

# ***Decrypting the FrP Code***

*- a multivariate analysis of FrP voters*

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## Abstract

This paper puts main focus on analyzing the findings of journalist Magnus Marsdal about who votes for Fremskrittspartiet (the Progress Party) in his book *FrP-Koden* (2007) through the use of more sophisticated statistical methods. The data is analyzed with data from the European Social Survey. Marsdal's findings are supplemented with a similar work of popular science by historian Jan Martin Iversen (1998).

Logistic Regression analysis shows that only a handful of the relationships suggested in the works of Marsdal and Iversen give significant results. The analysis supports their claims when it comes to education, scepticism to government and to immigration. When explored into yet further depth, we discover that those that are significant also seem plagued with an alarmingly high number of influential outliers. This leads to the final conclusion that even if the data does to some degree support some of Mr. Marsdal's theories, they seem to only be able to accurately predict a certain type of FrP voter. There seems to be a set of voters, large enough not to be disregarded, that vote FrP for reasons that Mr. Marsdal fails to capture.

Even though some parts of Marsdal's descriptions of the cultural elites serve to explain the behavior of a large number of people, it seems to be far from sufficient. There appears to be one or more important elements to the FrP code not yet uncovered, or not easily described.

## 1.0 Introduction

The Progress Party (FrP) has been controversial ever since their founding under the name Anders Lange's Party for Severe Reduction of Taxes on april 8<sup>th</sup> 1973 (Hagen 1998:7). Many theories and prejudices have been made both by political scientists, politicians and "the man in the street" about who actually votes for this party. Through this paper I will go into depth on the theories of one of the more popular works of recent years, the book *FrP-koden* by author, journalist and political activist Magnus Marsdal (2007).

Through multivariate regression analysis I will look at the conclusions drawn by Mr. Marsdal on the basis of his simple bivariate analyses. This more sophisticated statistical method will give a better test of the assumptions that Marsdal makes in his book. Although the ESS data which I am basing the analysis on are not tailored to the task, and thus cannot give very precise conclusions, they do that there is reason to suspect Mr. Marsdal's theories of being a little too simple.

## 2.0 Introducing the hypotheses

Mr. Marsdal's (2007) book is a work of journalism and popular science, not necessarily confirming to the standards of contemporary political science. Nowhere is this more evident

than in his choice of quantitative method. In addition to ample anecdotal and other qualitative evidence, he appears to rely solely on bivariate analysis as statistical evidence. Although this might be sufficient to prove the concurrence of two phenomena, it is no longer considered adequate to prove that the connection is anything beyond coincidence. But most importantly it does not make any assumptions about whether or not each effect has any bearing on the main decision at all, in other words the causal relationship between the dependent and independent variables. Marsdal's argument implies an underlying causal relationship that isn't verified by his data analysis. What needs to be considered more carefully is thus whether or not we are able to confirm that the relationships pointed to by Marsdal are in fact important as explanations of why people vote FrP.

While analysis of Marsdal's theories on their own may be interesting, I also draw on another work of popular science, namely the book *Fra Anders Lange til Carl I. Hagen. 25 år med Fremskrittspartiet* by the historian Jan Martin Iversen (1998) to fill in some of the blanks Marsdal leaves behind so we get a more complete picture for analysis. Iversen relies on historical method in his work, not giving much in the way of quantitative evidence at all, but reaching similar conclusions to Marsdal at many important points. These two works complete each other to give a comprehensive analysis of FrP and why people vote for it.

## 2.1 Theoretical framework

To understand the theories presented by Iversen and Marsdal, and constructing the hypotheses I will be testing, I draw upon a number of different theories from political behaviour studies. The first one is the Rational Choice Theory, based in the realm of political economy. According to this theory, any voter who is fully informed about the outcomes of voting should vote for the party that will maximize his or her preferences. Furthermore, it is implied that everyone has a preference for maximizing his or her own benefit. Thus we can on the basis of this theory assume that voters will have a tendency to vote for parties that have a strong emphasis on policy that will benefit themselves (Bay 2000:136-8).

A second theory I will draw upon is the Cleavage Model (Skillelinjemodellen). This model was based on studies of Norwegian politics, and was first presented in its general form by Seymour Lipset and Stein Rokkan in 1967. It classifies voter preference according to a number of central cleavages or controversial issues in the political sphere. These cleavages can then be used to explain both the growth of parties and voter behaviour (Berglund 2003:109). As we will see in the analysis, there are indications that these cleavages are not

entirely stable, and that the tendency to vote according to the historically prevalent social classes have decreased. The theory of dividing parties according to such axes might still be relevant for understanding at least the ideological elements of the voting decision (Listhaug 1989:344-7). For this paper it becomes especially relevant when considering the emphasis Marsdal (2007:119-150) puts on social class identification as a part of the “FrP code” that according to him has granted FrP much of its success.

## 2.2 Constructing the hypotheses

In selecting literature on which to base my hypotheses, I have put emphasis on selecting popular works with impact on the political debate rather than the more “hard core” social scientific literature. A main purpose of this paper is to find out to which extent the hypotheses put forward in these books are supported by quantitative analysis. Magnus Marsdal (2007) has written one of the most influential books in the political debate in Norway in 2007. The book gives an extensive analysis of FrP voters, both through qualitative and quantitative techniques. The latter, the most interesting for this analysis consists mostly of simple frequency tables and different forms of bivariate analysis. A main point of this paper will therefore be to see whether or not more sophisticated quantitative techniques will yield the same results, or whether the relationship can be measured at all. As you will see, this might not be so easy.

In the beginning chapters of his book, Marsdal (2007:7-25) presents the following observation on who votes FrP: “Og ’de’ er i dette tilfellet i stor grad lavtlønte, lavt utdannede arbeidere, arbeidsløse eller trygdede representanter for folk flest.” (Marsdal 2007:20) This is written as a profile of the FrP voter, in contrast to the well paid, well educated journalists that usually are the judges of public opinion. Marsdal (2007:21) also points to the fact that a very low share of functionaries vote FrP.

This finding is supported by a study of right-wing populist parties in Western Europe conducted by Hans-George Betz (1993:421-2). It reports the following finding about FrP voters in 1990:

“Its supporters were predominantly male, and a considerable proportion was under thirty years of age. A majority of its voters had low and medium incomes.”

These findings suggest that the following hypotheses on socio-demographics might be true:

- (1) Low education increases likelihood of voting FrP.

- (2) Being a woman decreases likelihood of voting FrP.
- (3) Living on social welfare or unemployment benefits increases likelihood of voting FrP.
- (4) Being employed as a functionary decreases likelihood of voting FrP.
- (5) Being young increases likelihood of voting FrP.
- (6) Coming from a low income family increases likelihood of voting FrP.

Over the following pages Marsdal (2007:20-22) describes the FrP voters further, characterizing their worker-class voters as "ikke mindre opptatt av eldre og helse enn arbeidsfolk flest". Their "small capitalist" voters are characterized as "ikke mindre opptatt av skattelette enn andre høyrefolk, snarere tvert imot".

FrP is a liberal party, with not only a pragmatic belief in competition between suppliers of services, but an ideologically ultraliberal preference for private solutions. This is readily apparent from the first few paragraphs of their party program (Fremskrittspartiet 2005:6), and is supported by both Marsdal (2007:244-6) and Iversen (1998:145) in their books. This leads to another hypothesis:

- (7) Being critical of government intervention and public solutions increases likelihood of voting FrP.

More than just being against public solutions, FrP is also a party generally critical to "the system" – speaking out against a government run by enlightened elites set apart from the logic of the common man (Marsdal 2007:38,69-70). The rhetoric of the FrP party program also clearly bears witness to a sceptical attitude towards the state in general. When discussing the principles of power distribution within the (Norwegian) state, it points out that the party is opposed to "...any form of authoritarian and totalitarian power of the state..." (Fremskrittspartiet 2005:6 – my translation). This would certainly be a superfluous statement if they didn't believe such power to exist. Bernt Aardal (Aardal 2003a:219-21) shows in an analysis of Norwegian voters and their level of criticism that FrP voters clearly separate themselves from the voters of other parties by their level of distrust of politicians, members of parliament and the electoral institution itself. This leads us to the following prediction:

- (8) Having low trust in state institutions increases likelihood of voting FrP.

Another characteristic of FrP often pointed to by supporters and adversaries alike is their ability to phrase politics in simple terms that are understandable to the common man. Marsdal (2007:237-61) analyzes this, arriving at the conclusion that FrP succeeds at reducing politics to dichotomies phrased in an unassuming way that corresponds with the understanding of those separate from the elites of society. This may well be just the result of using a different

kind of language, or it may be the result of a lack of political knowledge among FrP voters. Whatever the cause, it seems likely that if this holds true, people who claim that much of what happens in politics is difficult to understand should be more likely to vote FrP. Thus I propose the hypothesis:

(9) Having problems with understanding politics increases likelihood of voting FrP.

One of the most debated topics with regard to FrP is their opposition to immigration, particularly from non-western ethnicities. But as Iversen (1998:152-4) points out, this is not the limit of the party's critique of ethnic policies. FrP has also marked itself as critical of preferential treatment of the indigenous Sami people of Norway, especially with regards to questions of cultural expression such as language rights and special school curricula. Both Iversen (2007:150-1) and Marsdal (2007:256-8) point to two major topics of criticism against members of ethnic and religious minorities in Norway. The first is the cultural argument and a fear of dilution of the Norwegian culture, identity and religion. The second is a view of these minorities as freeloaders – groups consisting for a large part of criminals and abusers of social benefits. On this basis we should expect that members of such minorities, out of self-interest, should be less likely to vote FrP:

(10) Belonging to an ethnic or religious minority decreases likelihood of voting FrP.

(11) Being skeptical of immigration increases likelihood of voting FrP.

One of the central cleavages of the cleavage model is the centrality cleavage, representing the general difference of interest between central and peripheral regions. Henry Valen (2003:149) has categorized Eastern Norway as the most central region in Norway, South and West Norway grouped as the middle and Central and Northern Norway grouped as the least central region. Marsdal has expressed to the media that he did research on the district profile of FrP when writing his book, and found that a city like Bodø in Northern Norway alone stood to lose about 42 million NOK per year (Sneve 2007). According to the rational voter theorem, this also suggests that voters from peripheral regions should stay away from voting FrP (Bay 2000:136).

(12) Living in a peripheral region decreases likelihood of voting FrP.

### **3.0 Method and results**

The analysis has been made through a logistic regression based on data from the European Social Survey. The dependent variable for the analysis is which respondents report having

voted for FrP in the last election. As the survey was conducted in 2006, the election in question would for the Norwegian dataset be the parliament elections of fall 2005.

In this chapter I give some general comment on the dataset and the dependent variable, as well as specifying the different dependent variables used.

### 3.1 Dataset

The dataset used in the analysis is the Norwegian cases from the European Social Survey, third round. The data was collected in 2006, the Norwegian section collected under the supervision of Norsk Samfunnsvitenskapelig Datatjeneste (NSD). As expressed in the survey documentation (European Social Survey Undated:1-5), the selection method does not give the exact same chance for every group to be represented. Per the instructions, the dataset is therefore weighted using the variable *dweight* to compensate for this (Eikemo 2007:22-23).

### 3.2 Dependent variable

The dependent variable for the analysis is based on the ESS variable named *prtvtno*. The variable has been recoded into a dichotomous dummy variable comparing those who voted FrP to those who did not. Respondents not voting in the election are by ESS coded as system missing, something I have not changed. Voters of FrP are thus only compared to respondents voting for other parties, not respondents who didn't vote in the election in question.

Examining the frequencies of the variable shows that there are 1286 valid cases out of a total of 1750. 227, or 17.7%, out of these respondents voted for FrP.

The relatively low number of FrP voters in the sample has made it impossible to get significant results in testing for small sub-groups of the population, such as ethnic and religious minorities as shown in chapters 3.4.10 and 3.4.11.

### 3.3 On causality

Causality is always a difficult consideration. In political behavior theory, this has especially been given attention in the so-called Michigan model. It is empirically well-documented from American elections that party identification is an important factor in how events and causes are interpreted and lead to a voting decision. Thus we can fear that to some extent the voters copy the causes of the party instead of the other way around. Taking a look at the level of voter identification with FrP might therefore be important (Listhaug 1989:341-3).

A simple bivariate analysis of this using the ESS data shows us that all major Norwegian parties have a percentage of voters who report some degree of party identification in the range 61 to 78 percent. The percentage for the Norwegian total is 67.5%, the international ESS 62.3 %, and the total for FrP voters in Norway 63.3%. Party identification does thus seem to be as strong in Norway as in any other country in Europe, although the number of people who identify with FrP are lower than the Norwegian average.

Despite the above finding, quantitative analysis of the underlying factors leading to a decision to vote FrP might still with some caution prove possible. The above answers were the result of the respondents' self-evaluation of party identification. Bernt Aardal (2003b:43) points to the fact that Norwegian voters have shown a very low party loyalty over the last elections. 44 % of Norwegian voters changed their voting decision between the parliament elections in 1997 and 2001. This makes it seem unlikely that identification with a single party can play as large a role with Norwegian voters as the findings of the Michigan model.

On this basis, I have continued with the analysis, but keeping a considerable caution regarding the causality question, especially in the selection of independent variables.

### **3.4 Testing of the individual hypotheses**

The individual hypotheses are tested through multivariate logistic regression. For each hypothesis I have selected one or more variables from the ESS that are assumed to measure the desired effect as closely as possible. Quite a number of the expected connections prove to be insignificant, but this does in some cases constitute interesting finds on its own.

#### **3.4.1 Age**

The variable *age*, already calculated in the ESS dataset is used to test hypothesis (5). FrP is a young party, so it seems only likely that the party loyalty of older people would count to their disfavor. On the other hand, we also know that FrP is a party with high profile attitudes towards improving care for the elderly, which could suggest a curve linear relationship (Marsdal 2007:200). Testing for such a relationship suggests that the relationship is not entirely linear, but does not give us a better approximation without transforming it into a dummy variable<sup>1</sup>. Despite the fact that this could increase the model goodness of fit, the linear variable is kept in the final model for ease of interpretation when seen in light of the original hypothesis (Eikemo 2007:130-133, Ringdal 2001:436).

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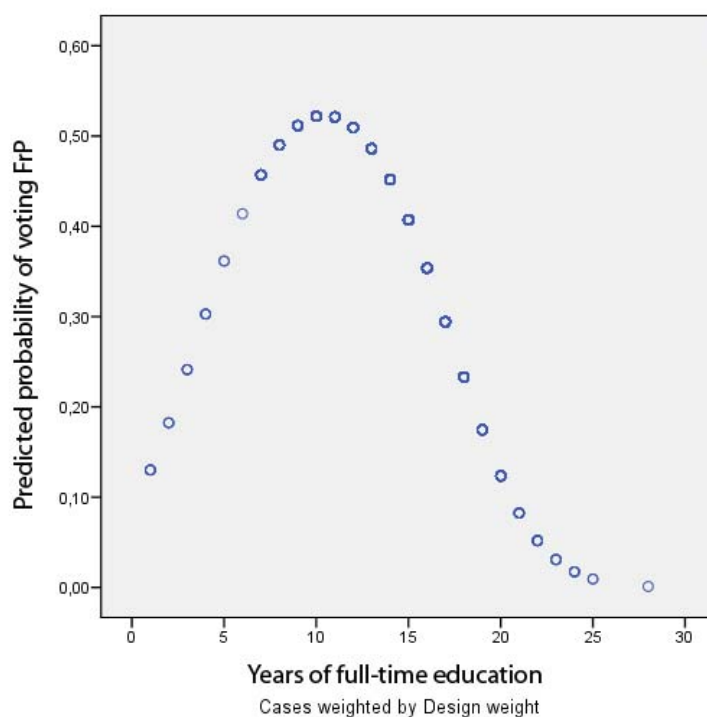
<sup>1</sup> See appendix, chapter 7.3.1.2 for more detail on this.

### 3.4.2 Education

Hypothesis (1) is tested using the education value used from the ESS called *eduysr*, measuring the total numbers of years of education reported by the respondent.

The analysis clearly supports the hypothesis. In all tested variants of the model, education came out to have a significant effect on the tendency to vote FrP. Examining the relationship closer shows that the best approximation of the relationship is a curve linear function<sup>2</sup>. Plotting this function from the final model gives us the graph shown in Figure 1. The X-axis shows number of years of education, while the Y-axis shows the predicted probabilities for voting FrP in the final model when all other factors are set to maximize the probability.

**Figure 1: Curve linear function for education**



### 3.4.3 Income

The original hypothesis stated that people with low income should be more likely to vote FrP. The regression tested several different methods of defining low income without being able to yield a significant result.

To continue this, I thus tested whether or not the data could confirm that there was a significant connection between income and tendency to vote FrP at all. Neither with the

<sup>2</sup> See appendix, chapter 7.3.1.1

original 12 categories nor with a reduction to four dummy coded categories based on quartiles did the analysis give a significant result.

Income thus has to be discarded as an explanation variable for the tendency to vote FrP.

#### **3.4.4 Gender**

Controlling for gender in the model did not give any significant results, and the hypothesis was discarded. This is supported by recently published work by political scientists Hanne Marthe Narud and Bernt Aardal (Førde 2007).

#### **3.4.5 Complexity of politics**

Hypothesis (9) was tested with help of the variable *polcml*, asking respondents how often they find politics to be too complicated to understand. This was not found to be statistically significant. It may still be that respondents do not find politics to be complicated any more due to the fact that FrPs politicians are able to simplify politics for them. This can however not be tested with this data.

#### **3.4.6 Unemployment benefits and social welfare**

Recoding the ESS variable *hincsrc*, which measures the household's main source of income, I produced a variable that represented whether or not the household had social welfare or unemployment benefits as its main source of income. The data did not serve to confirm this hypothesis, as no significant relationship was found.

#### **3.4.7 Functionaries**

The variable *Funksjonær\_dummy* measures whether or not the respondent belongs to the occupational category functionary. To find a definition of this, I've relied on a definition by Erling Barth et al. (2004:16-17, 47-48) developed for a study of differences in income levels between functionaries. They define functionaries according to Statistisk Sentralbyrå's STYRK-codes, which correspond to the ISCO88 coding standard which is used in ESS. The included occupations are: administrative leaders, academic professions, technicians and associate professionals and office clerks, but excluding some groups like physicians, teachers, operators and police officers.

According to the theoretical sources, functionaries are less likely to vote FrP. However, this doesn't seem to be an independent effect, as it loses significance when controlling for age, income and education.

### 3.4.8 Government intervention

There are two variables in ESS that seem to be a good measure of attitudes to public versus private solutions. The first is the variable *gincdif* which measures the respondents' attitudes regarding whether or not the government should be active in reducing income differences. The second variable is *rspslvo*, which measures to what degree providing an adequate standard of living for the old is the responsibility of the government or the individual.

The regression shows clearly that negative attitudes to government responsibility for reducing income levels increases the odds for voting FrP. The odds increase by a factor of 1.235 for every level on the 1-5 scale.

The question of care for the elderly does not give such a simple and conclusive answer. Not in any of the tested regressions did this give a significant answer. The two questions are both phrased differently and asked in a different context. Conceivably this could affect the way respondents answer the question and lead to possible validity problems, at least for comparison purposes (Ringdal 2001:166-70).

### 3.4.9 Trust in institutions

Trust in government institutions was measured using a scale composed of four variables testing the level of trust in parliament, police, legal system and politicians respectively. The selection of these values was reached through an exploratory factor analysis that analyzed all the trust variables of ESS to try and find the ones that seemed to be connected. Rotation showed that these four were the ones most strongly linked. The factors all regard a widely defined trust in the most basic and important instruments of authority. Together they thus seem to give a good indication of the general level of trust in the institutions of government as a whole (Spector 1992:54-58)<sup>3</sup>.

In the final model, there is a clearly negative effect on probability for voting FrP with increasing trust in government institutions.

### 3.4.10 Minorities

The theory suggests that members of ethnic and religious minorities would be less likely to vote FrP. There was no significant correlation between belonging to an ethnic minority and

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<sup>3</sup> For specifics on the scale construction, see chapter 7.1 in the appendix.

voting FrP. Unfortunately, the number of valid cases belonging to this category was as low as 51, which might make it difficult to measure this effect.

Neither was there a significant relation between belonging either to non-Protestant or non-Christian religions. With only 38 and 22 respondents each in the latter two categories, the lack of significant correlation does not seem enough to reject the hypothesis completely, but neither is it confirmed. Because of discrimination problems it was impossible to include the individual religions as variables in the model.

From these results, it is unfortunately impossible to draw any conclusions regarding membership of religious and ethnic minorities, as so few members of these categories have responded to the survey. To find definite empirical evidence of this, a survey targeting these groups in particular will most likely have to be conducted.

### 3.4.11 Immigrants

Attitudes towards immigration were measured through constructing a scale of different attitude variables. Through exploratory factor analysis, five variables were appeared to measure the same attitude towards immigration. As they were measured on different scales, each score was weighted and/or inverted to correspond to a scale of 0 to 1, where 0 shows the least positive attitude to immigration. Consequently, the possible total scores ranged from 0 to 5.

The variables included were:

- *imdfetn* (Allow many/few immigrants of different race/ethnic group from majority),
- *impcntr* (Allow many/few immigrants from poorer countries outside Europe),
- *imbgeco* (Immigration bad or good for country's economy),
- *imueclt* (Country's cultural life undermined or enriched by immigrants)
- *imwbcnt* (Immigrants make country worse or better place to live)

A variable excluded as a result of the reliability analysis was the variable *imsmetn*, measuring attitude to immigrants from same ethnic group as the country's majority. Ethnicity was defined no more specifically than this, but I assume it to be most commonly interpreted to mean Scandinavians.

A positive attitude to immigrants was found to have a profoundly negative effect on the probability for voting for FrP. As we can see from Figure 2, odds more than halved for each level of attitude on the scale. Plotting attitude to immigration versus predicted probability with all other factors optimized for maximum probability is shown in Like the previous point,

the find that being sceptical to immigrants makes you more likely to vote FrP should not come as a surprise to anyone. Figure 3 shows a plot of attitude to immigrants versus predicted probability for voting FrP when all other factors are optimized for maximum probability. As we see from Figure 3, those with the most positive attitudes to immigrants simply don't appear to vote for FrP regardless of sympathy with other causes.

Figure 3 It shows that being more than averagely positive to immigrants makes it highly unlikely you will vote FrP even if you score highly on other important variables.

In Figure 17 in the appendix, the variable is also shown to be the one that gives the largest reduction in model goodness of fit when excluded from the model.

### 3.4.12 Region

A test for the relevance of including regions in the analysis was made, through recoding of the variable *regionno*. Two different sets of dummy coding were tested: with the division suggested by Valen (2003:49) and dividing into the smaller regions coded in the ESS. Neither version of the dummy coding produced any significant result when introduced to the model.

Taking a second look at Valen's (2003:156-159) article shows that FrP is the party with the greatest flexibility in attitudes towards the central-peripheral cleavage. This seems to be supported by the fact that region alone seemed not to play a significant part in the decision to vote FrP. It could be explained as FrP not having a clear enough central- or rural-oriented policy to appeal more or less to either side of the cleavage.

## 4.0 The final regression model

As the previous chapter has shown, several of the variables were found not to give significant results when tested.<sup>4</sup>

The model shown to give the best explanation without including irrelevant variables is shown in Figure 2 below.

The most extremely influential cases, as detailed in the appendix, chapter 7.3.4, have also been excluded from the model, improving the fit at the expense of leaving a part of the population out of the predictions. This could potentially be troublesome for the model as a whole if the deviations should be systematic.

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<sup>4</sup> For an overview of all models tested see Figure 17 in appendix, chapter 7.5

**Figure 2: Final regression model**

	B	S.E.	Sig.	Odds ratio
Trust in state institutions	-0,0736	0,014	0,000	0,929
Government reduce income diff.	0,2114	0,078	0,007	1,235
Attitude to immigrants	-0,7607	0,105	0,000	0,467
Age	-0,0210	0,006	0,000	0,979
Education in years	0,4673	0,173	0,007	1,596
- Education squared	-0,0224	0,007	0,001	0,978
Constant	0,5204	1,255	0,679	1,683
Valid cases: 1248; Missing: 502; -2 Log likelihood: 931.515; Nagelkerke $R^2$ : 0.255; Hosmer & Lemenshow significance: 0.930				

Included in this model are all the independent variables found to be significant during the model testing. We can see that trust in state institutions, positive attitudes to immigration and age have a negative impact on the probability to vote FrP. Positive attitudes to government responsibility for income difference reductions also has a negative impact, as a high score on that variable implies less positive attitudes to government responsibility. Education is shown to be curve linear, showing that the initial effect is positive, but that the effect is more and more negative with higher age.

As the Nagelkerke  $R^2$  statistic, an analogue to the  $R^2$  used for OLS regression, the model explains about 25.5 percent of the variation in Chi-square. The Hosmer & Lemenshow test of significance<sup>5</sup> suggests that values above 0.5 show a good model fit. A significance level of 0.930 therefore suggests the model is significantly better than testing without independent variables. (Pallant 2007:174, Eikemo 2007)

As explained in chapter 3.2, the most of the missing cases are explained by people not voting in the election.

#### 4.1 Trust in government institutions

The model clearly shows that having low trust in government institutions increases the chance of voting for FrP. This fits well with the picture as we saw it painted in chapter 2.2. In the final hours before handing in the papers, I also came across a newspaper article from the ongoing FrP general assembly. Under the headline “Heads will roll if Siv comes to power” (Ertzeid & Johansen 2008 – my translation), the article outlines how one government official

<sup>5</sup> The Hosmer & Lemenshow test is based on dividing cases into deciles of risk, and comparing expected and observed probabilities, and is cited by SPSS (2006:logistic regression options) as being a more robust test of model fit than the traditional Omnibus test of significance.

has been named for removal if FrP should come to power, and there are speculations about which others will follow. All in all it completes the picture of FrP as a party based on scepticism to government authority and the way “the system” works.

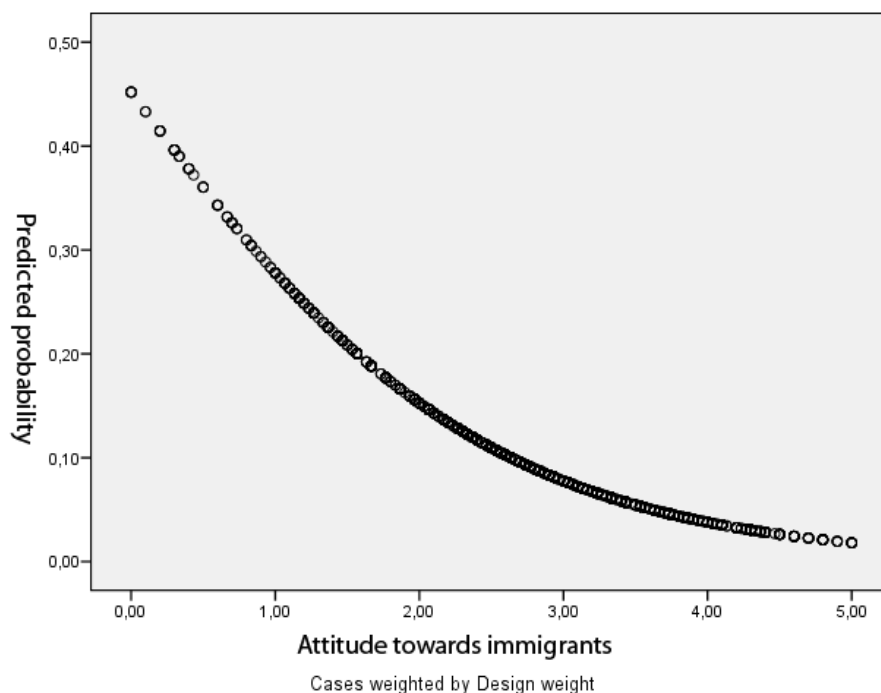
## **4.2 Education**

As predicted in the hypothesis, education had a significant effect on the tendency to vote FrP. As Figure 1 shows, respondents with only a few years, or more than 20 years of education have a very low probability for voting FrP. We should take into account that at these extremes there are very few cases.

Education is at the core of Marsdal’s case about the cultural elites, and can as such be interpreted as a support to his arguments. It can also be interpreted, though, as a confirmation of a well established assumption in Norwegian society.

## **4.3 Attitudes towards immigrants**

Like the previous point, the find that being sceptical to immigrants makes you more likely to vote FrP should not come as a surprise to anyone. Figure 3 shows a plot of attitude to immigrants versus predicted probability for voting FrP when all other factors are optimized for maximum probability. As we see from Figure 3, those with the most positive attitudes to immigrants simply don’t appear to vote for FrP regardless of sympathy with other causes.

**Figure 3: Attitudes to immigrants**

#### 4.4 Age

As per hypothesis (5), the tendency to vote FrP seems to be reduced with age. This was, however, not a part of Marsdal's assumptions about the FrP voter. As a background variable, it still serves to complete the picture.

#### 4.5 Government intervention

Even though, as pointed out in the previous chapter, the inconsistencies in answers could be the result of validity problems, there is also a possible theoretical explanation. Marsdal (2007:200-5) uses the case of the Danish People's Party (Dansk Folkeparti) to describe a phenomenon he refers to as "Right extremists to the left" (Marsdal 2007:200). This refers to right wing parties with populist tendencies attracting voters with very left-oriented positions on for example health and retirement pensions. This was the case with the Danish People's Party from 1990 to 2001. According to Marsdal there was no significant connection between voters' attitudes towards public welfare and whether or not they voted for right or left wing parties. He ascribes this to the creation of an economic consensus between the social democratic and conservative elites leading to a depolitization of economic policy in some areas. It seems plausible that this effect might also be influencing the case of FrP.

Looking at FrP's party program (Fremskrittspartiet 2005:66-70), we also see that a strong emphasis is put on the state's obligation to fund public healthcare and retirement benefits. Especially care for the elderly is an important political cause for Fremskrittspartiet

## 4.6 Influential outliers

As can be seen from the appendix, chapter 7.3.4, there is a very large problem with influential outliers. The problem seems to be confined to cases with very low predicted probabilities of voting FrP, but still doing so. They do in other words represent a consistent trend of having too low predicted odds.

Examining the individual cases does not suggest that this is due to coding errors, but that they are real cases of what according to the model must be called unlikely FrP voters. Neither is there a single element in the model in which these cases stand out in any particular way. Excluding them from the regression does of course improve the prediction accuracy of the model greatly, but seems methodically unsound without better grounds than being inconsistent with the rest of the data. I can find no other method to deal with these cases than to simply admit that the model does indeed leave a lot of questions unanswered. For purposes of being able to predict the remaining cases somewhat more accurately, the few most extreme cases have been omitted from the analysis.

A possible way to interpret this is simply that there simply is a group of FrP voters that the model is unable to predict. This is of course also an implication of the pseudo- $R^2$ 's reported. This could either be taken to discredit the validity of the method completely or point to an important problem with the hypotheses. It could be considered an indication of there being some unidentified important element to the legendary "FrP code".

## 5.0 Final conclusions

Making a final interpretation of these findings proves to be rather complicated. On one hand, a number of significant effects seem to have been uncovered – appearing to credit Marsdal's findings. On the other, we experience several problems with finding significant effects where expected. Thirdly, the question of the large number of outliers that simply fit the model very poorly poses a large problem with the method in its entirety. As a result, I find it hard to be very conclusive, and believe the unanswered questions to be the most interesting finds.

**Figure 4: Table of hypotheses**

Hypothesis	Testing variable(s)	Conclusion
(1) High education decreases likelihood of voting FrP.	eduysr eduysr_sq	Confirmed
(2) Coming from a low income family increases likelihood of voting FrP.	hinctnt	Not confirmed
(3) Being unemployed and living on social welfare increases likelihood of voting FrP.	benefits	Not confirmed
(4) Being employed as a functionary decreases likelihood of voting FrP.	functionary	Not confirmed
(5) Being young increases likelihood of voting FrP.	age	Confirmed
(6) Being a woman decreases likelihood of voting FrP.	gender	Not confirmed
(7) Being critical of government intervention and public solutions increases likelihood of voting FrP.	gincdif rspslvo	Partially confirmed
(8) Having low trust in state institutions increases likelihood of voting FrP.	trust (scale)	Confirmed
(9) Belonging to an ethnic or religious minority increases likelihood of voting FrP.	minority	Not confirmed
(10) Being skeptical of immigration increases likelihood of voting FrP.	immigration (scale)	Confirmed
(11) Living in a peripheral region decreases likelihood of voting FrP.	regionno	Not confirmed

Some of Marsdal's most important points do to no surprise seem strengthened by the analysis. Both having negative attitudes to immigration, low trust in government and little education makes you more likely to vote FrP. The lack of significant effects of income and gender, however, open up the question of whether Marsdal's assumptions of causality regarding other factors are accurate. There doesn't seem to be any reason to claim that FrP's policies that appeal to men more than women when controlling for other factors, and the claim that most FrP voters belong to low-income groups seems equally dubious.

The most interesting find is perhaps the large number of outliers, being influential cases in the model. Even though some parts of Marsdal's descriptions of the cultural elites serve to explain the behavior of a large number of people, it seems to be far from sufficient. The decision by highly unlikely individuals still to vote FrP indicates that some X-factors, more important for many than the most typically ideological or rational explanations are in play.

After the completion of this analysis, the general assembly of FrP 2008 did much to confirm the findings of this paper. Out of six listed main causes for a future FrP cabinet, we find care for the elderly, tightened immigration and the reduction of government bureaucracy. The remaining three are causes not tested in this analysis. These three correspond extraordinarily well with the findings that scepticism to immigration and low trust in government institutions make people less likely to vote FrP, and despite this government care for the elderly appears to be accepted (Johansen & Ertzeid 2008).

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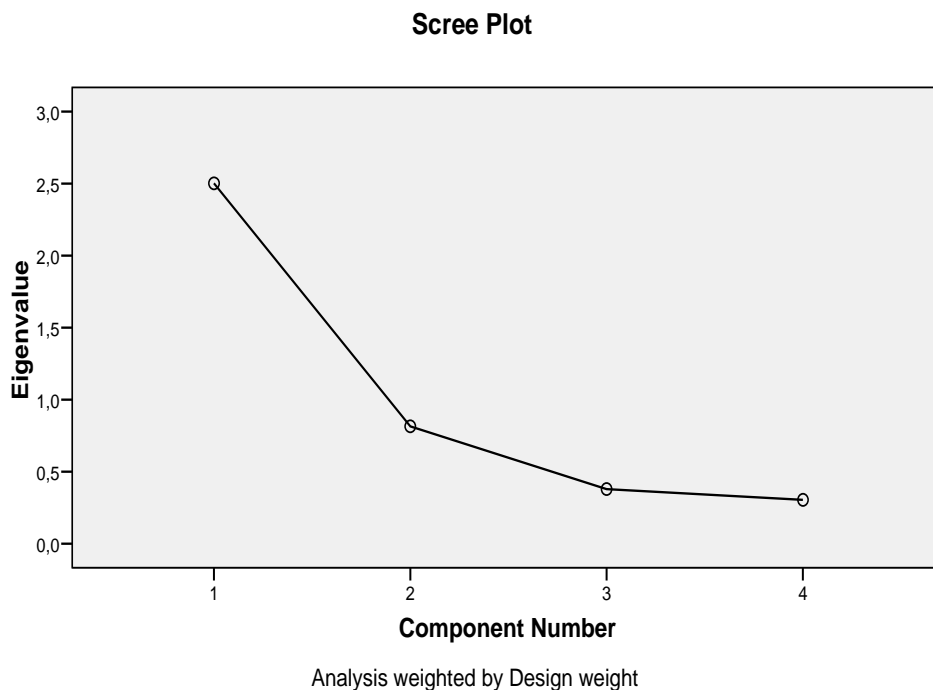
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## 7.0 Appendix

### 7.1 Scale construction

Two different scales were constructed for use in the model. The first scale measures trust in government institutions, the second measures attitudes towards immigration. Appropriate factors were first identified through an principal component analysis. Testing all the four appropriate trust values identified a component with a so-called Eigen-value of 2.505, consisting of all the four tested trust variables (Spector 1992:31-35).

**Figure 5: Scree Plot**

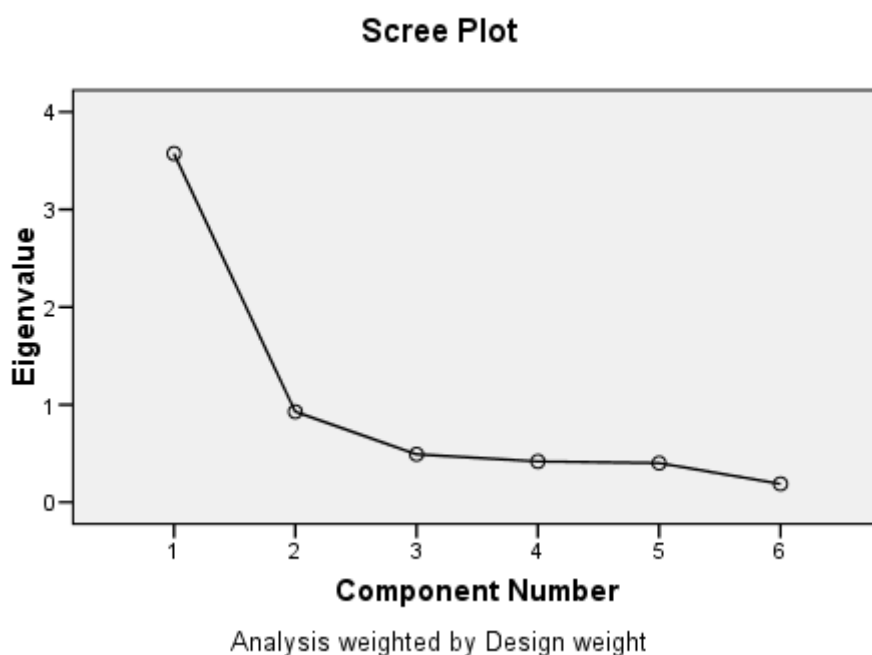


Subsequently the combination of variables is put through a reliability analysis, giving it a Cronbach's Alpha score of 0.800. According to Spector (1992:31-35) this is sufficient to make a good scale. Leaving any of the variables out would as we see from the table below not improve that score.

**Figure 6: Reliability analysis of trust scale**

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cronbach's Alpha: ,800		
Trust in country's parliament	,658	,727
Trust in the legal system	,647	,733
Trust in the police	,524	,790
Trust in politicians	,626	,743

The second scale constructed, is the scale for attitudes towards immigration. ESS includes six different variables on attitudes towards immigration and immigrants. A principal component analysis shows that one factor is identified with an Eigen-value of 3.5:

**Figure 7: Scree plot**

This factor consists of all the suggested values, although the three values measuring whether or not immigration is good for the country have a scale with an opposite direction to the rest. They are therefore inverted before making a reliability analysis:

**Figure 8: Reliability analysis for attitudes to immigration**

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Cronbach's Alpha: ,800		
Allow few/many immigrants of same ethnicity/race.	,495	,798

Allow few/many immigrants of different ethnicity/race.	,692	,775
Allow few/many immigrants from poor countries in Europe.	,634	,781
Immigration bad or good for country's economy	,642	,754
Country's cultural life undermined or enriched by immigrants	,687	,743
Immigrants make country worse or better place to live	,667	,744

We can see from this table that the Cronbach's Alpha is only marginally improved by including the factor on immigration from same ethnic group. Since it seems reasonable that immigrants of same ethnic group provoke less negative attitudes, it is therefore left out of the final scale. Since the different variables have different scales, each variable is weighed to produce a score from 0 to 1 before summing into a single variable.

## 7.2 Interaction effects

Several candidates for interaction effects have been explored, without finding any such effects that appear significant. For example, the final model was tested with the addition of the computed variable *agextrustsystem*, a multiplication of the two variables *age* and *trustsystem*. The resulting effect gave a significance of 0.235 to the model, increasing Nagelkerke  $R^2$  by 0.001. We can therefore conclude that there seems to be no significant effect of increasing trust in state institutions through increased age that is not already controlled for in the model.

## 7.3 Test of regression assumptions

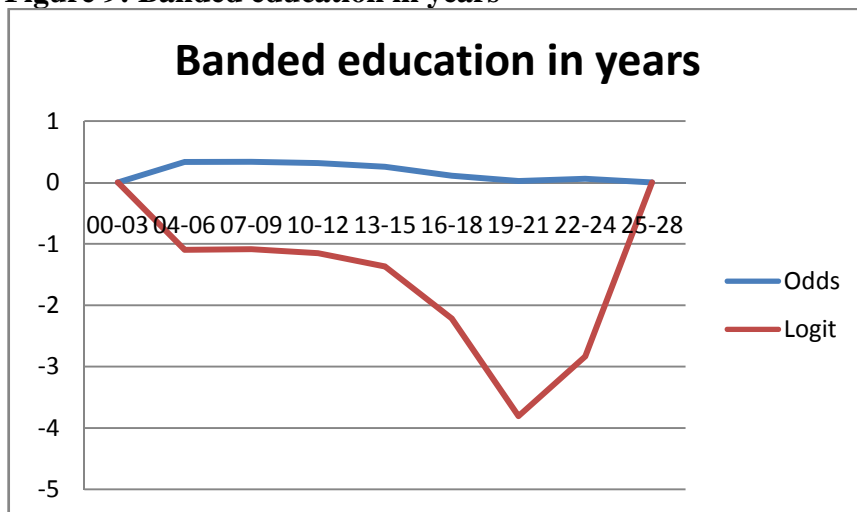
### 7.3.1 Curve linearity

#### 7.3.1.1 Education

As noted in the text, the education relationship was found to be better represented by a curve linear function. This was found through graphing out the logit of the relationship between voting FrP and grouped education shows that the relationship does not appear to be linear. The first and the last two banded categories contained only 1 or 0 FrP voters. If we disregard these, as unlikely to show a significant result, the remaining seem to conform very well to a

second degree curve linear relation. This is tested in the regression by inserting a second degree variable, and found to be significant (Eikemo 2007:130-133).

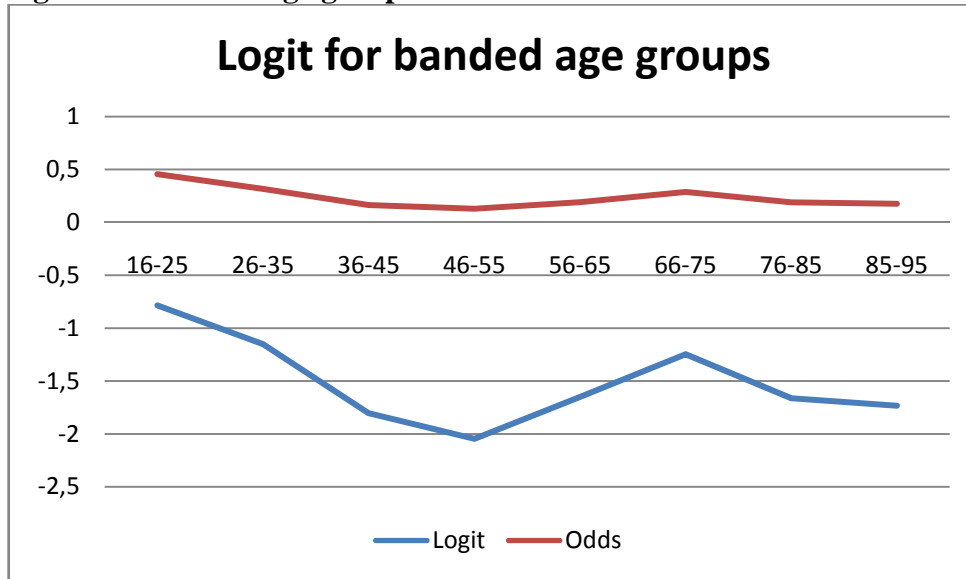
**Figure 9: Banded education in years**



### 7.3.1.2 Age

The age relationship was also tested for curve linearity, but I decided to keep the linear relationship, as it seemed to be the best approximation after all.

Examining the predicted odds and logits for age banded into 10-year age categories shows us that there is indeed a reduced likelihood of voting FrP until approximately the age of 55. At this point, the logit curve changes direction and rises until approximately age 75. For the oldest of voters, the curve is yet again falling. An important fact to note is that for all age groups, the odds ratio is still below the ratio found in the age group 16-25.

**Figure 10: Banded age groups**

The non-linearity of the logit is apparent from the figure above. Finding a good approximation is however not very simple. As can be seen from Figure 17, neither a second or third degree transformation proves significant. A transformation into a dummy coded variable using the banded age categories does however give an improvement in the regression's goodness of fit. However, due to the fact that only three out of six categories have a significant difference from the reference category, interpretation will be difficult in a model using this as an alternative to a linear relation (Ringdal 2001:436-7; Eikemo 2007:130-133).

### 7.3.2 Absence of multicollinearity

Checking the correlations between the variables of the final model, we see that only the variable *eduyrs* and the square of the same variable have high enough correlations to pose a problem. This is of course to be expected, and considered no problem.

**Figure 11: Correlation table**

		trustsystem	Government should reduce differences in income levels	immigrants	Age of respondent, calculated	Years of full-time education completed	eduyrs_sq
trustsystem	Pearson Correlation	1	,085(**)	,337(**)	,031	,190(**)	,197(**)
	Sig. (2-tailed)		,003	,000	,277	,000	,000
Government should reduce differences in income levels	Pearson Correlation	,085(**)	1	-,042	-,093(**)	,129(**)	,115(**)
	Sig. (2-tailed)	,003		,138	,001	,000	,000
immigrants	Pearson Correlation	,337(**)	-,042	1	-,206(**)	,336(**)	,340(**)

	Sig. (2-tailed)	,000	,138		,000	,000	,000
Age of respondent, calculated	Pearson Correlation	,031	-,093(**)	-,206(**)	1	-,304(**)	-,258(**)
	Sig. (2-tailed)	,277	,001	,000		,000	,000
Years of full-time education completed	Pearson Correlation	,190(**)	,129(**)	,336(**)	-,304(**)	1	,977(**)
	Sig. (2-tailed)	,000	,000	,000	,000		,000
eduyrs_sq	Pearson Correlation	,197(**)	,115(**)	,340(**)	-,258(**)	,977(**)	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	

\*\* Correlation is significant at the 0.01 level (2-tailed).

Subsequently, tolerance is also high for every variable except for the education variables, which is expected. We can therefore conclude that there is no problem with multicollinearity (Eikemo 2007:125-129, Hamilton 1992:133-6).

**Figure 12: Tolerance statistics**

	Tolerance	VIF
Trust in state institutions	,854	1,171
Government should reduce differences in income levels	,959	1,043
Attitude towards immigration	,775	1,290
Age of respondent, calculated	,840	1,191
Years of full-time education completed	,042	23,607
- Years of full-time education squared	,043	23,044

### 7.3.3 Absence of discrimination problems

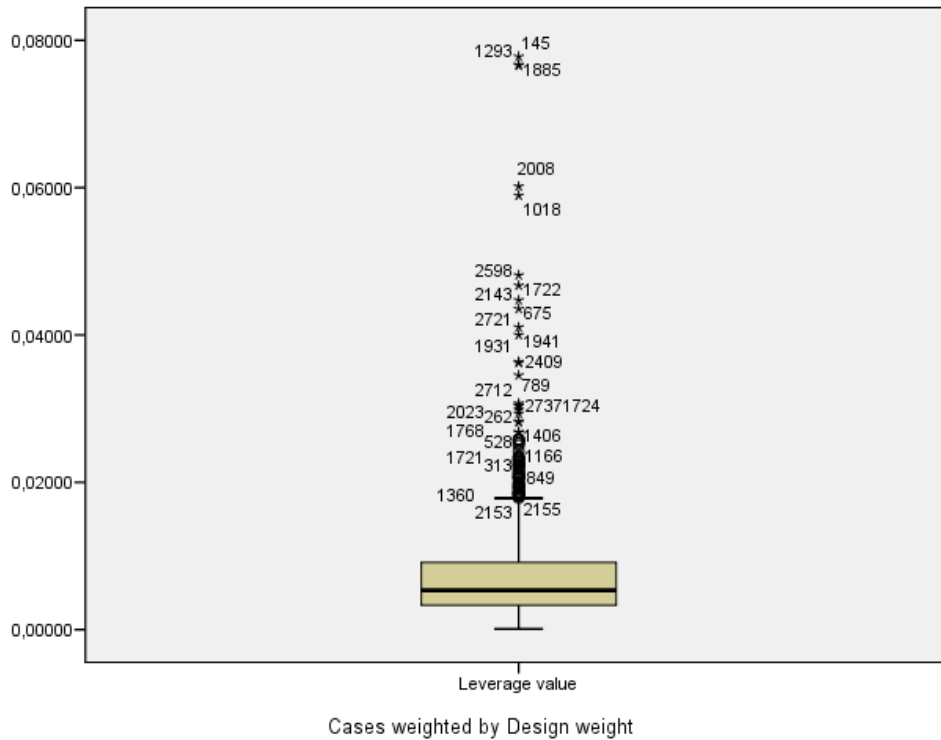
When testing the hypothesis on minorities, a discrimination problem was detected when looking at a dummy coded variable for each religious denomination. In the sample, not a single muslim had voted for FrP, and thus could not be included as a variable in the regression. The solution was to group all non-Christian religions into a single dummy, but this did not (Eikemo 2007:129-30, Hamilton 1992:233-5).

### 7.3.4 Absence of influential cases

As shown in this chapter, there is a problem with a very high number of influential cases in the analysis that can't be ignored. This might have influenced the coefficients and significance levels potentially considerably. Even though there is no reason to suspect that these cases are actual miscodings or similar, the effect of the most influential cases on the model are so extreme, that they have been omitted, although with a very high level of tolerance. In the model, only cases with a  $\Delta\chi_p^2 \geq 14,0$  have been left out, corresponding with the first major gap. This makes a total of 19 cases excluded.

#### 7.3.4.1 Leverage

Examining leverage statistics output shows that there is no case with a so called hat statistic over 0.8. It does therefore seem unnecessary to exclude cases on behalf of leverage alone. I do however keep focus on the cases with the highest leverage – in particular the cases 1018 and 1885, which have large gaps to the other cases. (Eikemo 2007:134)

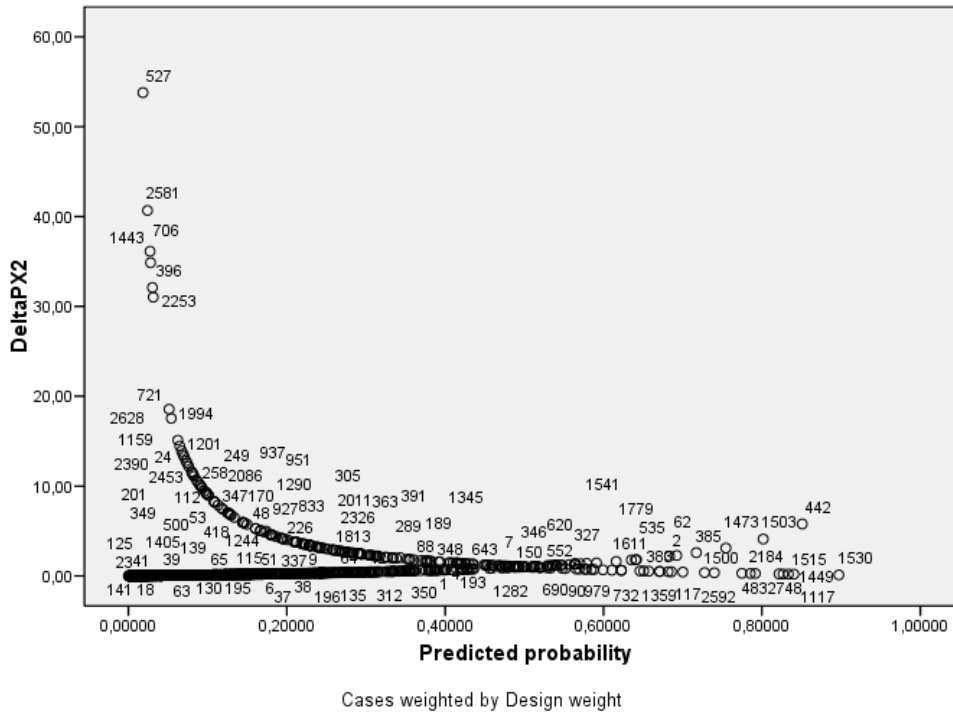
**Figure 13: Leverage**

#### 7.3.4.2 Influence on the entire model

As a direct analogue to the Cook's D statistic used in OLS, I rely on the  $\Delta B_j$  statistic output by SPSS. Examining this statistic shows that a large number of cases fall outside the suggested limit of  $\frac{4}{n} = \frac{4}{1229} = 0.0033$  (Hamilton 1992:238). This shows that there seems to be a considerable problem with influential cases in the model.

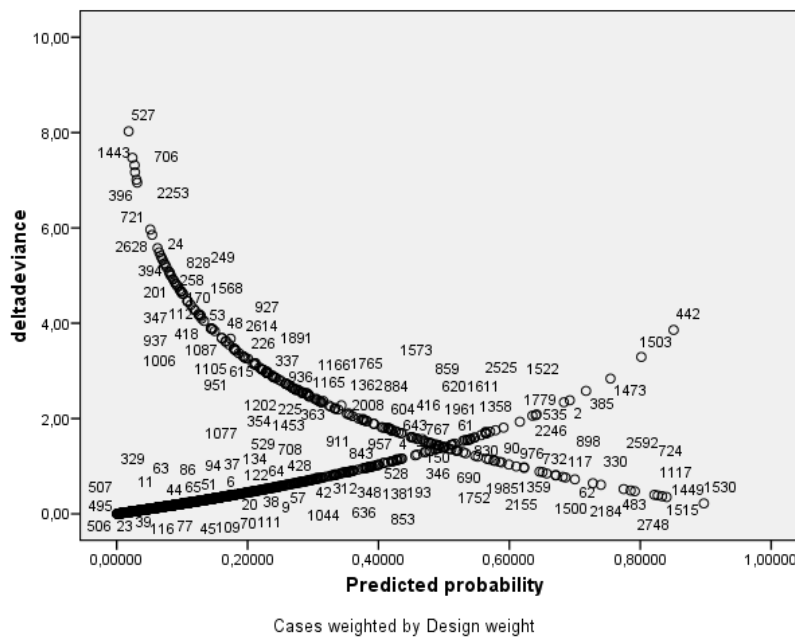
Examining the so-called Pearson-statistic, or Change in Pearson's Chi Square  $\Delta\chi_p^2$  further emphasizes the problem with influential cases. 72 cases have a higher score than the suggested limit of 4, some with scores above 50. (Hamilton 1992:236-7)

**Figure 14: Pearson statistic**



The Deviance Statistic  $\chi^2_D$  also suggests significant problems with influential cases, although not to such an extreme as the  $\Delta\chi^2_P$ . (Hamilton 1992:236-7)

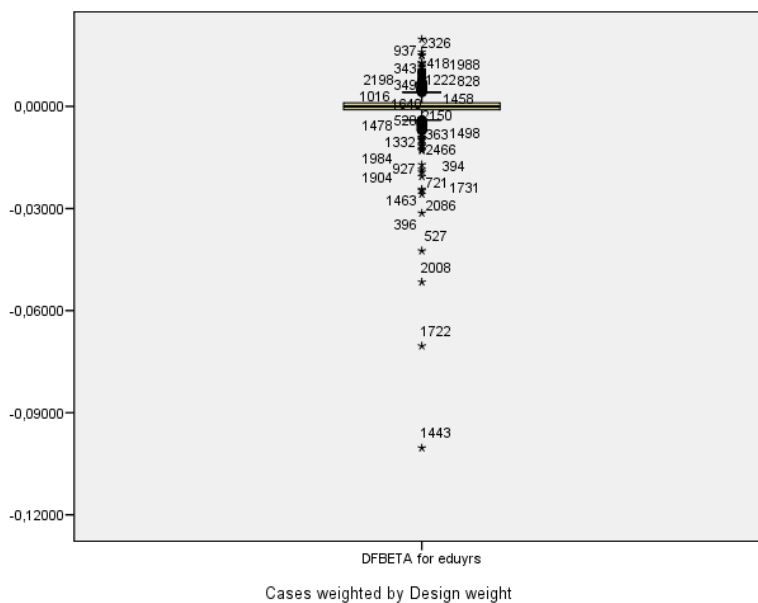
**Figure 15: Deviance statistic**



### 7.3.4.3 Influence on the individual independent variables

To examine the influences on individual variables, I use the DfBetas statistics output by SPSS. If we examine them for outliers outside of the limit  $\frac{2}{\sqrt{n}} = \frac{2}{\sqrt{1229}} = 0,06$ , we find that it is only for the variable *eduyrs*, education on years that this is a potential problem, where two cases lie outside this limit. These are both respondents with very high education, still voting FrP.

**Figure 16: DfBetas for *eduyrs***



It is also a clear tendency for all the variables that it is also mostly with respondents voting FrP this is problematic. Since this is a much smaller group than the reference category, this is to be expected.

## 7.4 The different models tested

**Figure 17: Regression models**

Model #	Age variables	Education variables	Constructed scales	Other variables	Income variables	Region variables	Nagelkerke $R^2$
1a	age(***)	edyrs(**)	trustsystem(***) immigrants(***)	gincdif(**)			0.237
1b	age(***)	edyrs(**)	trustsystem(***)	gincdif(**)			0.255
		edyrs_sq(***)	immigrants(***)				
		<b>F = 0.000</b>					
1c	age(***)		trustsystem(***) immigrants(***)	gincdif(*)			0.227
1d	age(***)	edyrs(**) edyrs_sq(***)	trustsystem(***)	gincdif(**)			0.195
1e	age(***)	edyrs(**) edyrs_sq(***)	immigrants(***)	gincdif(**)			0.226
2a	age	edyrs(**)	trustsystem(***)	gincdif(**)			0.255
	age2	edyrs_sq(***)	immigrants(***)				
	F= 0.000						
2b	age (*)	edyrs(**)	trustsystem(***)	gincdif(**)			0.255
	age3	edyrs_sq(***)	immigrants(***)				
	F = 0.000						
2c	(age_25younger)	edyrs(**)	trustsystem(***)	gincdif(*)			0.263
	age_26to35 age_36to45 age_46to55(***) age_56to65(**) age_66to75 age_76older(***)	edyrs_sq(***)	immigrants(***)				
	F = 0.001						
3	age(***)	edyrs(**) edyrs_sq(***)	trustsystem(***) immigrants(***)	gincdif(**) rpslvo			0.269

				functionary female nonchristian ethnminority polcompl benefits			
4	age(***)	eduyrs(**) eduyrs_sq(***)	trustsystem(***) immigrants(***)	gincdif(**)	(hinctnt_low) hinctnt_middlelow hinctnt_middlehigh hinctnt_high		0.260
					F = 0.231		
5a	age(***)	eduyrs(**) eduyrs_sq(***)	trustsystem(***) immigrants(***)	gincdif(**)		(region_osloakershus) region_hedmarkoppla nd region_southeastern region_agderrogaland region_western region_trondelag region_northern	0.259
						F = 0.735	
5b	age(***)	eduyrs(**) eduyrs_sq(***)	trustsystem(***) immigrants(***)	gincdif(**)		(region1_ostlandet) region1_sorogvest region1_trondelagnor dland	0.257
						F = 0.334	

(\*) Significant P<0.05; (\*\*) Significant P<0.01; (\*\*\*) Significant P<0.001

**Figure 18: Final regression equation**

$$P = \frac{1}{1 + e^{-L}}$$

$$L = 0.5204 - 0.0736*(trustsystem) + 0.2114*(gincdif) - 0.7607*(immigrants) - 0.0210(age) + 0.4673(eduyrs) - 0.0224(eduyrs)^2$$

As Figure 17 shows, a number of models have been tested before arriving at the final regression model. The final model (shown in bold) was selected on the basis of explaining as much variable as possible without including a large number of insignificant variables.

## 7.5 Other tables and graphs

**Figure 19: Descriptive statistics**

Descriptive Statistics for all tested variables

	N	Minimum	Maximum	Mean	Std. Deviation
Years of full-time education completed	1746	0	28	13,36	3,803
Age of respondent, calculated	1750	15,17	101,33	45,8903	18,12133
Trust in state institutions	1734	,00	40,00	23,8097	6,47126
Attitude to immigrants	1702	,00	5,00	2,7696	,92775
Government should reduce differences in income levels	1746	1	5	2,43	1,027
Mainly responsible for providing people adequate living standard when old	1745	0	10	6,68	2,294
Functionary	1672	,00	1,00	,3565	,47910
Gender	1750	,00	1,00	,4909	,50006
Belongs to non-cristian religion	1743	,00	1,00	,0218	,14608
Belongs to ethnic minority	1743	,00	1,00	,0293	,16858
Politics too complicated to understand	1747	1	5	2,91	,986
Social benefits as main income	1745	,00	1,00	,2097	,40724
Household's total net income	1686	1	12	8,66	2,246
Region, Norway	1750	1	7	3,68	1,979
Valid N (listwise)	1566				

**Figure 20: Crosstabulation: Party voted for in last national election vs. felt closeness to a particular party**

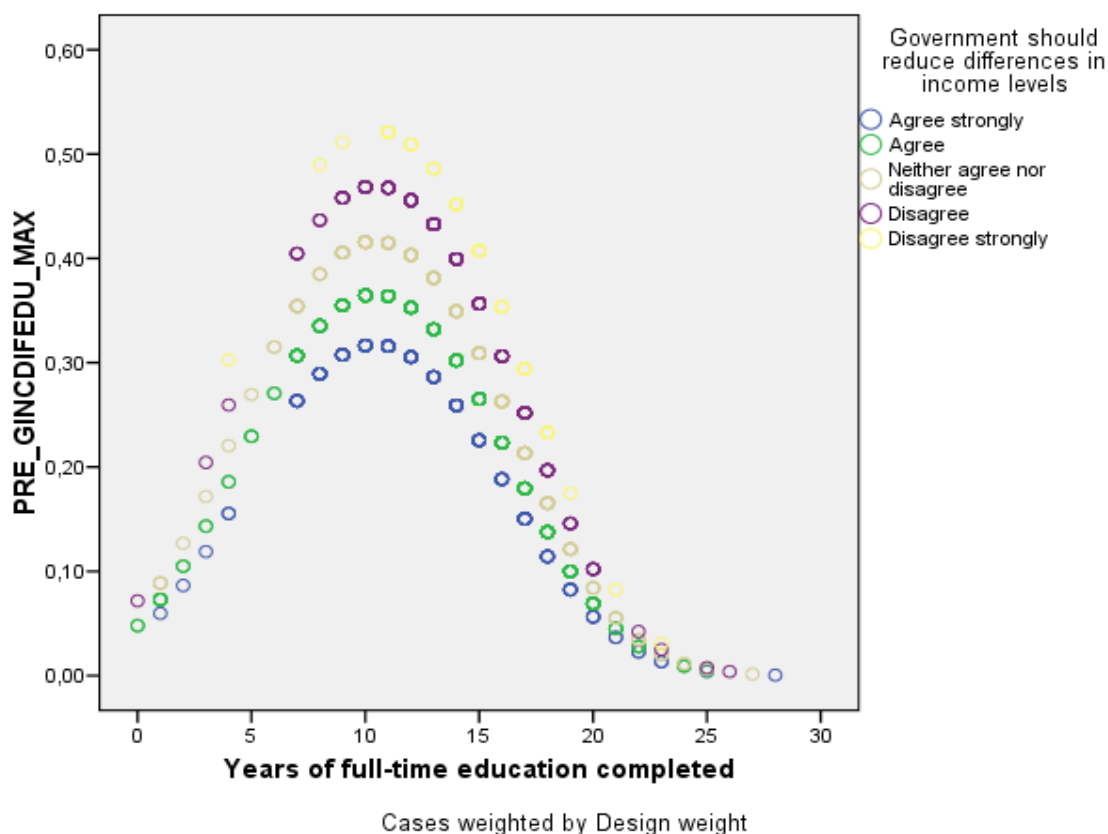
		Feel closer to a particular party than all other parties	
		Yes	No
Party voted for in last national election, Norway	Red Electoral Alliance (RV)	77,8%	22,2%
	Socialist left party (SV)	74,1%	25,9%
	Labour Party (A)	67,5%	32,5%
	Liberal Party (V)	69,4%	30,6%

Christian Democratic Party (Krf)	75,8%	24,2%
Centre Party (Sp)	61,1%	38,9%
Conservative Party (H)	66,2%	33,8%
Progress Party (FrP)	63,3%	36,7%
Coast Party (KYST)	100,0%	
Other	53,3%	46,7%
Total	67,5%	32,5%

% of voters within Party voted for in last national election, Norway

### 7.5.1 A conditional effect plot

Figure 21: Conditional effect plot



This figure is included for the sake of demonstrating a conditional effect plot, although it shows nothing of particular interest. What we see is years of full time education plotted against a prediction based on maximized probabilities for voting FrP on other factors. This is

then set by the answers for whether or not government should reduce differences in income levels. As we can see, the combined effect of education and negativity to government intervention appears quite evenly distributed across the five different levels of attitude, with the maximum probability being at strong disagreement with the statement and somewhere between 10 and 15 years of education.