ERASMUS UNIVERSITY ROTTERDAM

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Income and voting preferences

Does being rich mean voting right-winged?

Name student: Jytte Dijkstra

Student ID number: 504472

Supervisor: Fatma Selcen Palut

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Abstract

Every couple of years, time comes to vote for parliament and the well-known debate starts again; what political party to vote for and why. One of the standard expectations is that rich people vote more right-winged than poorer people. This idea is examined in this paper. The research looks at the situation in the Netherlands for three different elections; the election of the House of Representatives, the Provincial State election and the Local Council election. A linear regression is used for the election of the House of Representatives. A fixed effects model with regional fixed effects is used on the provincial and municipality level. It was found that income increases votes for especially the progressive and middle parties, the extremist parties and the VVD. Furthermore, it was shown that income decreases votes for the Christian parties.

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1. Introduction

Every couple of years, time comes to vote for parliament and the well-known debate starts again; what political party to vote for and why. During this debate the jokes about the stigma of the political parties arise. A right-winged voter is seen as elitist (Kaaij, 2006), whereas some left-wing party voters are thought of as artistic people with a cargo bike (NOS, 2018). These prejudices are based on the history of the parties. Some parties, like the PvdA and the SP, were formed to help the working class and some parties, like the VVD, have always favoured the rich part of the community. These differences between the political parties can mainly be seen by the differences in their election manifestos with regard to taxes and redistribution of income. Even though the differences between supporters of parties existed decades ago, the question rises if these prejudices still hold nowadays. One of the biggest stigmas is that richer people vote more often for right-winged parties (Van Tienen, 2016). When this stigma is true, there should be a positive relation between income and voting right-winged. This will be examined in this paper based on the following research question:

What is the relation between household income and the number of votes on the right-winged parties in the Netherlands?

The paper will focus on the Netherlands since it will be a good attribution to the existing literature on voting preferences in Europe. There has not been done much research with regard to the Netherlands yet. Also, a large amount of data about the Dutch elections is available. Furthermore, the political parties and the systems of each country are different. This makes comparing multiple countries very difficult within the short timeframe that is given. That is why there will be a focus on only the Netherlands. Using the household disposable income, it will be possible to see if an increase in income drives voters to vote more right-winged. In the Netherlands, if a party is left- or right-winged is based on how much a party wants there to be a free market. Progressiveness and conservativeness have to do with the willingness to hold onto traditions.

Before looking at the main question if income influences voting preferences, it is important to answer two sub-questions first. The following sub questions will be answered:

1. Are voting preferences solely based on economic reasoning?
2. What does the political system in the Netherlands look like?

The first sub question looks at the reasons why people vote for certain political parties. Do voting preferences mainly have to do with tax-related reasons or do voters keep in mind other political opinions, like the party's environmental policy. This question can give a first indication if people with a high income vote more right-winged. The second sub question is important to understand how voting in the Netherlands goes and which parties are right- and left-winged. It will make clear in which setting the regressions are done.

The topic of the influence of income on voting preferences is already broadly discussed in multiple papers, but empirical evidence gives mixed results. Therefore, the main question of this research remains unanswered. Arunachalam & Watson (2018) for example finds that a higher income leads to people voting more on the conservative, right-winged party in Britain. Lind (2007) also investigates the impact of income on the voting behaviour of people. He states that in Norway people tend to vote more conservative when they receive a high permanent income and vote more socialist when receiving a low permanent income. In contrast, Edlin, Gelman and Kaplan (2007) find that people vote for what is desirable for the country and not what would be good for personal gain. This does not support the thought that people with high income would vote more right-winged, since that is solely done for someone's own best interest. Gelman, Shor, Bafumi, & Park, D. (2005) state that in the richer states of America there is no correlation between income and voter preferences. They also state that in the poorer states of America, rich people are more likely to vote conservative. Since there is a big inconsistency between states, non-economic reasoning behind voter preference seems likely. As said before, the discussion on this topic is still far from finished. Furthermore, there are overall very few papers regarding this topic. The papers named above are the majority of what there is to find on this specific topic. This paper would therefore be a good contribution to this research area. Last but not least, it would be very interesting for political parties to know which type of voters they should focus on during elections.

To answer the main question, data is retrieved from different Dutch election outcomes. These elections are for the House of Representatives, the Provincial States, and the Local Council. There are four control variables included, which are the unemployment rate, percentage of people who have received the highest education, the percentage of women and the permanent immigration inflow. The data is collected from the period of 1996 to 2021. Multiple regressions have been done where the group of parties taken into account differ from each

other and with regard to the multiple elections. First, the focus will be on the right-winged parties. Here every party from the middle to the right will be taken into account, therefore also the middle, progressive parties like D66 and Volt. In the second regression the progressive/middle parties are left out of the sample. For the third regression also the extremist and one-issue parties are removed. The last regression only looks at the VVD. This way it is possible to gain the most insight with the limited number of elections that have been held in this period. This is because comparisons between the regressions can be made. For the elections of the Local Council and Provincial States regional fixed effects have been included. This is to decrease the omitted variable bias.

When looking at the significant results of the main analysis, it shows an overall positive correlation between income and the number of seats for both the right-winged parties and the conservative parties. Furthermore, it shows a negative correlation between income and the Christian parties. This means that specifically the progressive, middle parties and the extremist parties win seats when income increases. This is because those are the parties missing in the third regression when there is suddenly a (strong) negative correlation. Also, the Provincial States results show a significant positive correlation between income and the number of seats for the VVD.

The paper from now on has the following structure. First there will be a literary review where empirical and theoretical related literature is discussed. This will give an overview of already existing research and the theoretical reasoning behind the assumed relation between income and voting preferences. Next, the Dutch political system will be explained. This will give clarity about the research setting. After this, the methodology will be explained and both income and the number of seats for the political parties will be shown in descriptive graphs over time. The graphs will give notice if there is any clear trend. Next, the results of the different regressions that are done, policy implications and weaknesses of the research will be discussed. Finally, the paper will end with a conclusion of the results.

2. Literary Review

2.1. Empirical Research

In the last couple of years some empirical research regarding the question of whether people with a high income are more likely to vote right-winged has been done. When studying the

papers, the empirical evidence gives mixed results. A few papers will be discussed. Each of the papers has done a different type of research on different countries in the world. If income really has a positive influence on voting right-winged, this should be the same across all countries and with different research techniques. This combination of papers will therefore show a good insight of the overall empirical evidence.

Arunachalam & Watson (2018) investigate the influence of a higher income on voting preferences of British citizens. The regression is run with the height of people as an instrumental variable for income since height has often been an indicator for economic wellbeing when income data was absent. They find that an increase in height increases the probability of voting on the conservative party in Britain. The conservative party in Britain is also one of the two right-winged parties. This paper therefore supports the main question.

Lind (2006) also supports the theorem that high-income voters vote more conservatively. Norwegian panel data discrete choice models are used to examine the causal relation between income and voting preferences. The paper finds that there is a positive causal effect, but that this is smaller than in traditional models. On the other hand, it also states that high income respondents favour tax cuts, but only a limited amount of these opinions change when income changes. When individual fixed effects are included then there is no effect of a change in income on someone's political opinion about tax cuts. It seems that income has an influence on voting preferences in the long run and not in the short term.

Lind (2007) agrees with the thought above. The research is about the influence of permanent income on voting preferences of people in Norway. In the research a random utility model with individual specific effects is used. It can be concluded that in Norway people tend to vote more conservative when receiving a high permanent income and more socialist when receiving low permanent income.

Edlin, Gelman and Kaplan (2007) do not agree with the theory presented in this paper that income influences voting preferences. They find that voters in large elections are rational with their voting choice to the extent that they are not selfish. They vote for what is desirable for a country as a whole and not what would be good for personal gain. Therefore, it does not make sense according to the paper to consider self-interest voting as a hypothesis. These

findings are supported by a model which is widely explained in the article and by additional surveys that have been done.

Gelman, Shor, Bafumi, and Park, D. (2005) state that in the richer states of America there is no correlation between income and voter preferences. On the other hand, they also find that in the poorer states of America there is a positive correlation between income and voting conservative. Since there is a big inconsistency between states, it does not support the theory that high income citizens are necessarily more likely to vote right-winged. It seems like an overall non-economic reasoning behind voter preference is logical. These conclusions are based on plots of repeated cross-sectional analysis, multilevel models with varying slopes and intercepts and based on a graph that shows within- and between-group patterns in a multilevel model.

2.2. Voting preferences

After going through multiple empirical papers, it is important to understand where the underlying theories come from. The underlying theory that income influences voting preferences is located at the core of modern political economy theory (Arunachalam & Watson, 2018). However, there are also other theories which suggest that it might not always be the case that income influences voting preferences.

Downs (1957a) describes the behaviour of the government and the citizens in a democratic society. According to the book and an earlier article he wrote on this topic (Downs, 1957b), there are five propositions that are important to understand the relationship between the democratic government and its citizens. First, the actions of the government are a function of the way it expects its voters to vote and of the strategies of its opposition. This means that the government acts in a way that receives the most votes, based on the wishes of the voters and the predicted actions of the opposition. Second, the government expects voters to vote according to both changes in their utility incomes from government activity and the strategies of the opposition parties. Third, voters actually vote according to changes in their utility incomes from government activity and the alternatives offered by the opposition. Fourth, the voter's utility income from government activity depends on the actions taken by the government during the election period. And finally, the strategies of opposition parties depend on their views of the voter's utility incomes from government activity and on the actions taken by the government in power.

The third assumption looks at the voting behaviour of citizens and this is explained broadly in the book. In the model, it is assumed that citizens act rationally in politics. This implies that each citizen casts his vote for the party he believes will provide him with more benefits than the other(s). The benefits that are discussed in the book are all kinds of benefits from tax benefits to water purifying, repairing of roads et cetera. These benefits are not always correlated to material income. For example, one can have a higher utility income when voting for a party which wants to do more for the climate. This way the model is open for altruism, despite the basic assumption the citizens act out of self-interest. When voting, a citizen uses a performance rating. They weigh how much utility income the current reigning party gives them and if any other party could do better than this. This goes the same for democratic systems with two political parties or more. When there are more choices than two, the performance rating is done between the reigning party and the best other option. The only way that voters do not vote for the party which will give them the highest utility income is when the party they want does not stand a chance to win the election. Then citizens might vote for another party to make sure that they do not end up with their least favourite party. Also, it is important to keep in mind that there are countries in which parties almost always have to form a coalition to reign. That way a vote supports not just one party but also the coalition that it forms. Voters keep that in mind while casting their vote.

Since uncertainty restricts a voter his ability to relate every government action to his own view of a good society, ideologies help to make the voting decision. Ideologies can help to cut information costs. This is because to win votes, all parties are forced by their competition to be relatively honest with regard to both their policies and ideologies. When they change their policies or lie that can cost the party votes.

Income in the book is defined as a flow of benefits. The problem is that a flow of benefits is very hard to measure. However, a lot of benefits do correlate with income. Take for example athletic activities. It costs money to pay a contribution to a sports club, it costs money to pay for clothes and attributes. This is needed to do athletic activities. Creating a high monetary income thus provides in most cases a higher utility income. This is essential for people during elections. The party which creates the best economic situation for them in the future is the party that they should vote for. This party will give them a higher monetary income and therefore probably also a higher utility income.

What is also explained in the book is that information is costly. But information is needed when deciding which party to vote for. People with a higher income can more easily spend money on retracting information and therefore choosing the right party is easier for them. What needs to be kept in mind is that most of the time there are so many voters that the benefit of voting for the right party decreases. In this situation, the benefits of getting information on parties do not always outweigh the costs of retracting information. Therefore, in reality, almost all the voters just search for free information and do not feel the need to pay for further information. However, it still is the case that people with a high income do have more leisure time to search for information where low-income people probably have less spare time. When people do not have the information on which party is the best for them to vote on, the benefits of voting decrease. Moreover, when people do not have information and are already satisfied with the current reigning party, it makes it very easy for them to not go voting or just vote for the party that is already in power.

All in all, the model which Downs (1957a & 1957b) describes is very important to understand how the government and citizens behave regarding the elections. In the papers, citizens are seen as rational people who vote for the party which will ensure the highest utility income. This is the party which will create the biggest flow of benefits. Voters base their vote on their own visioned performance rate of the parties, which is based on information and ideologies of the party. Since it is hard to measure utility income, monetary income can be used as well. This is because most of the utility income is positively correlated with monetary income. Whenever a party does what installs the highest monetary income for a voter is then the best option for the voter to vote on, because it gives him/her the highest utility income. Furthermore, the book explains that information is costly. Therefore, it is easier to figure out for high income people which party suits them best and harder for low-income people. Therefore, low-income people are more often sustaining from voting at all and more likely to vote for a party that does not suit them best.

Akerlof and Kranton (2000) discusses a completely different side of economics. They describe the way that identity influences behaviour and economic choices. The paper continues a line of thinking which is already researched a lot in numerous other scientific fields like sociology and psychology. It explains why women can for example be against ‘women’s rights and why people tend to behave like they are expected to by their identity.

The first thing that is done is creating a model where the utility function is influenced by identity. In this function, identity is based on social categories. There are prescriptions that indicate the appropriate behaviour of people in the category in certain situations. The utility of the person is then influenced by his identity, his actions and the actions of others. Important to keep in mind is that a person can to some extent choose his identity but that this is a very narrow bandwidth. The way that utility is influenced by a person's own actions is for example that people do plastic surgery or circumcise themselves. When utility is influenced by others actions is for example that when a woman chooses a man's job like working in a factory, she is badly treated by her male co-workers. The male co-workers fear for their own identity, because of someone working with them who is not a man. The same still goes for gay people nowadays. They are still treated badly since men cannot yet accept them for who they are since they do not behave manly. The fact that people can to a certain point choose their identity is shown by that they can choose the job they would like to do, the hobbies they have and the clothes they wear. With these actions also their identity is affected.

What is seen in earlier experiments is that people associate themselves with people of the same category and differentiate themselves from other groups. These categories can be formed by nothing but randomly assigning people together. After the groups spent some time with each other they view their own people as better than others.

Akerlof and Kranton (2000) creates the following model. There is a group of people with two categories; green and red. Green people get utility from engaging in activity one and red people get utility from engaging in activity two. When they do an activity which is not suited for their identity then they get zero utility. Everyone thinks that the rest of the group is Green. When someone chooses to do activity two, they show that they are not a green person but instead a red person. This means that their utility is lowered, by not behaving according to the category they want to be a part of. Depending on the way that the other green people will behave after the person chooses to do activity two, his utility can be even more lowered. This can go as far that it might give more utility to just do activity one even though it brings the person no utility, then do activity two after which he is outcast by the group.

With this model, the article shows that it is indeed possible that people do not always do what is best for them if identity would not be included. In fact, the identity factor can change the utility function in such a way that people behave like someone they are not, just to belong

with the group. This supports the thought that identity influences behaviour and economic choices.

Bringing this idea back to the subject of income and voting preferences. Thinking from an old economic standing, we would expect behaviour according to the book of Downs (1957a). We expect people to vote for the party which will give them the highest monetary income since this will result in the highest possible utility income. Now when we include identity, this might not always be the case. In reality voters live with a lot of different categories in which they are included. Think about family, friends, work and teammates for example. In all of these categories a certain voting preference is expected. These ideal voting preferences might overlap or they might not. For example, in America one of the biggest discussions is the right to own a gun and if this should be legal or not. The Republicans are pro guns and the Democrats would like to make having a gun illegal. When all of your friends and family vote Democratic, this might put you in a difficult situation when you are actually more in line with the ideas of the Republican party. When voting for the Republican party will give you much hate with family and friends, this might cause someone to vote for the Democratic party or abstain from voting at all.

Including both theoretical papers, it seems like there is no certainty that people always vote for the party which will support them the most. It is a very logical start to begin with, but there are too many other influences which could change the voting preferences of people. Economics with regard to identity is only one of the theories which discuss why people do not always seems to act in a way that seems logical purely from economic thinking. When we relate this to the theory that income influences voting preferences, it cannot be said for sure that this is true. The idea is based on a very old economic way of thinking and does not take into account other theories like that of Akerlof and Kranton (2000). If the theorem holds will depend on how many other incentives influence a voting preference besides the monetary incentive.

3. The Dutch Political System

To understand the research that is done in this paper, it is important that the setting in which the research is done is clear. In this section different important details of the Dutch political system and the parties which are active in the political spheres will be explained.

In the Netherlands, there is a parliamentary democracy, which means that all citizens can choose who represents them in Parliament. There is also an indirect democracy, which means that the Dutch people can vote for a representative of a certain political party. Everyone above the age of 18 has the right to vote, but it is not compulsory. There are multiple different elections for which voting by citizens is used. The three elections that will be looked at in this paper are the elections for the House of Representatives, the local council and the Provincial States. These elections are once in four years. They are not all at the same time, which means that every year or two there are elections. The Senate of the Dutch Parliament is chosen by the Provincial States and therefore only indirectly by citizens.

The focus point of this thesis is the elections for the House of Representatives. This is because they are one of the most important elections and have a turnout rate of around 80% whereas other elections have a turnout rate of around 50%. The Provincial State election and the Local Council election are in this thesis examined to check the robustness of the research and provide more insight on the question if income influences voting preferences.

What is also important to realise regarding the Dutch political system is the way the policies are made and changed. To make new laws, alter them, or remove them there needs to be an initiative from the House of Representatives. This needs to be approved by more than 50% of the House of Representatives and is then sent to the Senate of the Dutch Parliament. Then the senate needs to approve this initiative. They can only reject or approve an idea. If an initiative is approved then the law can be altered. The initiatives that are spoken of above have a focus on general nationwide policy. There are also a lot of subjects which are delegated to the local councils. They therefore also have a lot of power regarding their municipality. The Provincial States manage everything regarding the provinces. Since almost everything is arranged on national or municipality level, they do not have a lot of power.

Momentarily there are eighteen parties represented in the House of Representatives (2021). After an election, the seats in the House of Representatives are distributed according to the percentage of votes which a party has received. In total there are 175 seats to divide and right now the VVD is the biggest party with a total of 34 seats. This means that there are very often coalitions between the bigger parties to create a majority in the House of Representatives. The parties have widely ranged ideas on how the countries should be reigned. With regard to the ideologies the parties can be organised according to if they are progressive or conservative

and left- or right-winged. Left- and right-winged is based on how much a party wants there to be a free market and progressive or conservative has to do with the willingness to hold onto traditions. Take for example gay marriage; progressive parties are more eager to make such changes happen. A graph in which all the parties are organised according to these two dimensions looks like this:

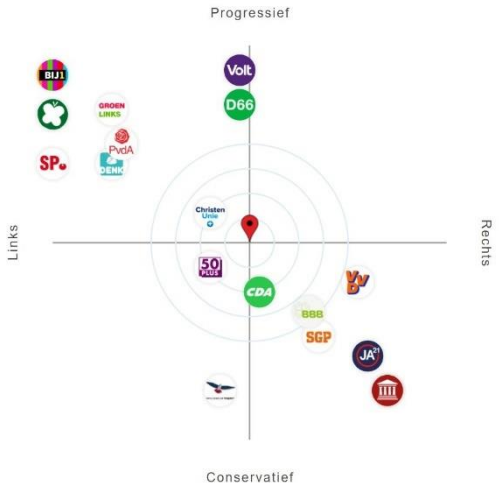

Figure 1: The distribution of the Dutch political parties in 2021 (Kieskompas, 2021).

It is important to understand some more about the political parties in the House of Representatives. This is because not all of the ideologies are captured in the figure above. For example, there are some extremist parties like the PVV and the FvD. The PVV is a really nationalistic party with a lot of followers who fear or dislike immigrates. The party has often had problems with stirring up unrest (NU.nl, 2014). They are shown in the graph by the figure of a seagull. The PVV also has very extreme left-wing ideologies and therefore they are put down in the middle of the X-axis. The FvD is an extreme right-winged party. They are shown in the graph by the red round with the white temple. A lot of their followers think that the VVD is not right-winged enough anymore or vote for the party because they are racist or conspiracy theorists (Bouma, 2021).

Figure 1 shows that almost all of the left-winged parties are also progressive and all of the right-winged parties seem to be conservative. It is important to keep in mind that if people want to vote right-winged that they do not have the option to vote progressively. So, when they want there to be a completely free market, but they are still very pro Europe and pro-inclusivity then they do not have a party that aligns with all of their ideologies. This is

interesting since there are a lot of articles written about the fact that people with high income are more likely to vote conservative. The theorem that is researched in this paper is that people with high income are more likely to vote right-winged. When looking at Figure 1, this actually seems to overlap. Which gives even more reason to think that it might be true.

4. Empirical Strategy

4.1. Methodology

The aim of this paper is to examine if there is a correlation between voting preferences and income. In order to find this out, data was collected from three types of Dutch elections. These elections are for the House of Representatives, The Provincial States and for the Local Councils. The data was collected over the time period of 1996-2021. Multiple regressions are used to check if there is a correlation between voting preferences and income. The next formulas will be used for the election of the House of Representatives:

$$RWP_t = \gamma DHI_t + BX_t + \varepsilon_t$$

$$CON_t = \gamma DHI_t + BX_t + \varepsilon_t$$

$$CHR_t = \gamma DHI_t + BX_t + \varepsilon_t$$

$$VVD_t = \gamma DHI_t + BX_t + \varepsilon_t$$

What can be seen is that the same kind of regression will be repeated but with different parties included. In the first regression RWP_t means the number of seats which the right-winged parties have collected together in a certain period. In this regression the seats of the parties VVD, CDA, CU, SGP, PVV, FVD, JA21, D66, Volt, BBB and similar parties from the past are included. This means that every party from the middle to the right is looked at. In the second regression CON_t stands for all the seats of the conservative parties in a certain time period. Seats of D66 and Volt are excluded in this regression. Looking at the third regression CHR_t stands for all the seats of the Christian parties in a certain time period. This means that only the seats of the parties VVD, CDA, CU and SGP are included. The VVD is not from itself a Christian party, but this group is taken into account because it does not include extremist parties or parties who fight for only one group of citizens. The best way to name this group is the Christian parties, since only the VVD is not a real Christian party (still they work often very closely together). For the fourth regression VVD_t stands for the total seats of the VVD in a

certain time period. t represents the time. DHI represents the gross adjusted household disposable income. If the disposable household income has a positive effect on voting right-winged, then the γ should be positive. ε_t shows the error term.

There are four control variables which will be added to the regressions. The expectation is that these variables do both influence voting preferences and income. The first control variable which is added is the unemployment rate. Unemployment likely affects income, because when it rises more people do not have an income. Also, it has been seen in earlier elections that unemployed people often vote differently than people with a job (2019). The second control variable is the percentage of the population who have completed the highest education. This affects income since people with higher education receive a higher income when they get a job (Centraal Bureau voor de Statistiek, 2011). Also, there is presumably an effect on income on voting preferences, since some parties are more focused on higher educated voters than others (NOS, 2021). The third control variable is the percentage of females in the Netherlands. It is still the case that women have a lower salary; therefore, a higher percentage of females has an influence on income (Statistics Netherlands, 2020). Also, it is likely that women have different voting preferences than man and therefore it also has influences on the number of votes on right-winged parties (Svaleryd, 2009). The last control variable is the number of immigration inflows. It has an effect on income since most of the people which come to the Netherlands need time to adjust and do not right away have a new job with which they receive income. It also has an effect on voting preferences, since high immigration inflows are likely to push people to vote for more extremist (right-winged) parties. This is because there is this fear under certain groups of citizens that immigrants will for example take their jobs or are violent (Rosman & Van Mersbergen, 2015).

The data of the elections for the Local Council and the Provincial States is panel data. This is because we have different time periods and different regions. For these elections we will therefore use the same equations but with region fixed effects included. These equations will look like this:

$$RWP_{x,t} = a_x + \gamma DHI_{x,t} + BX_{x,t} + \varepsilon_{x,t}$$

$$CON_{x,t} = a_x + \gamma DHI_{x,t} + BX_{x,t} + \varepsilon_{x,t}$$

$$CHR_{x,t} = a_x + \gamma DHI_{x,t} + BX_{x,t} + \varepsilon_{x,t}$$

$$VVD_{x,t} = a_x + \gamma DHI_{x,t} + BX_{x,t} + \varepsilon_{x,t}$$

In these regressions the overlapping variables mean the same as they did before. The letter x stands for the region and the letter a stands for the regional fixed effects. a_x is a constant which will vary over region but not over time. Including regional fixed effects will ensure that time-invariant differences between the regions do not influence the regressions. All the twelve provinces will be included in the regressions for the Provincial State election.

From the 12 Provinces, there have been selected 84 municipalities randomly. This was done with a random number generator. Some of these municipalities were filtered out later in the process due to the fact of limited data on income for example. In the end, there were 66 observations left to do the regression with. That not all municipalities in the Netherlands have been taken into account is due to the simple reason that there was too little time to obtain and alter this data so that it could be used for this research. Therefore, it was needed to make a selection. This was the best way to create a general view of the municipalities.

The control variables will also be added at the provincial and municipality level, but will be far more important for the national level. This is because it is not clear how much the control variables are already taken into account by the regional fixed effects. This happens when the control variables do not change over time. When looking at the data it seems that all the control variables show some change over time. Mostly the level of education and immigration changes a lot, but the population of females and the unemployment rate stay somewhat stable over time.

4.2. Heteroscedasticity and Multicollinearity

Heteroscedasticity and multicollinearity are both factors which are a danger to the regression. Heteroscedasticity means that in a regression there is an inequality in the variance of the residuals. Take for example when at first all of the observations are very close to each other but in the end they become further apart. This gives the view of a divergent funnel. Heteroscedasticity could bias the standard errors, which would influence the result. Luckily this is quickly remedied by adding robust to the regression. Adding robust has been done to prevent any problems. Multicollinearity means that two independent variables are very strongly correlated with each other. Collinearity can be tested in Stata, but in this research collinearity does not seem like much of a problem. This is because it does not seem logical

that for example the percentage of women in the population and income show equal trends. What happens when there is high collinearity is that Stata cannot see if an effect has to be attributed to one or to another variable. Stata omits all of the variables which show very high collinearity but one and attributes the total effect to the one that remains. This does not give a good view of the data and it is sometimes better to remove some of the variables.

4.3. Fixed Effects

Since the data of the elections for the Provincial State and Local Council is panel data, it is needed to use fixed effects in the regression. Fixed effects will take away partly the chance of an omitted variable bias. In this research regional fixed effects will be used. Regional fixed effects take away all the time-invariant differences between regions; take for example cultural differences. This way the regression will only look at the differences between the regions which vary over time. By doing this, a lot of variables are suddenly taken into account which are not yet included in the control variables. This decreases the omitted variable bias. During this research time fixed effects are not used. Time fixed effects do not keep in mind differences between regions but differences in time. Take for example when an economic crisis lowers income and this effect is similar across all regions. Because in this research the differences in time are important, they should not be accounted for. They should be clear and taken into account by the regression. It is very interesting to see if changes in time do also influence changes in votes.

4.4. Endogeneity

For endogeneity issues there are three kinds of problems. These are measurement errors, reversed causality and omitted variable bias. It is important to check if one of these problems exists in this research.

Measurement errors are not really a problem during this research. The data comes from databases which are used by a lot of people and are well known. The data is thus assumed to be trustworthy and there is no reason for concern about measurement errors. The only thing that could have happened is that there was a mistake made during the altering of the data so that it could be used for the regressions. There is always a chance that this happened, but there is no reason to worry about this since all the datasets were controlled multiple times after altering them.

Reversed causality is the next thing we need to look at. The main question of this research is whether an increase in income affects the number of votes for the right-winged parties. Reversed causality would be a threat if the number of votes for the right-winged parties also increases income. The correlation would then not say much, since it is not clear in which way there is an effect. Reversed causality can be an option if the policy that right-winged parties have creates an open economy and increases income. The reason why it is still not a problem in this research is the timing. This is because the income is estimated before the voting preferences are estimated. This way reversed causality will not be problematic.

Omitted variable bias is the last source of trouble and this is definitely important for this research. Omitted variable bias means that there are variables which are not included in the regression and which affect both the independent and dependent variable. In this case it would mean that there are factors which influence both the household disposable income and the number of seats that right-winged parties receive during an election. To decrease the chance of this bias, the control variables are included. But even though there are five control variables included, it seems likely that there are other variables which also affect both the household disposable income and the number of seats that right-winged parties receive after an election. Take for example race. It seems logical that race influences voting preference. This is because political parties differ in their discrimination policy. Some parties are very extremely nationalistic and racist, whether other parties vow for total inclusion. It seems therefore likely that people with a coloured skin tone prefer different parties than people with a Caucasian background. This is because people with a Caucasian background do not often experience discrimination themselves and therefore give it less priority while voting. Also, it is still the case that race influences income. People with a coloured skin tone earn on average less than someone of Caucasian background who does the same job (2015). This is just one example of a variable which creates omitted variable bias and there are probably even more than one. The regression therefore has a big chance of being biased. It is hard to estimate the effect that this bias has on the regression. When taking the example of race into account, it would say that the effect of income on voting right-winged will be estimated higher than it actually is. But there are probably many more variables which are not thought of right now and it is not possible to know in which way they will bias the regression. It could very well be that the omitted variables even each other out. That would be the most fortunate case.

With regard to the elections on the provincial and municipality level. The regional fixed effects were included. This helps a lot with getting rid of the omitted variable bias. A lot of variables are accounted for because of the regional fixed effects. But there are two things which the regional fixed effects cannot account for and these are time varying variables and time varying shocks that vary across regions. As discussed before it does not really matter that time varying variables are not captured. This could be helped with including time fixed effects, but it was decided to not do this because time differences are important to capture with this research. The time varying shocks that differ over regions and influence both income and voting preferences are however a threat to the regression. This could be for example the allowance affair if this has a different effect in multiple regions. This can also be something smaller, like an amendment of the law or just an interview which gives a party a better or worse name. It is really hard to say in what direction the effect goes with these types of shocks. There is no clear solution to these types of shocks.

5. Data and results

5.1. Data

The data on the elections comes from the 'Kiesraad' database. It gives the number of seats gained by a party for a certain election. This is shown nationally, for provinces and for municipalities. The number of seats is expressed as an amount. Since the total amount of possible gained seats stays the same over time, it does not matter that the number of seats is not shown as a percentage. It can be used as an amount. The data of the election for the House of Representatives is available from 1848 to 2021. The data of the election for the Provincial States are available from 1931 to 2019. The data of the election for the local council is available from 2006 to 2018.

The data of the gross adjusted household disposable income comes from the Organisation for Economic Co-operation and Development (OECD) database. It is shown as an amount but will in the research be included as a log. This is because there is the expectancy that every percent increase in the household disposable income has the same effect on the voting preferences of people. The data is available from 1996 to 2019. For the provinces and municipalities, the Central Bureau of Statistics (CBS) database provides data on the median income per province and municipality. A log will be used in this research with regard to these regions and the data is available for the regions 2011 to 2019.

The data of the unemployment rate was also collected from the OECD database. The data is shown as a percentage and will be used like that in the research. The data is available from 1996 to 2020. For the provinces and municipalities, the number of unemployed people was collected from the CBS database. It is available from 2004 to 2019 and a log will be used in the research with regard to this variable in combination with the provinces and municipalities.

The data on the population between the age of 25 and 34 who completed the highest education is also shown as a percentage and found at the OECD database. The data is available from 1998 to 2019. The same data but in a specific number is retrieved from the CBS database for the provinces and municipality. It will be used as a log to replicate a percentage and the data is retrieved from 2000 to 2018.

The data of the percentage of the population who is female is collected from the World Bank Group. The data is available from 1996 to 2019. For the provinces and municipalities again the CBS database is used. It gives the number of women per region for the years 1996 to 2020. A log will be used with regard to this variable for the provinces and municipalities.

The number of permanent immigration inflows comes from the OECD database. The data is available from 1997 to 2016. The CBS database is used to collect the same data for the provinces and municipalities. That data is available from 1996 to 2019. All this data is measured as an amount and therefore a log will be used in this research.

5.2. Descriptive Statistics

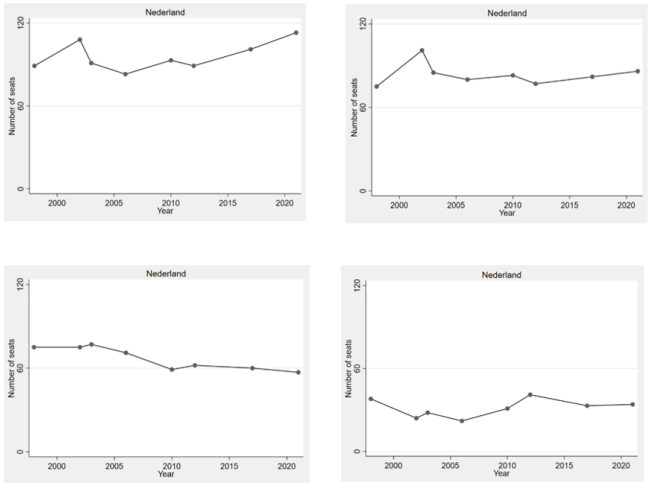

Figure 2: Election outcome of the House of Representatives, taking the four different combinations of parties into account.

Figure 2, shows an oversight of all the election outcomes of the House of Representatives. What is interesting is that apparently the progressive parties have gained mostly over the last few years. Earlier on the regression of all the right-winged parties in comparison to the conservative parties are quite similar. When removing the extremist parties and only including the Christian parties, there is a totally different trend. Where the number of seats stayed equal over time in the first two regressions, there is a decrease shown in the regression with only the Christian parties. This means that in the time that the Christian parties have lost seats, the extremist parties and progressive parties have gained extra seats. The last regression, which shows the number of seats gained by the VVD over the years, seems steady. There are some ups and downs but the number of seats seems to stay overall very similar. What is the most interesting when looking at the total figure, is that all of the regressions seem to show a decrease around 2006. This is just before the economic crisis hit.

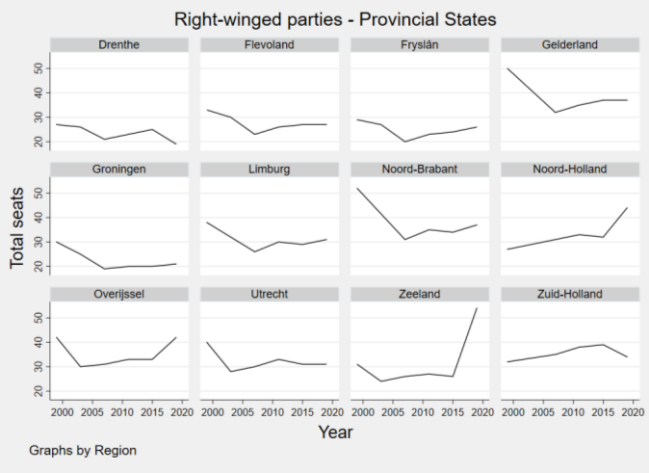

Figure 3: Outcome of the Provincial State elections for the twelve provinces, with all right-winged parties included.

Figure 3 until Figure 6 show the election outcomes of the Provincial States. Figure 4, 5 and 6 are included in Appendix A. The figures show the number of seats for the different combinations of parties per province. The overall result of the regressions in figure 3 show a decrease of seats around the economic crisis, which creates a V-shape. Only two provinces do not show this shape. Seven out of the twelve provinces also show a flattening at the last election. When comparing figure 3 to figure 4, the biggest difference is the fact that in figure 3 the election outcomes seem more stable over the years. In figure 4, the same decrease around the economic crisis is clear, but after that there is an increase again in seats which is

followed by a decrease again. It is not clear what makes the regression fluctuate like this. Figure 5 shows a different trend. There is no V-shape showing, but a steady decrease in seats over the years. Every province shows this decrease. This can be explained by the increase in popularity of both the progressive parties and the extremist parties over the last couple of years. The growth of one party means the reduction of another party. In this case the Christian parties were the ones on average who lost seats. Figure 6 tells us that the VVD has also lost seats in the Provincial State elections. Just like the Christian parties, there is a steady decrease in the number of seats. The line is less steep but even so still going down. What is also important to notice about the last figure is that they did still in all provinces win again in seats around 2010, so just after the big losses around 2008, but after that the decline continues.

Figure 7: Election outcome of the Local Council for 66 municipalities throughout the Netherlands, with all right-winged parties included.

Figures 7 till 10 show the results of the elections for the Local Councils. Figures 8,9 and 10 are included in Appendix A. It shows the results of 66 randomly chosen municipalities throughout the Netherlands with different combinations of parties. Figure 7 shows the election outcomes with all the right-winged parties included. Due to the lack of data about the income in the multiple provinces, the graph shows the outcomes of only the elections in 2014 and 2018.

What is shown in the graph is that there is very little change over time. The number of votes stays very much the same over time. Figure 8 looks the same as Figure 7. In all of the municipalities there is little to no change. Figure 9 is almost completely the same as Figure 8. There is no change in the number of seats. Figure 10 is a little bit clearer than the earlier graphs. It shows a slight increase for most of the municipalities in seats for the VVD.

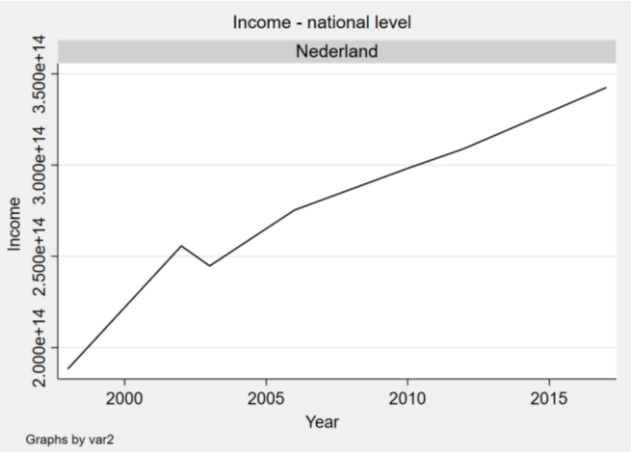

Figure 11: Income over time of the Netherlands.

Figures 11 to 13 show the income variable over time on different levels of the Netherlands. The first figure shows the income on the national level. There is a steady increase besides the year 2003 where there is a decline. Figure 12 also shows the same pattern of increase for all the twelve provinces. There is an increase during the whole period but after around 2015 the line is steeper. The municipalities show differences. To start, the lines of the municipalities differ from each other and are not all increasing. Most of them stay the same during the period of time, some show an increase and some show a decrease.

5.3. Results

House of Representatives election with all right-winged parties regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Income	**8.771**	**23.464**	**45.780***	**63.007**	**96.622**
	(9.41)	(44.61)	(13.06)	(90.53)	(.)
Female		**39.204**	**-377.000***	**-204.889**	**3808.5**
		(135.29)	(115.71)	(1537.23)	(.)
Education			**-5.173***	**-5.074**	**23.257**

			(1.09)	(7.75)	(.)
Immigration				**45.460**	**468.668**
				(179.37)	(.)
Unemployment					**-38.823**
					(.)
Constant	**-198.008**	**-2661.363**	**17753.929**	**7678.816**	**-204202.589**
	(312.43)	(8267.32)	(6156.83)	(83801.66)	(.)
Observations	**(6)**	**(6)**	**(6)**	**(6)**	**(6)**

** p<0.05, ** p<0.01, *** p<0.001*

Table 1: Results of the regression analysis of the election for the House of Representatives with all the right-winged parties included. The first column shows the regression between income and the total seats of the right-winged parties. For the columns after this there has been added a new control variable every time.

The results of the regression in Table 1 show a positive correlation of 8.771 between income and the total number of seats gained by the right-winged parties in the election for the House of Representatives. This means that when income rises by one percent, the number of seats for the right-winged parties increases by 8.77 percentage point in the House of Representatives. What is also shown in the table is that when control variables are added the correlation becomes even more positive.

What is interesting about Table 1 is that only the third column is statistically significant. Therefore, there can only be drawn a clear conclusion about this column and not for the other columns. It thus cannot be said for sure that the relationship as described before does actually exist. The best that can be said about Graph 1 is that if there does exist a correlation between income and voting preferences, it is a positive correlation. The statistical insignificance of columns one, two, four and five can be caused by two factors. The first is that the sample size is not sufficiently large enough to analyse a relationship between income and voting preferences. The second factor is that the correlation between income and voting preferences just does not exist.

The sample size of this regression is small. There are six observations made. Ideally the number of observations would be larger than 500 at least. The non-significance in this research is

probably caused by the few observations. The problem was with the data. There was only data from Household Disposable Income from 1996 and further. Since the elections are only once in four years, this leaves very few observations within the time frame. It was therefore not possible to get more observations. Still, it seems logical that this caused the non-significance in columns one, two, four and five.

The other explanation would be that there is simply no correlation between income and voting preferences. This seems less likely, because all of the columns show a positive correlation and the third column is statistically significant. Therefore, it seems logical that there is at least some sort of positive relationship between income and voting preferences for the right-winged parties. On the other hand, the empirical and theoretical evidence give mixed results. Therefore, it would not be weird if there is no relationship between income and voting preferences.

What is important to notice is that in column five, the standard error is not shown. This is because in model five the R-squared is equal to one. When a model has an R-squared of one, this means that the model is a perfect fit. There are only six observations, so this does not seem the case. It looks like Stata cannot handle the fact that there are almost the same number of variables as observations. Therefore, there needs not to be put much weight on column five.

The results of the regression in Table 2 show a positive correlation of 2.630 between income and the total number of seats gained by the conservative parties in the election for the House of Representatives. The table is similar to Table 1. The correlation becomes more positive when there are control variables added and there is only statistical significance for column three. Also, it shows again a perfect fit in model five. Table 2 is shown in Appendix B.

The results of the regression in Table 3 show a negative correlation of -32.290 between income and the total number of seats gained by the Christian parties in the election for the House of Representatives. Column one in this table is statistically significant, which means that it is possible to interpret the results as done above. Besides the negative correlation in model one there is much harmony with Table 1 and Table 2. There is a perfect fit model for model five and when control variables are added the regression becomes more positive. Table 3 is shown in Appendix B.

The results of the regression in Table 4 show a negative correlation of -0.842 between income and the total number of seats gained by the VVD in the election for the House of Representatives. There is no statistical significance for any of the models and the results of the regression fluctuate. There is again a perfect fit in model five. Table 4 is shown in Appendix B.

Provincial States election with all right-winged parties regression results

Total Seats	**1**	**2**	**3**	**4**	**5**
Income	**5.745**	**3.645**	**41.738***	**41.185***	**49.286**
	(4.00)	(6.85)	(16.90)	(17.25)	(30.06)
Female		**11.514**	**20.523**	**19.427**	**26.372**
		(20.14)	(33.45)	(33.29)	(40.46)
Education			**4.472**	**4.232**	**3.863**
			(4.33)	(4.00)	(3.99)
Immigration				**0.344**	**0.329**
				(0.54)	(0.55)
Unemployment					**-6.367**
					(19.38)
Constant	**9.414**	**-135.244**	**-400.726**	**-386.774**	**-423.622**
	(14.02)	(245.18)	(389.35)	(389.69)	(416.77)
Observations	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**

* p<0.05, ** p<0.01, *** p<0.001

Table 5: Results of the regression analysis of the election for the Provincial States with all the right-winged parties included. The first column shows the regression between income and the total seats of the right-winged parties. For the columns after this there has been added a new control variable every time.

The results of the regression in Table 5 show a positive correlation of 5.745 between income and the total number of seats gained by the right-winged parties in the election for the Provincial States. This means that when income rises by one percent, the number of seats for the right-winged parties increases by 5.75 percentage point in the Provincial States. The table

is similar to the earlier discussed tables. When control variables are added the correlation becomes more positive and there is only a statistical significance in columns three and four. This means that it cannot be said for sure that the correlation as described above exists.

The results of the regression in Table 6 show a negative correlation of 10.013 between income and the total number of seats gained by the conservative parties in the election for the Provincial States. Again, adding control variables increases the results. This time there actually is statistical significance in columns one and five. It is therefore possible to interpret the results as discussed above. What is interesting is that there is a very big positive jump between columns four and five. Table 6 is shown in Appendix B.

The results of the regression in Table 7 show a negative correlation of 26.524 between income and the total number of seats gained by the Christian parties in the election for the Provincial States. Adding control variables decreases the results this time, which is divergent from earlier discussed tables. Furthermore, what is great for this table in comparison with the earlier discussed tables is that there are many variables statistically significant. It gives the opportunity to really interpret the results. Table 7 is shown in Appendix B.

The results of the regression in Table 8 show a negative correlation of 11.694 between income and the total number of seats gained by the VVD in the election for the Provincial States. When control variables are added the correlation becomes more positive. In this table there is a statistical significance in columns one, two and five which means that the results can be interpreted as done above. Table 8 is shown in Appendix B.

Local Council election with all right-winged parties regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Income	**1.410**	**1.454**	**1.769**	**2.069**	**1.886**
	(1.36)	(1.38)	(1.70)	(1.59)	(1.68)
Female		**2.610**	**2.066**	**14.901**	**13.950**
		(16.61)	(17.06)	(17.68)	(17.31)
Education			**-0.100**	**-0.197**	**-0.235**
			(0.46)	(0.47)	(0.49)
Immigration				**-0.985***	**-0.947**

				(0.47)	(0.48)
Unemployment					**-2.323**
					(5.69)
Constant	**5.156**	**-19.948**	**-15.370**	**-134.117**	**-102.939**
	(4.87)	(158.64)	(162.42)	(168.20)	(167.79)
Observations	**(148)**	**(148)**	**(148)**	**(148)**	**(148)**

** p<0.05, ** p<0.01, *** p<0.001*

Table 9: Results of the regression analysis of the election for the Local Council with all the right-winged parties included. The first column shows the regression between income and the total seats of the right-winged parties. For the columns after this there has been added a new control variable every time.

The results of the regression in Table 9 show a positive correlation of 1.410 between income and the total number of seats gained by the right-winged parties in the election for the Local Council. This means that when income rises by one percent, the number of seats for the right-winged parties increases by 1.41 percentage point in the Provincial States. Control variables do not change the outcome. In this table there is almost no statistical significance, which means that it cannot be said for sure that the correlation as described above exists.

The results of the regression in Table 10 show a negative correlation of 0.211 between income and the total number of seats gained by the conservative parties in the election for the Local Council. In line with Table 9, when more control variables are added this does not have an influence on the results. Also, there is again no statistical significance in this table. Table 9 is shown in Appendix B.

The results of the regression in Table 11 show a negative correlation of 0.389 between income and the total number of seats gained by the Christian parties in the election for the Local Council. In line with Table 9 and 10, when more control variables are added this does not have an influence on the results. Also, there is again no statistical significance in this table. Table 11 is shown in Appendix B.

The results of the regression in Table 12 show a positive correlation of 0.598 between income and the total number of seats gained by the Christian parties in the election for the Local Council. In line with the other tables of the Local Council results, when more control variables

are added this does not have an influence on the results. Furthermore, there is again no statistical significance in this table. Table 12 is shown in Appendix B.

6. Discussion

The main takeaways of this paper can be explained by the analysis of the multiple results. For the Local Council elections there can be seen no real effect of income on the number of seats for any combination of parties. All of the results show a very small correlation around zero and since all the regressions show no significance, there cannot be spoken of any effect. For the House of Representatives on the other hand there are two main takeaways. Firstly, there seems a clear positive effect of income on both the number of seats for the right-winged parties and the number of seats for the conservative parties. This is from looking at the significant results in combination with similar insignificant results. Secondly, there can be seen a negative effect of income on the number of seats for the Christian parties. For the Provincial States there were a lot of statistically significant results, which helps for analysing the results. The Provincial States results support the results of the House of Representatives election. It shows a positive effect of income on both the number of seats for the right-winged parties and the conservative parties. Besides that, it shows a negative effect of income on the seats of the Christian parties. This means that income has specifically a positive effect on the progressive parties which were taken into account in the first regression and the extremist parties which were taken into account in the second regression. Because when only looking at the Christian parties, there is a negative correlation. Besides this, the Provincial States results for the VVD is also the only regression for the VVD which is statistically significant. It shows a negative correlation between income and the number of seats when there are none or only one control variable added and it shows a positive correlation when all five control variables are added. Since column five has the least problems with endogeneity, it would be best to take this last positive correlation as the main takeaway for the party VVD. What is mostly great about the results is that the Provincial States and House of Representatives elections are corresponding. This gives more proof that there is indeed a correlation between the two variables.

There are no clear policy implications with regard to this research. This research is an addition to understanding voting preferences and voting behaviour. This is important for the political parties, but does not need certain policies to alter the current situation. The Netherlands is a

democracy for the whole reason that people can vote on whatever party they would like to vote on. What is more important is to look into the fact that some people do not vote and if this is because they do not want to or because they simply cannot. If people cannot vote because they do not have time for example, that would be something which policy could solve.

There are two weaknesses of this research with regard to the method used. Those are that there is limited data available on income and that there are issues of endogeneity. The data on income was available for the Netherlands between 1996 and 2019. This results in the situation that only six elections can be used. For the municipalities and provinces, the data was even more limited and only available between 2011 and 2019. This results in only 36 observations on provincial level (three elections in twelve provinces) and 148 observations on municipality level (two elections). It is very likely that the general absence of statistical significance is caused by the limited data. Ideally there would be a much larger data set so the results would be more interpretable. The timespan for this research was also an issue with regard to the size of the dataset on municipality level. The issues for endogeneity are bigger for the House of Representation results than the Provincial State and Local Council results. This is because the last two datasets were panel datasets and regional fixed effects were used. The regional fixed effects minimize the endogeneity issues. It is very positive that the results for the national and provincial level were similar. This gives an indication that there might not be much bias from the endogeneity issues on the national level. Because when the endogeneity issues are mostly solved, it gives the same results. It can still be that the results are biased due to time varying shocks which differ over regions, but this problem is not easily solved and it is not clear in what way this would bias the results.

Another weakness of the paper is that income increases steadily over time. This means that if there is a positive correlation between income and the number of seats of a certain party, this can just be a positive growth of the party in the last couple of years. This counts the most for the election of the House of Representatives and the Provincial State election. This is because the income of the municipalities differed between each other and some municipalities experienced a decrease in income instead of an increase. That the results of the municipalities were not significant supports the thought that there might not be any correlation between income and voting preferences for right-winged parties. It seems likely that the positive correlations which were found between income and progressive/middle parties and the

extremist right parties are not solely due to income. The extremist parties have gained a lot of followers over the last decade in the Netherlands. This started with the terrorist attacks like 9/11 and went on because of the overflow of refugees from mostly the Middle East and North Africa. An increasing number of votes for these parties does not seem related to income. The progressive, middle parties have also gained a lot of seats over the last couple of years. This can be correlated with income, since D66 and Volt have on average a big group of supporters with an above average income (2009). These parties have grown immensely in the last couple of years. They have gained votes from voters which voted earlier on left-winged parties and they have gained votes from conservative parties. It does not seem solely to do with income but also with other factors, like climate change and the increase of inequality.

The insignificance found in the Local Council elections does not give clear proof that a correlation between income and voting preferences is not present. It can also be found due to the fact that a lot of local parties reign in municipalities. These local parties are combinations of different parties or are a party which is not seated in the House of Representatives. This last factor is a problem, because it is not clear for most local parties on which side of the spectrum they need to be placed. There are for example parties who are pro Friesland, but do not choose a side on the spectrum. This has mostly to do with the fact that local councils do not largely decide about issues which determine a place in the spectrum. The Local Councils are there mostly to manage the practical things in the municipalities and this has barely anything to do with progressiveness/conservativeness and being left- or right-winged. Therefore, a lot of the local parties were not taken into account in the regressions. If there was a clear knowledge about their spectrum place, they could have been taken into account and this could have changed the results and statistical significance.

The last uncertainty with regard to the results is that only Provincial States found a positive correlation between income and the conservative and right-winged party VVD. But the VVD was during all these elections the reigning party in the House of Representatives. It is not clear if that had any effect on the results. It is also not useful to check this since there is no available data when the VVD was not a reigning party. Furthermore, citizens do not know what the reigning parties are in the Provincial States. Therefore, they look mostly at what the National Parliament does and if they agree with that policy while voting for the Provincial States.

7. Conclusion

This research provides empirical proof in addition to the question if income has an influence on voting preferences; more specifically if an increase in income affects the total number of seats of right-winged parties. Four different combinations of political parties were used and compared. These four combinations are all the right-winged parties, all the conservative parties, all the Christian parties and the VVD. The regressions were done on the national, provincial and municipality level for the time period between 1996 and 2021. A linear regression was used on national level and fixed effects model was used on the provincial and municipality level. Only regional fixed effects were used since it is important that the regression does take time varying variables into account. The effect of time varying variables is interesting in this research.

The results of the main analysis show an overall positive correlation between income and the number of seats for both the right-winged parties and the conservative parties. Furthermore, it shows a negative correlation between income and the Christian parties. This means that specifically the progressive, middle parties and the extremist parties win seats when income increases. This is because those are the parties missing in the third regression when there is suddenly a (strong) negative correlation. Also, the Provincial States results show a positive correlation between income and the number of seats for the VVD.

The literary review gave mixed results. There are some empirical articles which support the results from this research. On the other hand, there are also articles which would not find any correlation between income and voting preferences. This research is therefore a good addition to modern literature.

What would be very interesting to do in the future is examining if there are other factors which influence voting preference. Think for example about the influence of social media, the climate crisis and gender. Furthermore, there has been done little theoretical research on voting preferences. It would be very interesting to figure out what the exact motives are for voting and voting behaviour. Concerning this topic, it would as well be very interesting to know why some people do not vote and if it is possible to make it more enticing for people to vote.

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9. Appendix A

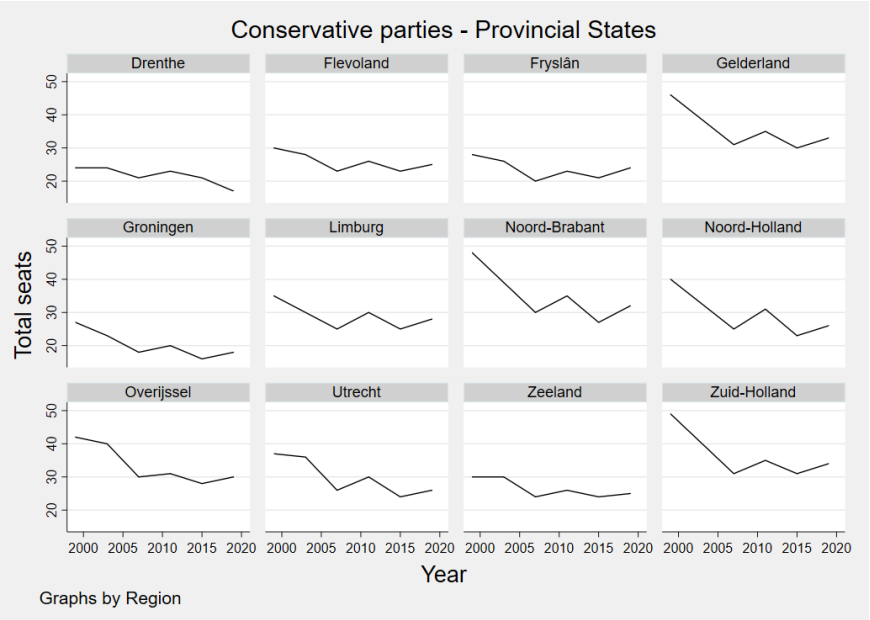

Figure 4: Outcome of the Provincial State elections for the twelve provinces, with all conservative parties included.

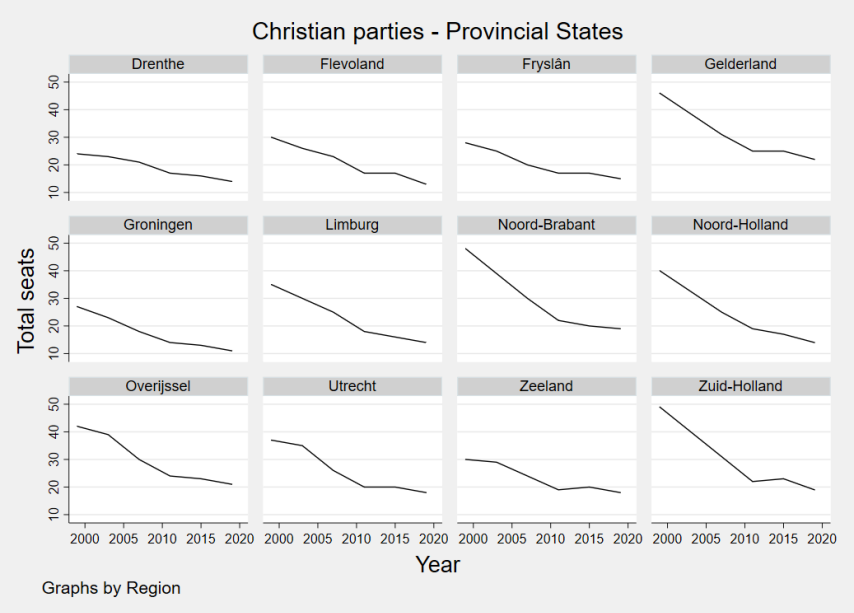

Figure 5: Outcome of the Provincial State elections for the twelve provinces, with all Christian parties included.

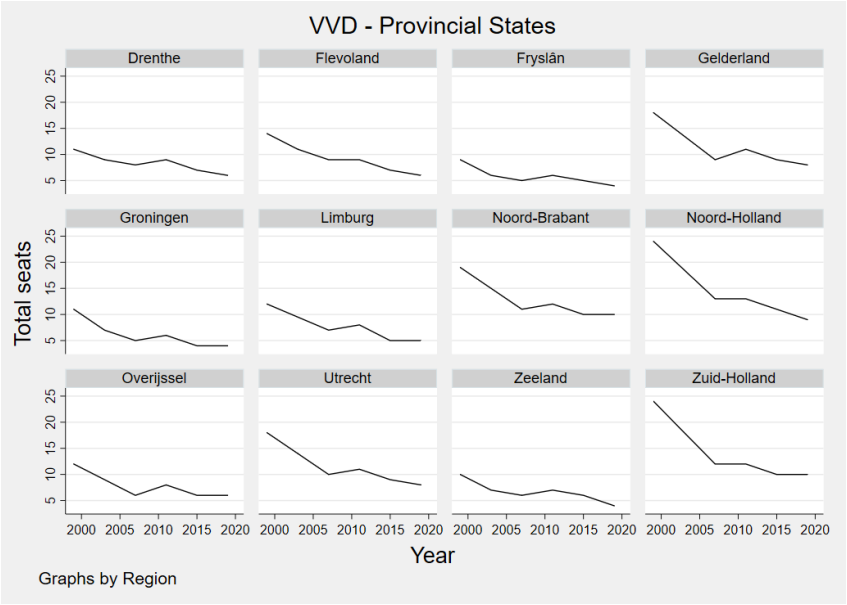

Figure 6: Outcome of the Provincial State elections for the twelve provinces for the party VVD.

Figure 8: Election outcome of the Local Council for 66 municipalities throughout the Netherlands, with all conservative parties included.

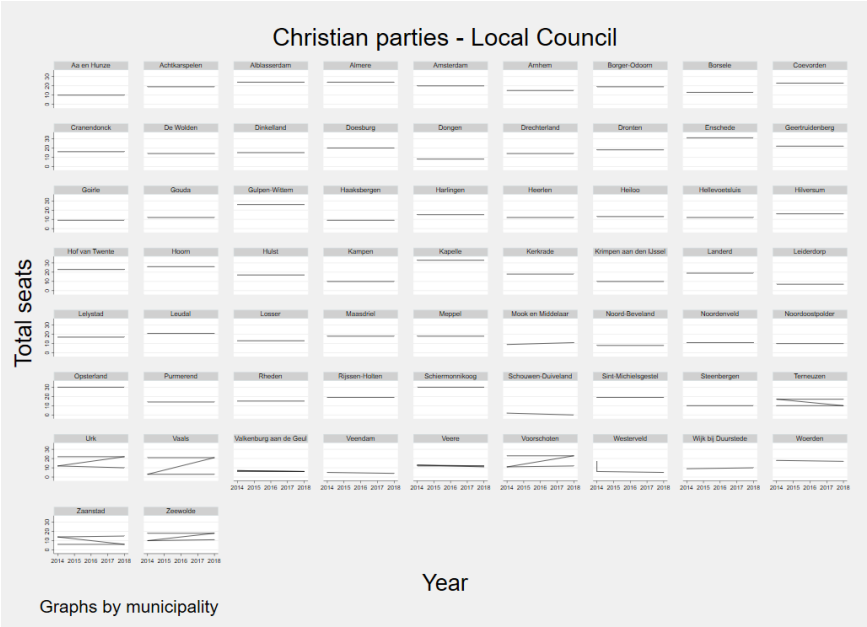

Figure 9: Election outcome of the Local Council for 66 municipalities throughout the Netherlands, with all Christian parties included.

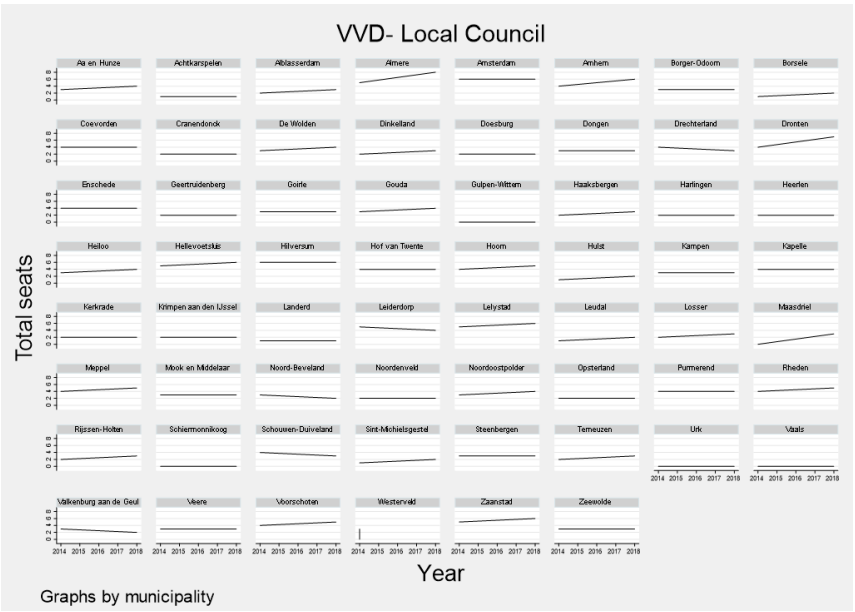

Figure 10: Election outcome of the Local Council for 66 municipalities throughout the Netherlands for the party VVD.

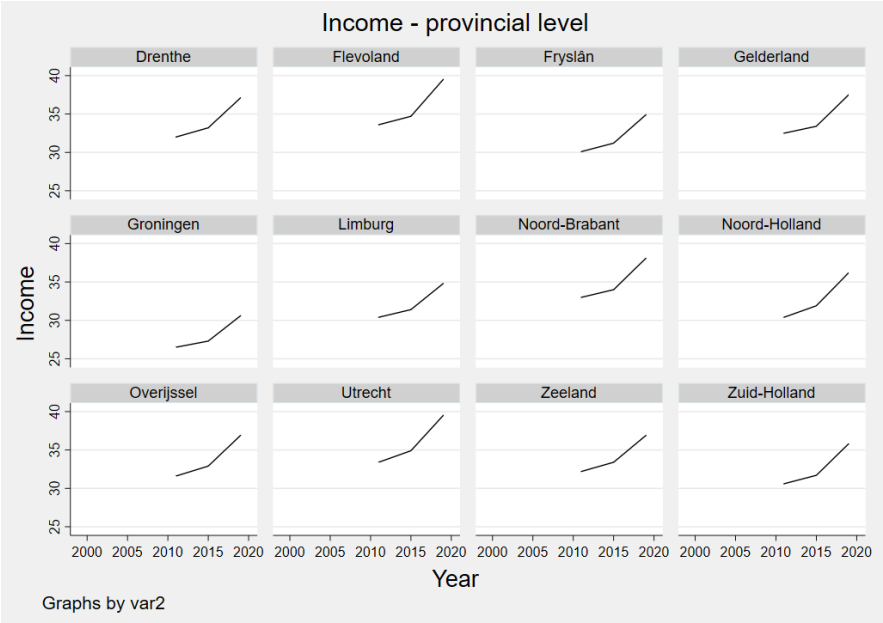

Figure 12: Income over time of the 12 provinces of the Netherlands.

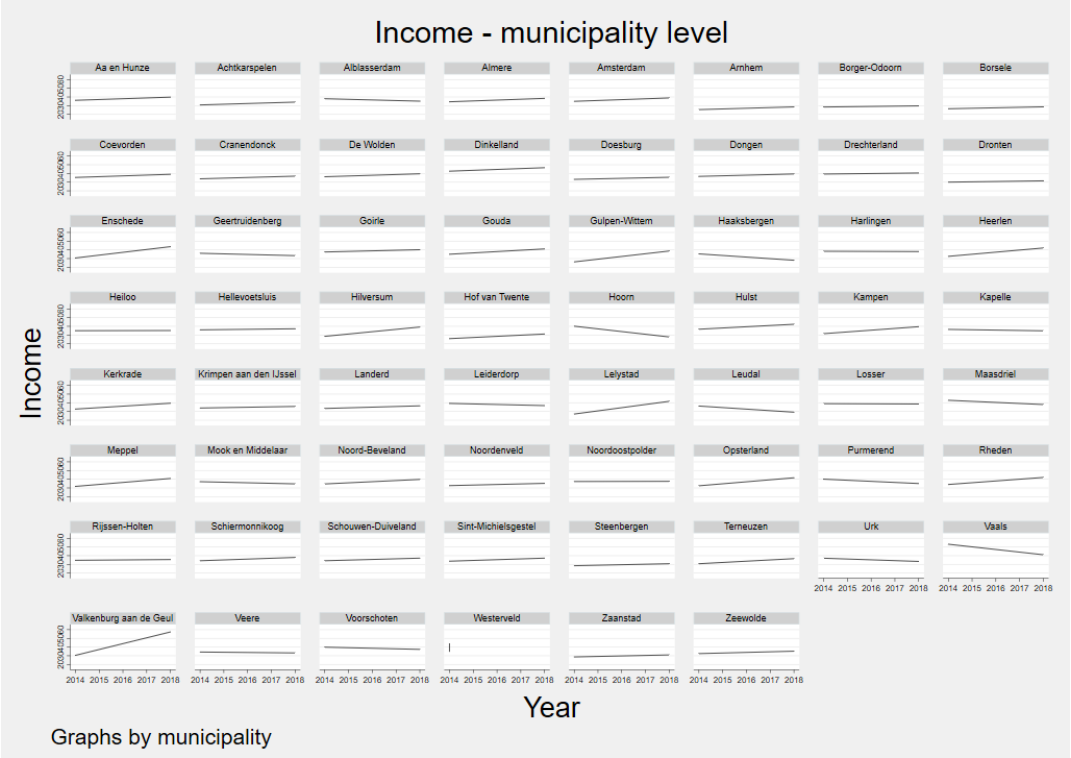

Figure 13: Income over time of 66 municipalities throughout the Netherlands.

10. Appendix B

House of Representatives election with all conservative parties regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Income	**2.630**	**66.359**	**83.117***	**70.336**	**93.416**
	(19.61)	(34.52)	(15.46)	(84.70)	(.)
Female		**170.046**	**-142.494**	**-394.833**	**2360.946**
		(82.59)	(81.34)	(1306.53)	(.)
Education			**-3.884***	**-5.403**	**14.050**
			(0.91)	(6.43)	(.)
Immigration				**-18.675**	**271.914**
				(155.97)	(.)
Unemployment					**-26.657**
					(.)
Constant	**-4.099**	**-10688.742**	**4641.701**	**18176.384**	**-127308.363**
	(651.70)	(5214.33)	(4235.84)	(71518.44)	(.)
Observations	**(6)**	**(6)**	**(6)**	**(6)**	**(6)**

* p<0.05, ** p<0.01, *** p<0.001

Table 2: Results of the regression analysis of the election for the House of Representatives with all the conservative parties included. The first column shows the regression between income and the total seats of the conservative parties. For the columns after this there has been added a new control variable every time.

House of Representatives election with all Christian parties regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Income	**-32.290***	**2.591**	**6.067**	**72.402**	**68.870**
	(10.77)	(19.02)	(21.28)	(12.96)	(.)
Female		**93.074**	**28.242**	**1244.998**	**823.340**
		(45.51)	(111.94)	(199.91)	(.)
Education			**-0.806**	**5.998**	**3.022**
			(1.25)	(0.98)	(.)
Immigration				**108.138**	**63.676**
				(23.87)	(.)
Unemployment					**4.079**
					(.)
Constant	**1141.334***	**-4706.849**	**-1526.798**	**-67256.125**	**-44995.683**
	(357.87)	(2873.28)	(5829.41)	(10942.95)	(.)
Observations	**(6)**	**(6)**	**(6)**	**(6)**	**(6)**

* p<0.05, ** p<0.01, *** p<0.001

Table 3: Results of the regression analysis of the election for the House of Representatives with all the Christian parties included. The first column shows the regression between income and the total seats of the Christian parties. For the columns after this there has been added a new control variable every time.

House of Representatives election for the VVD regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Income	**-0.842**	**-54.748**	**-60.135**	**49.541**	**64.924**
	(16.05)	(27.20)	(30.06)	(56.45)	(.)
Female		**-143.836**	**-43.371**	**1522.117**	**3358.801**
		(65.08)	(158.13)	(870.78)	(.)
Education			**1.249**	**7.324**	**20.289**
			(1.76)	(4.28)	(.)
Immigration				**232.695**	**426.368**
				(103.95)	(.)
Unemployment					**-17.766**
					(.)
Constant	**58.987**	**9096.739**	**4168.837**	**-82811.211**	**-179774.551**
	(533.26)	(4108.78)	(8234.69)	(47665.94)	(.)
Observations	**(6)**	**(6)**	**(6)**	**(6)**	**(6)**

* p<0.05, ** p<0.01, *** p<0.001

Table 4: Results of the regression analysis of the election for the House of Representatives for the VVD. The first column shows the regression between income and the total seats of the VVD. For the columns after this there has been added a new control variable every time.

Provincial States election with all conservative parties regression results

Total Seats	**1**	**2**	**3**	**4**	**5**
Income	**-10.013***	**-9.432**	**30.818**	**28.636**	**267.064****
	(3.85)	(7.32)	(43.61)	(51.11)	(60.99)
Female		**-3.182**	**36.502**	**32.179**	**236.592***
		(22.62)	(99.16)	(104.28)	(81.95)
Education			**23.467**	**22.519**	**11.655**
			(17.13)	(16.33)	(8.24)
Immigration				**1.357**	**0.911**
				(1.79)	(1.41)
Unemployment					**-187.394*****
					(36.60)
Constant	**61.520*****	**101.501**	**-639.287**	**-584.240**	**-1668.773**
	(13.51)	(275.26)	(1216.31)	(1252.95)	(834.44)
Observations	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**

* p<0.05, ** p<0.01, *** p<0.001

Table 6: Results of the regression analysis of the election for the Provincial States with all the conservative parties included. The first column shows the regression between income and the total seats of the conservative parties. For the columns after this there has been added a new control variable every time.

Provincial States election with all Christian parties regression results

Total Seats	**1**	**2**	**3**	**4**	**5**
Income	**-26.524*** **	**-20.230*** **	**-134.288** **	**-135.722*** **	**-240.395*** **
	(2.53)	(3.32)	(35.04)	(29.35)	(49.94)
Female		**-34.512**	**-6.502**	**-9.341**	**-99.081**
		(19.69)	(71.72)	(65.06)	(61.11)
Education			**-18.760***	**-19.382***	**-14.613** **
			(6.64)	(6.81)	(4.63)
Immigration				**0.891**	**1.086**
				(0.71)	(0.59)
Unemployment					**82.268***
					(33.09)
Constant	**112.573*** **	**546.157**	**633.413**	**669.567**	**1145.691**
	(8.86)	(251.37)	(867.22)	(802.27)	(627.43)
Observations	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**

* p<0.05, ** p<0.01, *** p<0.001

Table 7: Results of the regression analysis of the election for the Provincial States with all the Christian parties included. The first column shows the regression between income and the total seats of the Christian parties. For the columns after this there has been added a new control variable every time.

Provincial States election for the VVD regression results

Total Seats	**1**	**2**	**3**	**4**	**5**
Income	**-11.694*** **	**-11.797*** **	**-2.702**	**-1.787**	**73.513***
	(1.38)	(2.62)	(30.35)	(26.95)	(32.06)
Female		**0.567**	**0.197**	**2.010**	**66.568**
		(10.06)	(52.71)	(50.02)	(46.40)
Education			**6.981**	**7.378**	**3.948**
			(6.01)	(6.36)	(4.08)
Immigration				**-0.569**	**-0.709**
				(0.84)	(0.75)
Unemployment					**-59.183****
					(16.51)
Constant	**49.080*** **	**41.958**	**-7.810**	**-30.890**	**-373.409**
	(4.85)	(125.01)	(596.46)	(576.38)	(488.64)
Observations	**(36)**	**(36)**	**(36)**	**(36)**	**(36)**

* p<0.05, ** p<0.01, *** p<0.001

Table 8: Results of the regression analysis of the election for the Provincial States for the VVD. The first column shows the regression between income and the total seats of the VVD. For the columns after this there has been added a new control variable every time.

Local Council election with all conservative parties regression results

Total Seats	**1**	**2**	**3**	**4**	**5**
Income	**-0.211**	**-0.180**	**-0.313**	**-0.291**	**-0.552**
	(0.57)	(0.58)	(0.71)	(0.70)	(0.76)
Female		**5.516**	**5.569**	**6.513**	**5.157**
		(4.28)	(4.54)	(4.97)	(3.72)
Education			**0.063**	**0.056**	**0.001**
			(0.13)	(0.13)	(0.16)
Immigration				**-0.072**	**-0.019**
				(0.15)	(0.15)
Unemployment					**-3.311**
					(3.17)
Constant	**16.350*** **	**-36.604**	**-37.053**	**-45.781**	**-1.353**
	(2.04)	(41.02)	(43.30)	(47.09)	(32.73)
Observations	**(148)**	**(148)**	**(148)**	**(148)**	**(148)**

* p<0.05, ** p<0.01, *** p<0.001

Table 10: Results of the regression analysis of the election for the Local Council with all the conservative parties included. The first column shows the regression between income and the total seats of the conservative parties. For the columns after this there has been added a new control variable every time.

Local Council election with all Christian parties regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Immigration	**-0.389**	**-0.392**	**-0.561**	**-0.482**	**-0.496**
	(0.43)	(0.44)	(0.52)	(0.47)	(0.59)
Female		**0.665**	**0.589**	**3.964**	**3.892**
		(2.05)	(2.13)	(2.47)	(2.39)
Education			**0.114**	**0.089**	**0.086**
			(0.13)	(0.12)	(0.13)
Immigration				**-0.259***	**-0.256***
				(0.12)	(0.11)
Unemployment					**-0.176**
					(2.08)
Constant	**16.714*****	**10.362**	**11.396**	**-19.831**	**-17.475**
	(1.54)	(19.94)	(20.55)	(23.08)	(32.28)
Observations	**(148)**	**(148)**	**(148)**	**(148)**	**(148)**

* p<0.05, ** p<0.01, *** p<0.001

Table 11: Results of the regression analysis of the election for the Local Council with all the Christian parties included. The first column shows the regression between income and the total seats of the Christian parties. For the columns after this there has been added a new control variable every time.

Local Council election for the VVD regression results

Total seats	**1**	**2**	**3**	**4**	**5**
Income	**0.598**	**0.634**	**0.712**	**0.713**	**-0.161**
	(0.74)	(0.67)	(0.70)	(0.72)	(0.90)
Female		**13.103**	**11.248**	**11.293**	**10.131**
		(6.82)	(6.59)	(7.30)	(7.18)
Education			**0.515***	**0.515***	**0.374**
			(0.25)	(0.25)	(0.23)
Immigration				**-0.003**	**0.106**
				(0.18)	(0.17)
Unemployment					**-6.570**
					(3.53)
Constant	**0.856**	**-124.994**	**-109.583**	**-110.005**	**-34.867**
	(2.65)	(66.11)	(63.98)	(70.55)	(85.46)
Observations	**(148)**	**(148)**	**(148)**	**(148)**	**(148)**

* p<0.05, ** p<0.01, *** p<0.001

Table 12: Results of the regression analysis of the election for the Local Council for the VVD. The first column shows the regression between income and the total seats of the VVD. For the columns after this there has been added a new control variable every time.