in Republican counties are less likely to completely stay at home after a state order has been implemented relative to those in Democratic counties. A difference in difference estimation was used and a social distance variable using geolocation data was computed. They showed that a one standard deviation increase in the county level share of votes for Trump is associated with a three percentage points decline in people who stay at home. Engle et al. (2020) showed similar results by using GPS data on changes in average distance travelled by individuals. They found that counties with a lower share of the population that voted Republican are more responsive to disease prevalence and restriction orders. Gollwitzer et al. (2020) found not only the same differences in social distancing but also show that less social distancing has led to higher growth rates in cases and deaths in Republican counties. They also conclude, that when Republican counties had physically distanced to the same degree as Democratic counties they would have had lower infection growth rates than Democratic counties. Research by Barbieri and Bonini (2020) found a similar effect for Italy. They find that regions in Italy that lean towards the right-wing party Lega show a lower reduction in the spread of Covid-19. They also found that, during the Italian lockdown, provinces with high protest votes disregarded all social distancing orders. Frey et al. (2020) used a more general approach to investigate political influence on containing the virus. They found that collectivist and democratic countries have implemented relatively effective responses to Covid-19. They conclude that people in more individualistic societies, where conformity and solidarity are less important, showed less reduction in mobility. Bian et al. (2020) also found that individualism discourages social distancing. A possible explanation they give is that individualism alters people's tendency to internalize the externalities of their actions.

In this paper, the effect populism has on the social-distancing behaviour of voters and the consequences for the public health is analysed by looking at the change in opinion on Covid-19 of Dutch right-wing party FvD. First, it is important to note that the assumption made in this paper is that their stance regarding Covid-19 and its measures misrepresents the truth. It can therefore be characterised as a populist opinion because it is merely used to undermine the current government and to win votes. Secondly, it is important to give some context regarding the emergence of the virus in the Netherlands and the change in Covid-19 opinion of the FvD.

The emergence of Covid-19

The emergence of Covid-19 was first observed when cases of pneumonia were noted in Wuhan, China in December 2019. An association between the early cases and the Wuhan seafood market was found. Fastly the virus spread around the rest of the world with the first confirmed case outside China on January 13th 2020 in Thailand. By March 11th the World Health Organization declared that Covid-19 should be characterized as a pandemic (WHO Timeline - COVID-19, 2020).

On February 21st the first official case was reported in the Netherlands. A woman ends up on the ICU of the Beatrix hospital Gorinchem. She had symptoms for weeks but only tested positive later. In this phase Covid-19 was still depicted by the RIVM as comparable to the flu. By the second week of March 614 people in total were tested positive, of which most lived in the province of Noord-Brabant where in February Carnaval was celebrated. On March 12th a press conference took place in which new measures to fight the spread of the coronavirus were announced. Starting from March 15th the Netherlands went into an intellectual lockdown: schools, restaurants, pubs, gyms and more needed to close, people needed to work from home as much as possible and social distancing measures were implemented (COVID19 in The Netherlands: A Timeline, 2020). By the end of March, more than 12,000 people had tested positive of which more than 4,700 were admitted to the hospital (Archive COVID-19 Updates 2020, 2020).

Change in political stance by Forum voor Democratie

Initially, Thierry Baudet was very serious about the outbreak of the Coronavirus. On January 28th he already requested an emergency debate, because of the lack of border control. However, his request was denied and he was told that there would be a debate on February 6th (COVID19 in The Netherlands: A Timeline, 2020). Mid-March, FvD proposed four ideas to contain the virus: border controls, reopening of closed hospitals, an entry ban for people travelling from Covoid-19 hotspots, and a suspension of compulsory education (Forum voor Democratie, 2020a). Furthermore, they also pleaded not to go for herd immunity and supported a short but strict lockdown to prevent as many mortalities as possible (Forum voor Democratie, 2020b).

However, on May 20th FvD started a plead to end the lockdown and to get rid of the social distancing measures. They wanted the people that are not in risk due to their health or age to be able to go back to normal life as from before Covid-19 (Forum voor Democratie, 2020c). Later, Baudet also minimized the risks of getting Covid-19 and the mortality rate (Forum voor Democratie, 2020d). In February 2021, Baudet visits multiple gatherings in a.o.

Urk, Apeldoorn and Arnhem without adhering the social distancing measures and shakes hands with his followers (Van Kommer, 2021). In April 2021 Baudet is sick but refuses to get tested and compares Covid-19 again to a normal flu (NOS, 2021).

As is clear, the stance of Baudet and his party on Covid-19 and its measures changed quickly after mid-May, even though in the beginning they pleaded for hard measures to be taken to slow the spread of Covid-19. This shift in stance can be used to estimate the impact politicians have on the pandemic.

The Dutch case

Other countries politicians, such as Donald Trump (U.S.), Jair Bolsonaro (Brazil), Jörg Haider (Austria), and Andrés Manuel López Obrador (Mexico), have also minimized the risks of Covid-19 (Colarossi, 2020; Allcott et al., 2020; Mariani et al., 2020; Mellacher, 2020). However, the Dutch case is particularly interesting to look at for two reasons. Firstly, the Dutch political system is severely different than most of the previously mentioned countries. The Netherlands is a consensus democracy, where the political institutions aim at a broad consensus between political actors. When making decisions, as much opinions as possible are taken into account, in oppose to systems where the opinion of minorities are ignored by the winning majority. The Netherlands has a broad number of parties in the Senate and the House of Representatives in oppose to the U.S. and a high democratic value in oppose to Mexico and Brazil. Due to the aim at a broad consensus when making decisions it could be that an individual Dutch politician or political party has less of an influence on the behaviour of the people than those of other countries. Thus, if an effect is found in the Dutch case it can therefore more easily be generalised to other countries with different political systems where an individual party or politician has a bigger influence on the decision making. However, when an effect of political partisanship on the behaviour during and the spread of the Corona virus is not found, the little influence of a single politician or political party could be the reason why.

Secondly, FvD has a very big social media platform through which they reach a large audience. Makridis and Rothwell (2020) argue that due to the social distancing measures in place people are not interacting as much as possible with one another. This means that there is less information gathering through interacting and observing the local environment and a greater reliance on media sources, such as television and social media which is highly filtered by partisanship. Mazzoleni (2007) argues that the media serves as a powerful mobilization tool for populist causes. Populist leaders exploit the media's tendency to give attention to things that "go against the norm" and with that they reach a large audience. DellaVigna and Kaplan (2007)

show the impact media can have on influencing the voter behaviour by comparing towns in the U.S. that had Fox News added to their cable systems between 1996 and 2000. They found that the availability to Fox News increased the presidential voting share of Republicans in 2000 by half a percentage point. Thus, considering the high impact the media has on influencing the beliefs of people, the big social media platform of the FvD could lead to them being more sufficient in reaching the audience and influencing their behaviour.

FvD's voters opinion regarding Covid-19 measures and risks

Before we can evaluate the effect the opinion of FvD on Covid-19 has on the growth of Covid-19, I first need to show some evidence that FvD supporters indeed respond differently to the threats and measures of Covid-19 than the general people.

Between the 6th and 10th of March 2021, EenVandaag held a survey among 28,996 members of its opinion panel, of which 1,176 had a preference for Forum voor Democratie. In this survey, the members were asked about Covid-19 and its measures among other things (EenVandaag, 2021). Figure 1 shows the share of responses of people who vote FvD and the total population to the following questions that were asked: a) all Covid-19 measures need to be lifted immediately, b) Covid-19 is harmless for me, c) Covid-19 is dangerous for older people and people with a health condition, and d) the Covid-19 measures have caused fewer deaths.

Panel A shows that 84% of FvD voters want all Covid-19 measures to be lifted immediately as opposed to only 21% of all voters. To the statement Covid-19 is harmless for me 76% of FvD voters agreed, while only 22% of all voters agrees as shown in panel B. The percentage of people who said they did not know is almost identical for the two groups, respectively 9% and 10%. To the question whether or not Covid-19 is dangerous for older people and people with a health condition the differences between the two groups were much smaller (panel C). 79% of FvD voters agree that this is the case while 89% of all voters do the same. However, the differences between the two groups become larger again when we look at panel D. Only 18% of FvD voters believe that the Covid-19 measures have caused fewer deaths in oppose to 67% of all voters.

These results suggest that there is indeed a difference in the way FvD supporters respond to the threats and measures of Covid-19 than the general voters. They take the threats of Covid-19 less seriously and do not see the use of the measures in place. These differences can be caused by two things: 1) FvD supporters might have different characteristics than the general people such as being less risk-averse or having jobs that cannot be done from home or 2) FvD change in stance influenced the behaviour of their followers. In the next parts, the second reason is being evaluated.

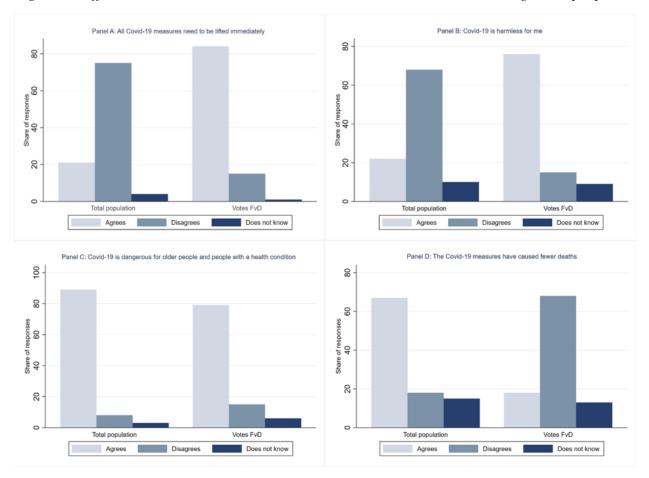


Figure 1: Differences in attitude towards Covid-19 between FvD voters and the general people.

Note: These results are from a survey held by EenVandaag between March 6th and 10th 2021. The survey had 28.996 respondents of which 1.176 had a preference for FvD. The research is representative for six variables: age; sex; education; marital status; spread over the country and political preference (EenVandaag, 2021).

3 Data

To test whether the opinion of FvD has an impact on the changes in mobility I have used Google Community Mobility Reports. These reports contain anonymized data on changes in mobility on the municipality level. The mobility indicators are based on the length and frequency of visits to categories of the following places: 1) retail and recreation, 2) grocery and pharmacy, 3) parks, 4) transit stations, 5) workplaces, and 6) residential. The data shows a percentage change from the baseline level, which is the median value of mobility dating from January 3rd up until February 6th 2020 (Mobiliteitsrapporten Voor Covid-19, 2020). The data used is on 151 municipalities dating from the 15th of February 2020 up until the 31st of July 2020. For the analysis, I looked at the six categories separately but also combined the first five to give a general overview of the change in mobility of the categories that can be defined as non-social distancing. All mobility indicators are also standardized. Table 1 shows the descriptive statistics of the five categories before standardisation took place.

Variable	Ν	Mean	Standard	Minimum	Maximum
			deviation		
Retail and recreation	14,180	-13.287	23.47	-95	133
Grocery and pharmacy	16,812	-0.831	12.848	-92	87
Parks	4,708	28.909	53.273	-83	298
Transit stations	13,609	-38.571	23.354	-93	173
Workplaces	21,452	-29.747	21.494	-90	43
Residential	11,301	8.976	6	-3	29

Table 1: Descriptive statistics of the six mobility categories

For the analysis of the impact of FvD on the number of Covid-19 cases and mortalities, data from the National Institute for Public Health and the Environment (RIVM) was used. The data is on 160 municipalities from April 1st 2020 up until the 31st July 2020 and gives the new confirmed cases and mortalities related to Covid-19 per day.

I use the results of the 2017 national election to measure the support for FvD on the municipality level. This data is retrieved from Kiesraad. Even though there have been more recent elections, the national elections of 2021, I do not use this data. This paper tries to estimate whether or not voters follow their parties opinion. The elections of 2021 could have had voters that explicitly chose to vote for FvD because of their opinion regarding Covid-19, which is not the effect this paper wants to capture. In order to give a municipality a degree of loyalty to FvD, the share of votes have been divided into percentile groups: 1) Under 25%, 2) between 25% and 50%, 3) between 50% and 75% and 4) above 75%. Table 2 shows the percentiles and their corresponding share of votes.

Lastly, I added some control variables all on municipality level. Population density, percentage of people above 65, percentage of non-western migrants, percentage of western migrants and percentage lower educated were all retrieved from the Central Bureau of Statistics

(CBS). Table 3 shows the descriptive statistics for these control variables and the number of Covid-19 cases and mortalities.

Percentile	Share of votes FvD in 2017
	national election
1%	0.011
5%	0.012
10%	0.013
25%	0.015
50%	0.017
75%	0.021
90%	0.024
95%	0.029
99%	0.032

Table 2: Division in percentiles of the share of votes for the FvD in the 2017 election

Table 3: Descriptive statistics of cases, mortalities and control variables

Variable	Ν	Mean	Standard deviation	Minimum	Maximum
Covid-19 cases	19,520	0.922	2.273	0	47
Covid-19 deaths	19,520	0.12	0.506	0	14
FvD 2017 vote share	19,520	0.018	0.006	0.009	0.061
% Lower educated	19,520	0.287	0.044	0.184	0.393
Residents per km ²	19,520	1035.669	1140.343	63	5710
% People over 65	19,520	0.213	0.031	0.117	0.287
% Western migrants	19,520	0.088	0.04	0.021	0.253
% Non-western migrants	19,520	0.077	0.06	0.019	0.353

Figure 2 presents a first motivating illustration for our analysis of the influence of the FvD on the number of cases. It shows the average reported Covid-19 cases per week from April 1st up until the 31st of July 2020 for municipalities with a vote share for FvD above median and below. Week 20 is the week where FvD made its turn in opinion. Initially, municipalities with a vote share below median had a higher number of average reported Covid-19 cases. However, after week 20 this difference first becomes a bit bigger but starting from week 23 the average reported cases of the municipalities with a vote share above median catches up to those below median. Figure 3 also shows a line graph only then for the average Covid-19 deaths. Initially, municipalities with a vote share below the median had on average more deaths than those above

median. However, in week 17 the average number of deaths is a bit higher for the municipalities with a vote share above median, only to be lower again in week 19. Starting from week 21 the average deaths of both groups grow towards each other.

Figure 2: Average reported Covid-19 cases for municipalities with different vote share for Forum voor Democratie in the 2017 national election

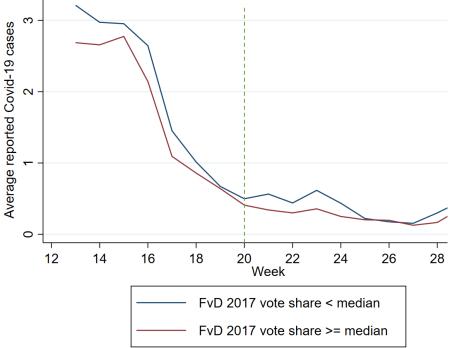
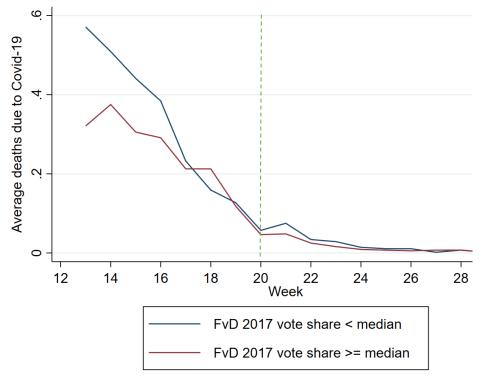


Figure 3: Average Covid-19 deaths for municipalities with different vote share for Forum voor Democratie in the 2017 national election



4 Methodology

To estimate the impact of populism on the spread of Covid-19, I use the opinion of FvD on Covid-19 measures. In specific, I identify the change in stance regarding the Covid-19 measures declared on the social media pages of FvD on the 20th of May 2020 as turning point. I compare municipalities with higher and lower support for the FvD before and after this date. The mechanism behind this strategy is that municipalities with higher support for FvD will respond more to his opinion and will therefore act differently than municipalities with lower support.

I use a difference-in-difference estimation with fixed effects on two variables, the municipality level and time level, to estimate the effect of FvD on behaviour, cases and mortalities. The corresponding estimations are as follows:

Non social distancing mobility_{m,p,t}

$$= \alpha_m + \alpha_t + \beta_1 * (FvDPercentile_m) X (Post May 20th) + \beta_2$$

- * (% low educated) X (Post May 20th) + β_3
- * (% above 65 years old) X (Post May 20th) + β_4
- * (Population density) X (Post May 20th) + β_5
- * (% western migrants) X (Post May 20th) + β_6
- * (% non western migrants) X (Post May 20th) + $\varepsilon_{m,p,t}$

Where *Non social distancing mobility*_{*m,p,t*} is the (standardized) mobility change for the activities that do not fall under social distancing in municipality *m*, in province *p*, at time *t*. To control for unobserved time-invariant variables I include fixed effect on the municipality level denoted by α_m . Municipality fixed effects can capture all time-invariant variables (on the municipality level) because it takes within differences over time. Hence, there is no need to control for further time-invariant control variables. Leaving the fixed effects out could lead to possible omitted variables bias due to variables that are unobserved and both influence the dependent as the independent variable. If this is the case, the effect we want to capture, for example, the effect of FvD vote share on the number of cases, also captures the effect of the omitted variable and therefore our estimation will be biased. An example of an omitted variable could be income. It could be possible that low-income people have a harder time working from home due to the form of their job and therefore have a lower reduction in mobility and a higher chance of getting infected (Brough et al., 2020). If income level also has an impact on whether or not FvD has a high vote share in the election of 2017 then leaving this variable out would cause omitted variable bias. However, the fixed effects has thus controlled for these unobserved variables. I also include time fixed effects on the daily level, denoted by α_t . They allow controlling for underlying observable and unobservable differences between observed time units. Not including time fixed effects will cause the interaction term between the FvD vote share group and the post May 20th dummy to also pick up overall trends instead of only the effect we want to capture. *FvDPercentile_m* is the share of votes for the FvD in a municipality for a specific percentile group as discussed in the data section. This is a binary variable that takes the value of one when the municipality falls into the percentile group and zero if not. Three of the four percentile groups will be added to the equation, making "FvD vote share under 25%" to be the reference category. The variable *Post May 20th* is also a binary variable which takes the value one if after May 20th and the value zero before this date. Our parameter of interest is β_1 . The other variables are control variables interacted with the post may 20th dummy.

The estimation of the effect of FvD on the number of Covid-19 cases is as follows:

Number of $Cases_{m,p,t}$

- $= \alpha_m + \alpha_t + \beta_1 * (FvDPercentile_m) X (Post May 27th) + \beta_2$
- * (% low educated) X (Post May 27th) + β_3
- * (% above 65 years old) X (Post May 27th) + β_4
- * (Population density) X (Post May 27th) + β_5
- * (% western migrants) X (Post May 27th) + β_6
- * (% non western migrants) X (Post May 27th) + β_7
- * number of cases $m, p, t-7 + \varepsilon_{m, p, t}$

Here our dependent variable is the number of cases in municipality *m*, in province *p* and at time *t*. Instead of using May 20th as the switch date, I now use the 27th of May to take into account the incubation time of Covid-19. The change of stance will not have a direct effect on the number of cases. I also include a lag variable of reported Covid-19 cases, *number of cases* $_{m,p,t-7}$, to take out the effect that the number of previous cases have on the current cases. However, introducing a dependent lagged variable into a fixed effect regression could possibly lead to the Nickell bias. For panel datasets with a large number of individuals (N) and rather small number of time periods (T) a fixed effects model with lag will generate estimates which are inconsistent as the number of individuals tend to infinity. This could lead to seriously biased coefficients but leaving out the lagged variable will lead to omitted variable bias (Nickell, 1981). The dataset used for this regression, however, has a relatively big number of time periods (T=122), causing the Nickell bias not to be a problem when including the lagged

variable. I again included the previous mentioned control variables interacted with the post May 27th dummy. Even though, I do not expect the impact of those control variables to change after May 27th, it could be that municipalities with a high level of, for example, low-educated people, go fairly worse after May 27th due to some other unobserved event. Not including these interaction terms would then lead to our estimation of interest to also pick up this effect and consequently becoming biased. Next, I included fixed effects on the municipality and daily level. Lastly, I have also transformed the number of cases variable into a log variable and captured the effect the different percentile groups post May 27th have on this variable as well.

Lastly, the effect of the vote share of the FvD has on the number of Covid-19 fatalities is described by the following estimation:

$$\begin{aligned} \text{Deaths}_{m,p,t} &= \alpha_m + \alpha_t + \beta_1 * (\text{FvDPercentile}_m) X (\text{Post May 27th}) + \beta_2 \\ &* (\% \text{ low educated}) X (\text{Post May 27th}) + \beta_3 \\ &* (\% \text{ above 65 years old}) X (\text{Post May 27th}) + \beta_4 \\ &* (\text{Population density}) X (\text{Post May 27th}) + \beta_5 \\ &* (\% \text{ western migrants}) X (\text{Post May 27th}) + \beta_6 \\ &* (\% \text{ non western migrants}) X (\text{Post May 27th}) + \varepsilon_{m,p,t} \end{aligned}$$

In this estimation I also make use of the later date, May 27^{th} , because for the number of fatalities also applies that the change in opinion of the FvD will not have a direct impact. Here the dependent variable is the number of deaths due to Covid-19 in municipality m, in province p and time t. The same control variables were included as well as the fixed effects on municipality and daily level. For both the number of cases as for the number of deaths a robustness check was done by including regressions with treatment dates May 20^{th} and June 3^{rd} (Appendix B).

When making use of a difference in difference estimation the parallel trend assumption is a critical assumption to make. It requires that in the absence of treatment, the difference between the treatment and control group is constant over time. In this case the difference for the dependent variables should be constant before the 20th of May (mobility) or before the 27th of May (cases and deaths). Violation of the parallel trend assumption will lead to a biased estimation of the causal effect. I have tested the assumption by regressing the interaction effect between the week dummy and the different treatment groups on the dependent variables and taking out the week before treatment took place. No significant p-values were found, thus I assume that the parallel trend assumption holds. The p-values and coefficients can be found in Appendix A as well as coefficient plots.

Lastly, another issue needed to be discussed, is that FvD could quite possibly have decided to make their change in stance regarding Covid-19 and its measures because they believe it is what their electorate wanted. The question is whether or not this gives an issue for our analysis. Kieskompas (2021) measured the loyalty of the Dutch voter in May 2020 and January 2021 in comparison to the voting behaviour in 2017. It shows that FvD voters loyalty has declined from 60.4% to 34.8%. A possible explanation for this reduction could be the growing unrest within the party due to antisemitic messages by party members and the split of some members of the party. However, a big part of the former FvD voters have doubts between the Partij voor de Vrijheid (PVV) and FvD. The PVV, however, does not fully disregard the Covid-19 measures and highly values the healthcare system. They are also pro-vaccination (Julen, 2021; Kieskompas, 2021). It is therefore quite possible that FvD voters actually transferred to the PVV due to their Covid-19 stance. In that case FvD did not copy their electorate when changing their opinion regarding the Coronavirus. However, it is impossible to completely determine where their loss in loyalty comes from. Even if FvD made their change in stance because of their electorate's opinion regarding Covid-19 it still makes this research valuable. Considering that FvD Leader Baudet did not adhere to the Covid-19 measures in numerous occasions is could quite possibly be that this still gave a sign to their electorate to also neglect the Covid-19 measures even though their opinion regarding Covid-19 was already the same.

5 Results

Table 4 gives the results of our first estimation, the impact of FvD vote share on change in mobility. Panel A shows the estimations using the normal data, while Panel B shows the results after standardizing the data. All interaction effects of control variables with the Post May 20th dummy were included as well as municipality and time fixed effects. The standard errors are clustered at the municipality and time level.

Panel A and B show negative significant effects for all the groups of FvD vote share on the change in mobility for retail and recreation after May 20th. For FvD vote share between 25% and 50% the effect is significant at a 10% significance level. When a municipality has a vote share between 25% and 50% for FvD the reduction in mobility for retail and recreation after the change in stance by FvD will be 0.245 standard deviations bigger than for municipalities with less than 25% vote share. A negative coefficient means that the mobility towards the category declined after the 20th of May. For municipalities with vote share between 50% and 75% this effect is significant on a 1% significance level and even stronger negative. In comparison to a municipality with vote share lower than 25% it has 0.421 standard deviation lower mobility. For municipalities with a vote share bigger than 75% the difference in mobility is -0.457 standard deviation compared to municipalities with a vote share less than 25%. This coefficient is also significant at a 1% significance level. For grocery and pharmacy visits I do not find a significant difference between the different percentile groups and the reference group. The same applies for the change in mobility for transit stations and residential areas. When looking at the mobility change for parks, we only find a significance level and implies that when a municipality has a vote share in the 50% to 75% percentile group it has a 0.351 standard deviation lower mobility than the municipalities with less than 25% after the 20th of May. Municipalities that fall within the group of FvD vote share bigger than 75% have a 0.081 lower workplace mobility than the reference group. This effect is significant at a 1% significance level. When looking at all the non-social distancing categories combined we do not find significant differences between the different percentile groups and the reference category.

However, it is surprising that municipalities with a higher vote share for FvD show a bigger reduction in mobility, considering the difference in attitude towards Covid-19 between supporters and non-supporters. A possible explanation for these contradicting findings is that the difference in behavior between supporters and non-supporters of the FvD does not necessarily comes back in mobility changes but more in ignoring other imposed measures. For example, in wearing face masks and keeping 1.5 meters distance to one another. Besides, lots of places were closed and employees were instructed to work from home. However, this only explains why there is not a significant positive effect after the 20th of May. Appendix B contains the effect of FvD vote share post May 20th on change in mobility when excluding fixed effects (Table B.1) to show the role the fixed effects play in capturing the true effect. Table B.2 shows the general effect the FvD vote share has on change in mobility.

Table 5 presents the results of the effect of the change in stance by FvD on the number of Covid-19 cases after May 27th. All columns include municipality and time fixed effects. Columns (2), (4) and (5) also include interaction terms between the control variables and the post May 27th dummy. Columns (3) and (4) uses weakly averages to reduce the possible serial correlation in the data. Column (5) shows the effect of the FvD vote share post change in stance on the log of Covid-19 cases. The results show a significant positive effect on a 10% significance level for the percentile group FvD vote share between 50% and 75% as well as for FvD vote share bigger than 75%. This indicates that municipalities with a vote share in between the 50% and 75% percentile group have 0.284 more cases after the 27th of May than

Panel A: normal data	Retail and recreation	Grocery and pharmacy	Parks	Transit stations	Workplace	All non- social distancing	Residential
FvD 2017 between 25% and 50% * Post May 20 th	-5.758*	-1.162	-16.444	-0.051	-0.035	-8.867	-0.102
	(3.35)	(1.699)	(10.143)	(1.943)	(0.408)	(9.255)	(0.158)
FvD 2017 between 50% and 75% * Post May 20 th	-9.887***	-2.696	-18.702*	-0.101	-0.995**	-7.195	0.159
	(3.476)	(1.973)	(11.109)	(1.504)	(0.468)	(10.126)	(0.171)
FvD 2017 bigger than 75% * Post May 20 th	-10.717***	-1.809	-5.329	-0.209	-1.735***	-6.602	0.246
	(3.369)	(1.819)	(14.734)	(2.849)	(0.639)	(10.461)	(0.179)
Constant	-18.054**	4.22	67.323**	-43.008***	-30.661***	-74.06**	9.849***
	(7.064)	(4.935)	(33.118)	(8.661)	(1.877)	(30.063)	(0.609)
Observations	14,176	16,812	4,705	13,609	21,452	23,624	11,300
R Squared	0.047	0.021	0.045	0.018	0.007	0.021	0.009
Panel B: standardized data	Retail and recreation	Grocery and pharmacy	Parks	Transit stations	Workplace	All non- social distancing	Residential
FvD 2017 between 25% and 50% * Post May 20 th	-0.245**	-0.09	-0.309	-0.002	-0.002	-0.155	-0.017
	(0.143)	(0.132)	(0.19)	(0.083)	(0.019)	(0.162)	(0.026)
FvD 2017 between 50% and 75% * Post May 20 th	-0.421***	-0.21	-0.351*	-0.004	-0.046*	-0.126	0.027
	(0.148)	(0.154)	(0.209)	(0.064)	(0.022)	(0.177)	(0.028)
FvD 2017 bigger than 75% * Post June May 20 th	-0.457***	-0.141	-0.1	-0.009	-0.081***	-0.116	0.041
	(0.858)	(0.142)	(0.277)	(0.122)	(0.03)	(0.183)	(0.03)
Constant	-0.203	0.393	0.721	-0.19	-0.043	-0.371	0.146
	(0.301)	(0.384)	(0.622)	(0.371)	(0.087)	(0.526)	(0.102)
Observations	14,176	16,812	4,705	13,609	21,452	23,624	11,300
R Squared	0.047	0.021	0.045	0.018	0.007	0.021	0.009
Municipality fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables * Post May 20th	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4: Change in mobility after the change in stance regarding Covid-19 by FvD on May 20th

municipalities with a vote share percentile less than 25%. Municipalities with a vote share percentile of bigger than 75% have 0.292 more Covid-19 cases after May 27th.

However, these results become insignificant when we remove the interaction term between the control variables and the post May 27th dummy (columns 1 and 3) and when we estimate the same regression only then on the log of Covid-19 cases (column 5). In the last case the estimates even become negative. Due to the last reason I have reason to expect that the estimates are not reliable and therefore I cannot conclude that there is a positive significant effect of the change in opinion by FvD on the number of Covid-19 cases. I do find a significant negative effect of the percentage of low educated people on the Covid-19 cases after May 27th of -2.609. This means that after May 27th municipalities with a higher percentage lower educated people had fewer cases. However, this effect also becomes insignificant when looking at the log number of Covid-19 cases. I also find a significant effect of population density after May 27th on the number of cases, however this effect is very small and therefore neglectable. Lastly, the percentage of non-western migrants has a significant effect on the number of Covid-19 cases after May 27th of -5.999. Meaning that after the change in stance by FvD the municipalities with a higher percentage non-western migrants had fewer covid cases. This variable also becomes statistically insignificant when looking at the log number of Covid-19 cases.

A possible explanation for not finding a positive significant effect of the change in stance and vote share on the number of cases could be self-selection bias. Covid-19 tests er conducted on people who self-reported their symptoms. They are thus voluntary. If the opinion of the FvD electorate is influenced by the opinion that testing is not useful then they are possibly less likely to be tested positive.

Table 6 shows the estimations of the effect of the change in stance by FvD on the number of deaths due to Covid 19 after the 27th of May. All columns include municipality and time fixed effects. Columns (2) and (4) include interaction terms between the control variables and the post May 27th dummy. Columns (3) and (4) again show the weakly averages to reduce possible serial correlation in the data. We do not find a significant effect of the FvD percentile group between 25% and 50% on the fatalities due to Covid after May 27th. However, we do find significant effects for the percentile groups between 50% and 75% and bigger than 75% of 0.17 and 0.171 respectively. Meaning that when a municipality has a vote share between 50% and 75% it has 0.17 more deaths due to Covid-19 after May 27th compared to municipalities with a vote share lower than 25% and when it has a vote share bigger than 75% it has 0.171

more deaths after the 27th. Both estimates are significant at the 5% significance level. Lastly, the percentage of western migrants has a positive significant effect of -2.27. Meaning that municipalities with a higher percentage of western migrants have lower Covid-19 fatalities.

To check the robustness off these results tables C.1 and C.2 in Appendix C present respectively the estimates of the effect of FvD vote share on the number of cases after May 20^{th} and June 3^{rd} . Tables C.3 and C.4 show the estimates of FvD vote share on the number of deaths due to Covid-19 respectively after May 20^{th} and June 3^{rd} .

Table 5: Co	ovid-19 cases	after May 27 th
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Covid-19 cases	1	2	3	4	5
FvD 2017 between 25% and 50% * Post May 27 th	-0.094	0.205	-0.116	0.215	-0.027
	(0.158)	(0.165)	(0.167)	(0.173)	(0.21)
FvD 2017 between 50% and 75% * Post May 27 th	0.033	0.263*	0.024	0.284*	-0.429**
	(0.123)	(0.136)	(0.13)	(0.147)	(0.217)
FvD 2017 bigger than 75% * Post May 27 th	0.009	0.28*	-0.008	0.292*	-0.212
	(0.2)	(0.161)	(0.209)	(0.163)	(0.225)
% Low educated * Post May 27th		-2.445**		-2.609**	-0.336
		(1.185)		(1.278)	(2.183)
% 65+ * Post May 27 th		2.423		2.476	-2.427
		(2.238)		(2.344)	(3.509)
Population density * Post May 27th		0.000**		0.000*	0.000**
		(0.000)		(0.000)	(0.000)
% Western migrants * Post May 27th		-5.536		-6.158	-2.66
		(4.034)		(4.269)	(2)
% Non-western migrants * Post May 27th		-5.553**		-5.999**	-0.202
		(2.532)		(2.576)	(1.46)
7 th lag of Covid-19 cases	0.364***	0.333***	0.316***	0.282***	0.224***
	(0.037)	(0.033)	(0.031)	(0.027)	(0.039)
Constant	0.476***	0.951**	0.519***	1.055**	0.981***
	(0.067)	(0.384)	(0.064)	(0.407)	(0.137)
Observations	18,400	18,400	18,400	18,400	6,177
R Squared	0.151	0.166	0.252	0.29	0.406
Municipality fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Control variables * Post May 27th	No	Yes	No	Yes	Yes
Log Covid-19 cases	No	No	No	No	Yes
Week averages	No	No	Yes	Yes	No

Deaths due to Covid-19	1	2	3	4
FvD 2017 between 25% and 50% * Post May 27 th	-0.11	0.108	-0.008	0.112
	(0.07)	(0.069)	(0.07)	(0.069)
FvD 2017 between 50% and 75% * Post May 27 th	0.052	0.168**	0.052	0.17**
	(0.064)	(0.068)	(0.064)	(0.068)
FvD 2017 bigger than 75% * Post May 27th	0.048	0.17**	0.048	0.171**
	(0.078)	(0.07)	(0.079)	(0.069)
% Low educated * Post May 27th		-0.044		-0.053
		(0.414)		(0.402)
% 65+ * Post May 27 th		1.167		1.196
		(0.773)		(0.794)
Population density * Post May 27th		-0.000		-0.000
		(0.000)		(0.000)
% Western migrants * Post May 27th		-2.196*		-2.27*
		(1.18)		(1.22)
% Non-western migrants * Post May 27th		-1.134		-1.145
		(0.727)		(0.715)
Constant		0.099		0.099
		(0.122)		(0.122)
Observations	19,520	19,520	19,520	19,520
R Squared	0.001	0.032	0.003	0.108
Municipality fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Control variables * Post May 27th	No	Yes	No	Yes
Week averages	No	No	Yes	Yes

Table 6: Deaths due to Covid-19 after May 27th

6 Discussion and conclusion

I conclude that there is no significant difference between municipalities with a higher vote share for FvD after their change of stance regarding Covid-19 on the change in mobility in the general non-social distancing category. However, some negative significant effects were found in specific categories. For FvD vote share between 25% and 50%, for 50% and 75% and bigger than 75% a negative effect on mobility for retail and recreation after May 20th was found. Meaning that after the change in stance by FvD these municipalities showed a bigger reduction in mobility in this category than the municipalities in the lower than 25% percentile group. In the change of mobility of parks I find a negative significant effect for the municipalities with a vote share between 50% and 75%. Municipalities that fall withing the percentile group of FvD vote share bigger than 75% have a significant bigger reduction in workplace mobility than the reference group. These findings are in contrast with earlier findings in the U.S. (Allcott et al., 2020; Engle et al., 2020; Painter & Qiu, 2020). A possible explanation could be that due to the closing of most shops, restaurants, cafés etc. people were forced, whether a FvD voter or not, to stay at home. It could therefore be that non compliance to the measures in place took on another form, for example not keeping the 1.5 meter distance, not wearing face masks or having illegal parties at home. However, this is not examined in this paper and could therefore be interesting to look at in future research.

Furthermore, I also cannot conclude that there is a significant positive effect of the FvD vote share percentile groups after May 27th on the number of Covid-19 cases. Even though the FvD vote share percentile groups between 50% and 75% and bigger than 75% interacted with post May 27th show significant positive effects, meaning that municipalities that fall into one of these percentile groups have a bigger number of Covid-19 cases after the change in stance by FvD than municipalities that fall into the lower than 25% percentile group, this effect disappears when looking at the log of cases. I therefore do not find the results found on the number of Covid-19 cases. A possible explanation could be that FvD voters are less likely to get themselves tested and therefore no effect can be found of FvD vote share on the number of cases. Earlier research done by Mellacher (2020) also did not find a significant effect of supporters of populist parties on the number of Covid-19 cases but did find an effect on the number of deaths. This is the same in this paper.

Lastly, I conclude that there is a significant positive effect of the FvD vote share percentile groups between 50% and 75% and bigger than 75% after May 27th on the number of

fatalities due to Covid-19. This means that municipalities in these percentile groups have a higher number of Covid-19 deaths due to the switch in opinion by FvD than the percentile group lower than 25%.

Considering the found results, I conclude that populism plays a negative role in containing the Coronavirus. Citizens' compliance with health measures are important in containing the spread of a disease. After FvD took on a populistic view on the threats and measures taken regarding the virus, the municipalities with higher vote share for FvD had more fatalities in comparison to municipalities with a lower vote share for FvD. Even though a significant effect of populism on the number of cases was not found, the significant positive effect on the number of deaths could still be an indication that there is an unmeasurable effect on the number of cases due to self-selection bias.

However, there are some limitations to the research that need to be discussed. Firstly, we assume that the parallel trend assumption holds. Even though I tested this assumption by checking whether or not the time dummies are different for the treatment and control group before treatment this gives no guarantee that the parallel trends assumption holds, it is simply an indication. If the parallel trend assumption does not hold, it is likely that other time-varying characteristics differ across treatment and control groups. Violation of the parallel trend assumption will lead to biased estimations of the causal effect.

Secondly, difference in difference estimation can only deal with time-invariant unobservable omitted variables, and with time-varying omitted variables as long as they affect treatment and control groups equally. If there are variables that do not meet this criteria and that are unobserved then there is a possibility of omitted variable bias in the estimations made.

The research presented in this paper can be extended in the following ways. First of all, a cross-national study of populism regarding Covid-19 could be done. It would be interesting to see whether or not the effect depends on factors such as government structure, political openness and containment policies. In this paper I looked at a consensus democracy where an individual politician or political party has a small influence on the opinion of the people. It would be interesting to see whether the effect found in this paper could possibly be stronger in political systems with more influence for a single politician or political party.

Secondly, it would be interesting to investigate whether Corona populism has an effect on other containment measures such as wearing masks and keeping 1.5 meters distance. Even though I did not find a negative effect of populism on reducing mobility it could be possible that it does have an effect on other Covid-19 measures. Lastly, the influence of other parties on compliance to Covid-19 measures and on the number of cases and fatalities could be investigated. It would, for example, be interesting to see how municipalities with a high share of left-wing voters score regarding cases, deaths and reduction in mobility.

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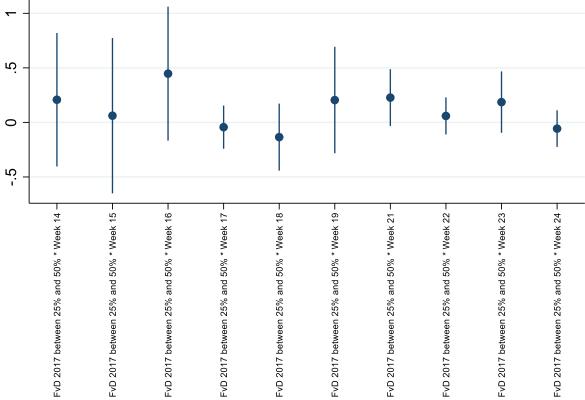
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Appendix A

Covid-19 cases	Coefficient	P-value
FvD 2017 between 25% and 50% * Week 14	0.208	0.502
FvD 2017 between 25% and 50% * Week 15	0.062	0.864
FvD 2017 between 25% and 50% * Week 16	0.447	0.152
FvD 2017 between 25% and 50% * Week 17	-0.043	0.665
FvD 2017 between 25% and 50% * Week 18	-0.135	0.387
FvD 2017 between 25% and 50% * Week 19	0.205	0.407
FvD 2017 between 25% and 50% * Week 21	0.227	0.087
FvD 2017 between 25% and 50% * Week 22	0.059	0.491
FvD 2017 between 25% and 50% * Week 23	0.186	0.193
FvD 2017 between 25% and 50% * Week 24	-0.057	0.503

Table A.1: Parallel assumption test – Covid-19 cases

Figure A.1: Coefficient plot Covid-19 cases



Covid-19 cases	Coefficient	P-value
Covid-19 cases	Coefficient	r-value
FvD 2017 between 50% and 75% * Week 14	0.05	0.838
FvD 2017 between 50% and 75% * Week 15	-0.155	0.596
FvD 2017 between 50% and 75% * Week 16	-0.368	0.173
FvD 2017 between 50% and 75% * Week 17	-0.059	0.478
FvD 2017 between 50% and 75% * Week 18	-0.154	0.107
FvD 2017 between 50% and 75% * Week 19	-0.073	0.442
FvD 2017 between 50% and 75% * Week 21	-0.051	0.533
FvD 2017 between 50% and 75% * Week 22	-0.056	0.325
	01000	0.020
FvD 2017 between 50% and 75% * Week 23	-0.218	0.007
1.2.2017 Settleen 5670 und 7570 Week 25	0.210	0.007
FvD 2017 between 50% and 75% * Week 24	-0.055	0.273
Notes: (1) Standard errors clustered at municipality and dail		0.275

Table A.2: Parallel assumption test – Covid-19 cases

ŝ 0 þ 9 I Ī . م 7 FvD 2017 between 50% and 75% * Week 16 -FvD 2017 between 50% and 75% * Week 18 -FvD 2017 between 50% and 75% * Week 21 -FvD 2017 between 50% and 75% * Week 24 -FvD 2017 between 50% and 75% * Week 22 -FvD 2017 between 50% and 75% * Week 23 -FvD 2017 between 50% and 75% * Week 15 -FvD 2017 between 50% and 75% * Week 17 -FvD 2017 between 50% and 75% * Week 19 -FvD 2017 between 50% and 75% * Week 14

Figure A.2: Coefficient plot Covid-19 cases

Covid-19 cases	Coefficient	P-value
FvD 2017 bigger than 75% * Week 14	-0.419	0.431
FvD 2017 bigger than 75% * Week 15	0.136	0.758
FvD 2017 bigger than 75% * Week 16	-0.149	0.625
FvD 2017 bigger than 75% * Week 17	-0.111	0.560
FvD 2017 bigger than 75% * Week 18	0.187	0.369
FvD 2017 bigger than 75% * Week 19	0.174	0.35
FvD 2017 bigger than 75% * Week 21	-0.138	0.201
FvD 2017 bigger than 75% * Week 22	0.044	0.619
FvD 2017 bigger than 75% * Week 23	0.006	0.956
FvD 2017 bigger than 75% * Week 24	-0.001	0.976

Table A.3: Parallel assumption test – Covid-19 cases

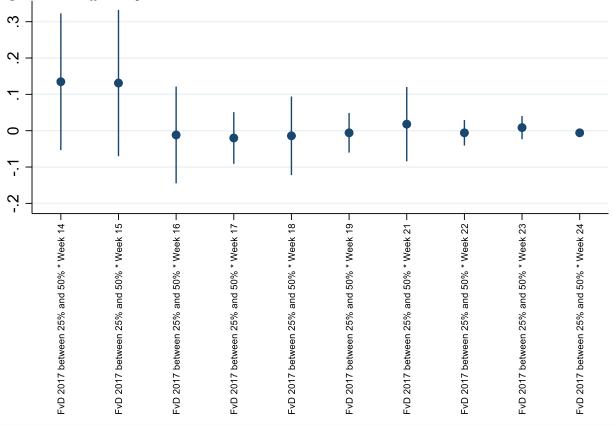
S. • 0 I <u>،</u> $\overline{}$ -1.5 FvD 2017 bigger than 75% * Week 14 🕇 FvD 2017 bigger than 75% * Week 17 – FvD 2017 bigger than 75% * Week 15 --FvD 2017 bigger than 75% * Week 16 --FvD 2017 bigger than 75% * Week 18 FvD 2017 bigger than 75% * Week 19 -FvD 2017 bigger than 75% * Week 22 FvD 2017 bigger than 75% * Week 23 FvD 2017 bigger than 75% * Week 24 FvD 2017 bigger than 75% * Week 21

Figure A.3: Coefficient plot Covid-19 cases

Covid-19 deaths	Coefficient	P-value
FvD 2017 between 25% and 50% * Week 14	0.135	0.159
FvD 2017 between 25% and 50% * Week 15	0.131	0.2
FvD 2017 between 25% and 50% * Week 16	-0.012	0.862
FvD 2017 between 25% and 50% * Week 17	-0.02	0.577
FvD 2017 between 25% and 50% * Week 18	-0.014	0.797
FvD 2017 between 25% and 50% * Week 19	-0.006	0.834
FvD 2017 between 25% and 50% * Week 21	0.018	0.727
FvD 2017 between 25% and 50% * Week 22	-0.006	0.746
FvD 2017 between 25% and 50% * Week 23	0.009	0.6
FvD 2017 between 25% and 50% * Week 24	-0.006	0.307

Figure A.4: Parallel assumption test – Deaths due to Covid-19

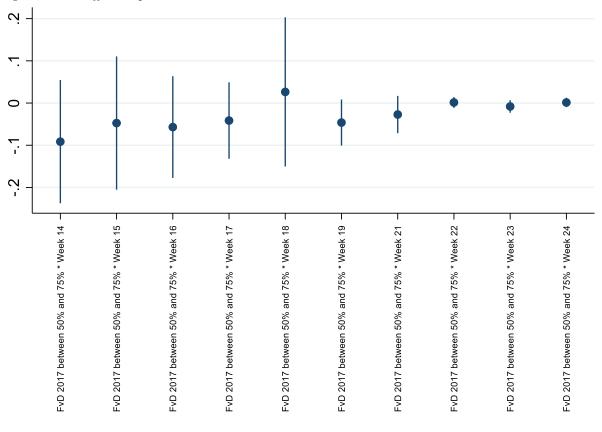
Figure A.4: Coefficient plot Covid-19 deaths



Covid-19 deaths	Coefficient	P-value
FvD 2017 between 50% and 75% * Week 14	-0.091	0.217
FvD 2017 between 50% and 75% * Week 15	-0.047	0.553
FvD 2017 between 50% and 75% * Week 16	-0.057	0.351
FvD 2017 between 50% and 75% * Week 17	-0.041	0.366
FvD 2017 between 50% and 75% * Week 18	0.026	0.768
FvD 2017 between 50% and 75% * Week 19	-0.046	0.096
FvD 2017 between 50% and 75% * Week 21	-0.027	0.225
FvD 2017 between 50% and 75% * Week 22	0.001	0.831
FvD 2017 between 50% and 75% * Week 23	-0.008	0.281
FvD 2017 between 50% and 75% * Week 24	0.001	0.807

Table A.5: Parallel assumption test – Deaths due to Covid-19

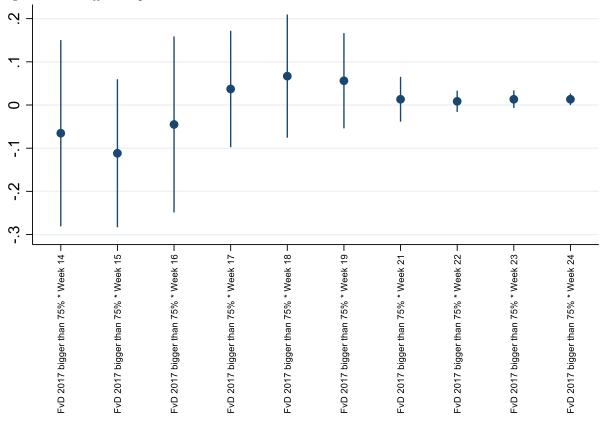
Figure A.5: Coefficient plot Covid-19 deaths



Covid-19 deaths	Coefficient	P-value
FvD 2017 bigger than 75% * Week 14	-0.065	0.55
FvD 2017 bigger than 75% * Week 15	-0.112	0.199
FvD 2017 bigger than 75% * Week 16	-0.045	0.662
FvD 2017 bigger than 75% * Week 17	0.037	0.587
FvD 2017 bigger than 75% * Week 18	0.067	0.355
FvD 2017 bigger than 75% * Week 19	0.056	0.315
FvD 2017 bigger than 75% * Week 21	0.013	0.614
FvD 2017 bigger than 75% * Week 22	0.009	0.494
FvD 2017 bigger than 75% * Week 23	0.013	0.202
FvD 2017 bigger than 75% * Week 24	0.013	0.049

Table A.6: Parallel assumption test – Deaths due to Covid-19

Figure A.6: Coefficient plot Covid-19 deaths



Appendix B

Panel A: normal data	Retail and recreation	Grocery and pharmacy	Parks	Transit stations	Workplace	All non- social distancing	Residential
FvD 2017 between 25% and 50% * Post May 20 th	-5.069***	-0.931*	-11.283**	-0.347	0.036	-9.056***	-0.372
	(1.193)	(0.535)	(4.778)	(1.214)	(0.825)	(2.011)	(0.304)
FvD 2017 between 50% and 75% * Post May 20 th	-9.672***	-2.608***	-14.737***	-0.725	0.317	-7.609***	0.768**
	(1.129)	(0.592)	(4.738)	(1.083)	(0.846)	(2.07)	(0.317)
FvD 2017 bigger than 75% * Post May 20 th	-10.052***	-1.71***	2.426	0.898	-1.448*	-7.51***	0.425
	(1.101)	(0.583)	(4.986)	(1.192)	(0.832)	(2.112)	(0.308)
Constant	-53.404***	-6.376***	-100.648***	-40.7***	-35.396***	-57.234***	14.195***
	(3.321)	(1.801)	(10.608)	(4.154)	(2.657)	(6.58)	(1.275)
Panel B: standardized data	Retail and recreation	Grocery and pharmacy	Parks	Transit stations	Workplace	All non- social distancing	Residential
FvD 2017 between 25% and 50% * Post May 20 th	-0.216***	-0.072*	-0.212**	-0.015	0.002	-0.159***	-0.062
	(0.051)	(0.042)	(0.09)	(0.052)	(0.038)	(0.035)	(0.051)
FvD 2017 between 50% and 75% * Post May 20 th	-0.412***	-0.203***	-0.277***	-0.031	0.015	-0.133***	0.128**
	(0.048)	(0.046)	(0.889)	(0.046)	(0.039)	(0.036)	(0.053)
FvD 2017 bigger than 75% * Post June May 20 th	-0.428***	-0.133***	0.046	0.038	-0.067*	-0.131***	0.071
	(0.047)	(0.045)	(0.094)	(0.051)	(0.039)	(0.037)	(0.051)
Constant	-1.709***	-0.432***	-2.432***	-0.091	-0.263**	-0.077	0.87***
	(0.142)	(0.14)	(0.199)	(0.178)	(0.124)	(0.115)	(0.212)
Observations	14,180	16,812	4,708	13,609	21,452	23,624	11,301
R Squared	0.221	0.063	0.296	0.027	0.011	0.07	0.043
Fixed Effects	No	No	No	No	No	No	No
Control variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control variables * Post May 20th	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table B.1 Change in mobility after the change in stance regarding Covid-19 by FvD on May 20th without fixed effects

Notes: (1) Standard errors are robust and reported in brackets (2) *p<0.1, **p<0.05 ***p<0.01

Standardized data	Retail and recreation	Grocery and pharmacy	Parks	Transit stations	Workplace	All non- social distancing	Residential
FvD vote share 2017 election	0.053	3.171**	-15.289***	21.823***	-2.298*	-9.427***	-7.812***
	(1.68)	(1.252)	(1.708)	(1.321)	(1.202)	(1.1)	(1.796)
% Lower educated	1.668***	0.369**	5.849***	-1.041***	0.406**	1.077***	-0.542**
	(0.214)	(0.177)	(0.432)	(0.204)	(0.161)	(0.151)	(0.215)
Population density	0.000***	-0.000***	0.000***	0.000*	-0.000	-0.000***	0.000***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
% 65+	2.176***	-1.327***	4.03***	0.764**	0.064	0.804***	-1.198***
	(0.356)	(0.333)	(0.62)	(0.354)	(0.305)	(0.279)	(0.419)
% Western migrants	-0.255	3.089***	-0.47	-0.312	0.149	-2.444***	-0.974***
	(0.271)	(0.242)	(0.699)	(0.259)	(0.208)	(0.212)	(0.289)
% Non-western migrants	0.431*	1.424***	-0.617	1.565***	0.089	-2.118***	-0.738**
	(0.234)	(0.239)	(0.436)	(0.229)	(0.198)	(0.217)	(0.297)
Constant	-1.027	-0.17*	-2.254***	-0.397***	-0.093	0.117	0.626***
	(0.111)	(0.1)	(0.215)	(0.112)	(0.09)	(0.086)	(0.124)
Observations	14,180	16,812	4,708	13,609	21,452	23,264	11,301
R Squared	0.01	0.021	0.058	0.03	0.001	0.061	0.006

 Table B.2 Effect of FvD 2017 votes on change in mobility (standardized data)

Notes: (1) Standard errors are robust and reported in brackets (2) *p<0.1, **p<0.05 ***p<0.01

Appendix C

Covid-19 cases	1	2	3	4	5
FvD 2017 between 25% and 50% * Post May 20 th	-0.057	0.306	-0.089	0.314	0.059
	(0.177)	(0.191)	(0.19)	(0.203)	(0.186)
FvD 2017 between 50% and 75% * Post May 20 th	0.066	0.364**	0.047	0.381**	-0.407**
,	(0.151)	(0.163)	(0.162)	(0.181)	(0.183)
FvD 2017 bigger than 75% * Post May 20 th	0.002	0.348*	-0.022	0.361*	-0.228
	(0.231)	(0.196)	(0.242)	(0.202)	(0.19)
% Low educated * Post May 20 th		-2.342*		-2.542*	0.496
5		(1.269)		(1.399)	(1.588)
% 65+ * Post May 20 th		3.121		3.202	0.029
		(2.405)		(2.56)	(2.865)
Population density * Post May 20 th		0.000		0.000	0.000*
1 5 5		(0.000)		(0.000)	(0.000)
% Western migrants * Post May 20th		-6.523		-7.365	-2.32*
		(4.316)		(4.618)	(1.403)
% Non-western migrants * Post May 20 th		-6.355**		-6.94**	0.612
		(2.792)		(2.854)	(1.268)
7 th lag of Covid-19 cases	0.364***	0.323***	0.316***	0.271***	0.223***
6	(0.037)	(0.031)	(0.031)	(0.025)	(0.039)
Constant	0.467***	0.962**	0.515***	1.093**	0.861***
	(0.086)	(0.446)	(0.085)	(0.482)	(0.132)
Observations	18,400	18,400	18,400	18,400	6,177
R Squared	0.151	0.171	0.252	0.305	0.405
Municipality fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Control variables * Post May 20th	No	Yes	No	Yes	Yes
Log Covid-19 cases	No	No	No	No	Yes
Week averages	No	No	Yes	Yes	No

Table C.2: Covid-19 cases after June 3rd

Covid-19 cases	1	2	3	4	5
FvD 2017 between 25% and 50% * Post June 3 rd	-0.086	0.157	-0.129	0.142	-0.03
	(0.138)	(0.146)	(0.15)	(0.156)	(0.238)
FvD 2017 between 50% and 75% * Post June 3 rd	0.039	0.216*	0.015	0.215*	-0.38
	(0.101)	(0.118)	(0.106)	(0.126)	(0.237)
FvD 2017 bigger than 75% * Post June 3 rd	0.018	0.228	-0.013	0.223	-0.139
	(0.178)	(0.142)	(0.186)	(0.142)	(0.255)
% Low educated * Post June 3 rd		-2.437**		-2.666**	-1.528
		(1.046)		(1.175)	(2.636)
% 65+ * Post June 3^{rd}		2.375		2.484	-2.513
		(2.01)		(2.154)	(3.977)
Population density * Post June 3 rd		0.000**		0.000**	0.000**
		(0.000)		(0.000)	(0.000)
% Western migrants * Post June 3rd		-4.704		-5.204	-3.61
		(3.683)		(3.927)	(2.964)
% Non-western migrants * Post June 3 rd		-4.326*		-4.842**	-0.11
		(2.258)		(2.413)	(1.728)
7th lag of Covid-19 cases	0.364***	0.341***	0.316***	0.291***	0.22***
	(0.037)	(0.035)	(0.031)	(0.029)	(0.038)
Constant	0.472***	0.834***	0.521***	0.936***	1.021***
	(0.054)	(0.299)	(0.05)	(0.335)	(0.143)
Observations	18,400	18,400	18,400	18,400	6,177
R Squared	0.151	0.161	0.252	0.278	0.406
Municipality fixed Effects	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes
Control variables * Post June 3rd	No	Yes	No	Yes	Yes
Log Covid-19 cases	No	No	No	No	Yes
Week averages	No	No	Yes	Yes	No

Table C.3: Deaths due to Covid-19 after May 20				
Deaths due to Covid-19	1	2	3	4
FvD 2017 between 25% and 50% * Post May 20 th	-0.008	0.11	-0.007	0.12
	(0.076)	(0.075)	(0.076)	(0.076)
FvD 2017 between 50% and 75% * Post May 20th	0.053	0.176**	0.055	0.18**
	(0.069)	(0.074)	(0.07)	(0.075)
FvD 2017 bigger than 75% * Post May 20th	0.053	0.183**	0.054	0.185**
	(0.085)	(0.075)	(0.085)	(0.076)
% Low educated * Post May 20th		0.046		0.043
		(0.456)		(0.44)
% 65+ * Post May 20 th		1.375		1.403
		(0.849)		(0.864)
Population density * Post May 20th		-0.000		-0.000
		(0.000)		(0.000)
% Western migrants * Post May 20th		-2.413*		-2.456*
		(1.263)		(1.286)
% Non-western migrants * Post May 20th		-1.062		-1.047
		(0.788)		(0.777)
Constant	0.105***	0.061	0.105***	0.059
	(0.03)	(0.15)	(0.03)	(0.148)
Observations	19,520	19,520	19,520	19,520
R Squared	0.001	0.035	0.003	0.118
Municipality fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Control variables * Post May 20th	No	Yes	No	Yes
Week averages	No	No	Yes	Yes

Table C.3: Deaths due to Covid-19 after May 20th

Deaths due to Covid-19	1	2	3	4
FvD 2017 between 25% and 50% * Post June 3 rd	-0.006	0.106*	-0.008	0.105*
	(0.064)	(0.063)	(0.064)	(0.063)
FvD 2017 between 50% and 75% * Post June 3^{rd}	0.049	0.157**	0.049	0.158**
	(0.058)	(0.063)	(0.059)	(0.063)
FvD 2017 bigger than 75% * Post June 3 rd	0.042	0.157**	0.044	0.159**
	(0.073)	(0.064)	(0.073)	(0.064)
% Low educated * Post June 3 rd		-0.098		-0.11
		(0.387)		(0.373)
% $65+$ * Post June 3^{rd}		0.991		1.019
		(0.734)		(0.736)
Population density * Post June 3 rd		-0.000		-0.000
		(0.000)		(0.000)
% Western migrants * Post June 3 rd		-2.062*		-2.089*
		(1.149)		(1.138)
% Non-western migrants * Post June 3 rd		-1.169*		-1.169*
		(0.691)		(0.674)
Constant		0.122		0.122
		(0.103)		(0.101)
Observations	19,520	19,520	19,520	19,520
R Squared	0.001	0.029	0.003	0.095
Municipality fixed Effects	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes
Control variables * Post June 3rd	No	Yes	No	Yes
Week averages	No	No	Yes	Yes

Table C.4: Deaths due to Covid-19 after June 3rd