

# Explaining trust for the EU

The political factors that influence European Citizens trust  
for the EU

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# Abstract

Trust is considered one of the main preconditions for good democratic governance. Trust in political systems facilitates effective policy implementation and rule due to increased government compliance. Due to the importance of trust for democratic political systems, in this paper I study the factors that cause trust for the EU, focusing on the relationship between citizens' trust for national institutions and trust for the EU. Previous research has given conflicting results, with some showing that there is a positive relationship and others a negative one. I use survey data from the Eurobarometer 2018 and use logistic regression to see if there are differences in the domestic-EU trust relationship between the first EU15 states and the EU13 new member states. I demonstrate that there are differences, in what factors cause trust and the strength of their effect, between these groups of countries. I then run a multi-level logistic regression accounting for country-level factors such as corruption and whether the country has a net profit from EU membership. My results differ from previous ones and may indicate that corruption does not affect the domestic-EU trust relationship as previously shown.

*Key words:* Institutional Trust, European Union, Congruence Model, Contestation Model, Corruption

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# Table of contents

<b>1</b>	<b>Background .....</b>	<b>1</b>
1.1	Previous research.....	2
1.1.1	The Congruence Model.....	2
1.1.2	Different Assessments and Compensation Models.....	3
1.1.3	Corruption and the Domestic-EU trust relationship.....	4
1.2	Aim of my research.....	4
1.3	The structure of the research .....	5
<b>2</b>	<b>Variables and Hypotheses .....</b>	<b>6</b>
2.1	Individual-level predictors .....	6
2.1.1	Trust for national political institutions.....	6
2.1.2	Size of community .....	7
2.1.3	Democracy Satisfaction.....	7
2.1.4	Life Satisfaction .....	8
2.1.5	Cognitive Mobilization .....	8
2.1.6	Age and Gender.....	9
2.2	National-level factors .....	10
2.2.1	Corruption .....	10
2.2.2	Economic Profit from EU .....	11
<b>3</b>	<b>Data and Coding .....</b>	<b>12</b>
3.1	Individual-level predictors .....	12
3.2	Country-level predictors.....	13
<b>4</b>	<b>Analysis.....</b>	<b>17</b>
4.1	Single-level Logistic Regression Analysis.....	17
4.2	Including Country-level characteristics – The Multi-level model .....	20
<b>5</b>	<b>Discussion of Results.....</b>	<b>24</b>
<b>6</b>	<b>Conclusion .....</b>	<b>Error! Bookmark not defined.</b>
<b>7</b>	<b>References.....</b>	<b>27</b>
	<b>Appendix A.....</b>	<b>29</b>
	<b>Appendix B.....</b>	<b>30</b>



# 1 Background

Much past research has tried to explain what causes public support for the European Union and public support for further European integration. Researchers have looked at both Economic and Political factors in order to explain variations in this support. More recent research has also started to examine what factors cause citizens to trust the EU. As Anderson (1998) also argues, previous EU integration theories have considered public opinion as something of little importance, given that they view the EU project as one led by elites. More recent theories of European Integration, such as Hooghe and Marks (2009) postfunctionalist theory claim that public opinion is now one of the most important factors driving European integration. While Trust and Support are related they do not have the same meaning. Trust is a basic resource that if missing can lead to a lack of compliance to the government and political systems, making it more difficult to implement even basic functions such as tax collection (Hague, Harrop, McCormick 2016, p.203). Trust is very important in representative democracies; “Institutional arrangements which are largely supported by the population, and consequently enjoy high degrees of trust, also enjoy higher degrees of legitimacy and policy efficacy.”(Arnold, Christine, Eliyahu V. Sapir and Galina Zapryanova 2012, p.3)

The European Union has been criticized for its lack of transparency and for its “Democratic Deficit”. Recently the EU is also facing a crisis of legitimacy with many EU states taking policy into their own hands after being unable to come to common agreements in Brussels. An example of this are states securing their Schengen Area borders in order to control the influx of refugees and migrants. The EU has therefore not been seen as the most legitimate organ to deal with these issues.

Since high levels of trust for political institutions helps create and maintain high levels of legitimacy and helps with policy efficacy it is of great importance to understand what causes trust for democratic institutions like the EU. Research in this area so far has used different definitions and methods and has produced conflicting results, theories and explanations about the political factors that influence trust for the EU.

## 1.1 Previous research

What political and economic factors affect trust for the EU has been studied earlier, although most research in this area has focused on what causes support for EU membership rather than specifically looking at trust (Arnold et al. 2012, p.3). Positive domestic economic performance has been shown to be associated with increased support for European integration, and it has been argued that citizens associate national economic performance to the integration project (Anderson 1998, p.572). At a individual level, research has shown that citizens that believe they will personally benefit from european integration or that believe that their country is benefitting from EU membership will also be more supportive to it (Arnold et al 2012 Anderson 1998, p.572).

### 1.1.1 The Congruence Model

Research for political factors influencing support for the EU started in 1998, when Anderson tried to create a model taking both political and economic domestic factors into consideration. His results show that satisfaction for the way Democracy works in one's own nation has a significant effect on citizens support for the EU (Anderson 1998, p.580). His research indicates that economic factors could have a indirect effect on support for EU instead of a direct one, implying that economic factors would influence support for the EU but via support for the national level political system (Ibid). This has created the “congruence model”, first of three conflicting models that try to explain how support for the EU is created in the domestic political context. This model argues that citizens use evaluations of their domestic political system in order to evaluate the EU. Therefore if one is very trusting of their own domestic political system, they would be more trusting of the EU.

Two mechanisms are claimed to be responsible for this relationship. The first mechanism is due to trust in democratic institutions, a sort of affective form of trust that seems to act regardless of the level of governance. It is argued that this mechanism is aided by citizens lack of knowledge of the EU, that makes them even more prone to judge national and EU democratic institutions in the same way (Munoz 2011, p.553). The second mechanism depends on the fact that national institutions are key actors in the decision making process in the EU, and therefore citizens that trust these institutions will be more prone to trust the EU also. What is similar for both these mechanisms is that citizens will rely on their opinion of the nation state “system” or “government” performance and use it as a “proxy” or as a intellectual shortcut to evaluate and form a opinion of the EU

(Anderson 1998 , Kritzinger 2003, p.222). The first mechanism that has been described builds on the ignorance of citizens regarding the EU. This may no longer be the case given that the politicization of the EU and discussions about EU problems have increased much under recent times, which might have led more citizens to inform themselves about the inner workings of the EU political system.

Other evidence for this congruence model is based on empirical data from voting in referendums regarding international agreements in the EU. These referendum outcomes seem to depend more on political support or “popularity” for the current government, rather than actually reflecting the opinions about the issue at hand (Schneider, Weitsman 1996) Schneider and Weitsman also argue that this voting behaviour for the referendum is due to citizen ignorance: Since citizens know little about how the issues will affect them, they vote largely based on if they trust (or do not trust) the government that is promoting the measure that will be voted on.

### 1.1.2 Different Assessments and Compensation Models

A second and a third model suggested by other researchers, the “different assessments” model and the “compensation” model both state that the correlation between support for the national political system/institutions and support for EU is not positive, but negative, with studies indicating that citizens that do not support their own political system at home will be more likely to support the EU than those that support their own political system (Sanchez-Cuenca 2000 ; Kritzinger 2003). Both these models claim that citizens that distrust their own political system expect their own governments “incompetence” to be alleviated by the EU and therefore citizens will be more supporting of it. Sanchez-Cuenca (2000) and Kritzinger (2003) have different explanations for this, with Sanchez claiming that the support transfer follows a series of instrumental calculations about the benefits of transferring sovereignty to the higher level institutions (different assessments model), something that has been criticized by others, including Kritzinger, since it builds on the assumption that citizens have significant knowledge of the functioning and performance at a both national and EU level in order to evaluate them separately from one another. Kritzinger instead argues that citizens do not have the knowledge needed to assess the EU in such a instrumental way, and that the EU is instead used as a symbolic “proxy” to protest against one’s own domestic political system (compensation model).

There have been attempts to unite the models of “congruence” and “compensation” with some claiming that they do not go in conflict with each other; while trust at an individual level seems to follow the congruence model with individuals that trust the national political system being more likely to trust

the EU, the country-average levels of trust in government seem to affect the trust for the European Union negatively, indicating that the compensation model is also valid and that both of these effects are present at the same time (Munoz et al. 2011).

### 1.1.3 Corruption and the Domestic-EU trust relationship

Corruption has by Munoz et al. (2011) and Arnold et al (2012) been shown to be the missing link between trust for national institutions and trust for the EU. When country-level differences in corruption were taken into account in their model the relationship between individual trust in the national institutions and the institutions of the EU was no longer significant (Arnold et al. 2012, p.12)

## 1.2 Aim of my research

Since there have been conflicting results in this research area, confusion about how the mechanism leading to increased/decreased trust towards the EU acts, there are still few studies that look specifically at trust instead of support for the EU and there is also recent data available from the latest Eurobarometer, I consider it of great importance to continue looking into this field of research. This is especially true since the previous results build on data from before 2013, which means it is before many of the recent important events in the EU such as Brexit, that may since then have influenced perceptions of the EU.

The methods that have previously been used are most often statistical ordinary least squares (OLS) regressions. The dependent and independent variables that are used are ordinal or nominal. Ordinal and categorical dependent variables do not fit the formal requirements for performing a OLS regression. There has been much debate about whether one can use OLS regressions for ordinal variables, essentially assuming that they have the distances between the values are the same. It is argued that OLS regressions are preferable to logistic even when having a ordinal dependent variable due to them being easier to interpret. The most important thing to consider if using an OLS with an ordinal dependent variable is that the spacing between the ordinal categories must be very close to being the same (The Analysis Factor 2019). I believe this is a difficult assumption to make in the scenario with the Eurobarometer data since the number of categories is only three, including the Don't know answer and it can be therefore only be treated as a dummy variable. For this reason in my research I will perform logistic regressions instead of OLS ones.



The main focus of my analysis will be to look at the relationship between trust in national institutions and trust for the EU, in order to explain individual-level differences and country level-variations in trust for the EU. Since previous studies have given different results and used a statistical method for which the data does not meet the requirements, I will recreate similar models with logistic regression and see if I get the same results with my method and newer data. I will also introduce a new variable to compare trust for the EU between those living in rural areas and small towns and those that instead live in larger urban areas. Another aspect is to see if the trust relationship still holds after controlling for national-level differences in corruption and by differentiating between countries that have a net economic profit from the EU budget and those that do not.

My results differ from those of previous research, indicating that previous assumptions about aggregate corruption levels influencing the relationship between trust for national institutions and trust for the EU may not be as clear as it appears. The newly introduced variable for net economic profit from the EU does not have an effect on Trust for the EU, something that may indicate that citizens are not knowledgeable enough to be aware of if their country profits from the EU. I introduce a new individual-level predictor showing that there are significant differences between citizens that live in rural or smaller urban areas and those instead living in larger urban areas. My results also indicate that there are several differences between the EU15 countries and the EU13 new member states that may require further investigation.

### 1.3 The structure of the research

This paper proceeds as follows. In section 2, I will present the hypotheses that I will be testing in my analysis and the theoretical reasons for them being included in my statistical models. In section 3, I will shortly present the data I have used and how I have coded for the variables used in my analysis. In section 4, I will perform my analysis and interpret the results. In section 5, I will discuss the implications of my results and how they relate to the current theoretical framework and previous results.

## 2 Variables and Hypotheses

I have included several factors that have been previously been shown to influence Support or Trust in the EU. The reason for including many of these explaining factors that I have is due to that their use has been widespread in most similar research and they have extensively been shown to influence support or trust for the EU. I have, as earlier stated, included one new individual-level variable and one new country-level factor. I would have liked to add further independent factors to the analysis but it would have been too extensive given the goals of this paper.

### 2.1 Individual-level predictors

#### 2.1.1 Trust for national political institutions

As I have stated in the introduction, there are three models that are used to explain the relationship between trust for the national political system/institutions and trust for the EU: The congruence model, the different assessments model and the compensation model. Since the literature seems to provide more evidence for, and focus on the congruence and the compensation model, I will also do this. The conflict between these two models lead me to formulate my main hypotheses;

*H1.1: Individuals that are **more trusting** of their own national democratic institutions will be more likely to trust the EU.*

*H1.2: Individuals that are **less trusting** of their own national democratic institutions will be more likely to trust the EU*

*H1.3: There is no relationship between trust for national democratic institutions and trust for the EUs*

I postulate the following: H1.1 proves to be true, then this would be evidence for the Congruence model. If H1.2 proves to be true, then this would be evidence for the Compensation model.

### 2.1.2 Size of community

As I have anticipated in the introduction, a new independent variable to check for differences in trust for the EU between those living in rural areas/small towns/suburbs and those living in bigger cities. This factor has not been used in the previous research that I have quoted. I have not found any papers looking at the difference in trust for the EU between those living in urban and rural areas. There are papers and research indicating differences between rural-urban areas regarding:

- voting behaviour and views on social/political opinions: well documented differences in US, in Sweden also (Pew Research Center 2018, Roden 2016)
- trust for central government: in Sweden, those living in rural areas were less likely to trust the government than those in cities (Roden 2016).
- trust for local government: those in rural areas are more trusting of local government (Eurofond 2014)

I think these differences that have been documented are enough to warrant searching for differences in trust for the EU between these rural and more densely populated areas.

I will also look at the attachment to one's country as a control since I would expect those living in rural areas to be more attached to their own country and since attachment to ones own country has been shown to have a significant effect on trust for the EU (referens i EU kursbok), I want to be sure that the model will show the effect of the community size when attachment to one's own country is held equal.

Due to the fact that those living in rural areas have had lower trust for central government and higher trust for local government then I expect that those living in smaller communities will be less trusting of the EU, all other factors equal.

*H2: Individuals living in Rural areas or small urban areas are less likely to trust the EU than those living in cities or larger urban areas*

### 2.1.3 Democracy Satisfaction

Democracy satisfaction is an important factor that has been extensively included in models and been shown to have a highly significant positive relationship with

both support and trust for the EU. I expect this factor to have a positive relationship with trust for the EU.

*H3: Individuals that are satisfied with the Democracy in their own nation are more likely to trust the EU than those that are not.*

#### 2.1.4 Life Satisfaction

Life satisfaction is another factor that has been shown in previous research to be significant in relation to trust for the EU.

*H4: Individuals that are satisfied with their life are more likely to trust the EU than those that are less satisfied with it.*

#### 2.1.5 Cognitive Mobilization

Cognitive mobilization has been claimed to make citizens more likely to support European Integration. Inglehart (1970) has coined the term and used it to describe "the increasingly wide distribution of the political skills necessary to cope with an extensive political community", something he claimed was due to the increase of formal education and the rise of mass media (Inglehart 1970; p.47). A process that supposedly turns the previous "parochial" discussions and concerns into more "cosmopolitan" ones. (Ibid.) Since the increased supply of information about a broader world is theorized to increase support for the EU, we will look at education levels as a indicator of this. *Education, political interest and occupational status* have all been used to operationalize cognitive mobilization. The results would suggest that education and political discussions of issues that lie outside of the local or even national sphere would lead citizens to be more trusting of the EU, but this may not necessarily be the case. Rohrschneider (2002) suggests that citizens that perceive that they are not being represented lose support for the EU, especially if the state in which the citizens live has well-functioning institutions. My conclusion of this is that if citizens gain more knowledge of the EU and perceive it as not being representative and therefore being "undemocratic", then the knowledge may in fact lead them to be less trusting of the EU rather than becoming more trusting. The stop of the so called "permissive consensus" and the subsequent politicization of EU issues, combined with a decline in public opinion for the EU (Hooghe, Marks 2009), may also indicate that more knowledge and political discussions about EU-level issues does not necessarily lead to more trust for the EU. The relationship may instead be negative, or absent altogether.

Arnold et al. (2012) have had conflicting results when looking at the effect of cognitive mobilization, with higher levels of education having a negative relationship with trust for EU institutions at a individual level and the relationship becoming positive in the national level model. Arnold et al. therefore claim: “The findings strongly suggest that future studies would benefit from examining in more detail the changing and complex patterns of association between citizens’ knowledge, political interest and institutional trust.”(Arnold et al. 2012, p.32)

Therefore, my aim is to look at different variables than those that have usually been used as indicators of cognitive mobilization. Political Interest, a variable in the Eurobarometer used in many previous studies, is a index built on respondents answers on three separate questions about the frequency of political discussion regarding local, national and european issues. My view is that local issue discussions are a bad indicator of cognitive mobilization, at least from how it has been defined by Inglehart. Therefore I will only analyze the questions on frequency of political discussions regarding national issues and european issues and hold these as two separate predictors in my model. I will also include Education as a indicator of cognitive mobilization.

We therefore lay out two hypotheses:

*H5.1. Citizens with higher cognitive mobilization (Education, Political Interest for EU and National Issues) are **more likely** to trust the EU*

*H5.2. Citizens with higher cognitive mobilization (Education, Political Interest for EU and National Issues) are **less likely** to trust the EU*

### 2.1.6 Age and Gender

Age and gender have been included as forms of demographic controls. They have been shown to have a significant relationship with our dependent variable, with women and older individuals being less trusting of the EU (Nelsen and Guth 2000, Arnold et al. 2012). Therefore we expect:

*H6: Older individuals are less likely to trust the EU than younger individuals*

*H7: Women are less likely than men to trust the EU*

## 2.2 National-level factors

### 2.2.1 Corruption

Previous research has shown that corruption has had an influence on the transfer of support and trust from national institutions to the EU (Sanchez-Cuenca 2000) with Munoz et al. (2011) and Arnold et al. (2012) showing that adding corruption as a country-level factor the relationship between domestic institutional trust and trust for the EU became insignificant:

Munoz et al. (2011, p.566) said this: “We also see that, on introduction of this variable [corruption] , average trust in the national parliament, which was otherwise a strong and highly significant predictor of trust in the European Parliament, ceases to be significant: the new variable added to the model was responsible for its effects.”. A similar conclusion is had in Arnold et al. (2012, p.30), as they claim that the interaction between corruption and trust in national institutions is responsible for the effect attributed to national institutions: “Results from the baseline analysis confirmed the congruence hypothesis developed in the literature by showing that trust in domestic institutions fosters trust in the institutions of the European Union. However, once accounting for country-level characteristics, this relationship lost its significance and it became evident that aggregate corruption levels were the missing link in connecting domestic and EU institutional trust.”

This means that I will introduce corruption as a national-level factor. I will also introduce the cross-level interaction between corruption and trust in national institutions since this has also previously been shown to have a significant effect on our dependent variable.

*H8: Individuals living in countries with higher corruption levels are more likely to be trusting of the EU.*

*H9: When accounting for national-level corruption levels the trust for national institutions is no longer a significant predictor of trust for the EU.*

*H10: The cross-level interaction between corruption and trust in national institutions has a significant effect on trust for the EU.*

### 2.2.2 Economic Profit from EU

Since I have been unable to add one of the individual-level factor that has been shown to strongly influence the trust for the EU, namely “personal gain from the EU” I will instead introduce a variable to check if respondents living in countries where the EU budget redistributes more economic resources than those that are collected or, in other words, countries that are net benefactors from the EU budget, are more trusting of the EU.

*H11: Nations that benefit from the EU budget are, on average, more likely to trust the EU.*

# 3 Data and Coding

## 3.1 Individual-level predictors

All my data for the Individual-level predictors will come from the EU Eurobarometer of march 2018 data for Stata, downloaded from the GESIS institute website (GESISa 2018).

In the Eurobarometer, trust is measured as the citizens response to this question:

*“I would like to ask you a question about how much trust you have in certain media and institutions. For each of the following media and institutions, please tell me if you tend to trust it or tend not to trust it.” (European Commission 2018)*

Therefore, rather than the more looking at the more general dimension of trust, my paper will be looking at institutional trust.

Since many of the variables I needed had “don’t know” as a possible answer, I removed these responses as they do not give any information for my analysis: I am only interested in what causes trust or the absence of it. For this reason trust for the EU , National Parliament, National Government, Political Parties, National Justice System, Public Administration and Regional or Local Public Authorities has been recoded from 3 categories (“DK”, “Tend to trust”, “Tend not to trust”) to make them into dummy variables with only two possible values by removing the “Don’t Know” category. In order to be able to differentiate more between different degrees of trust in national institutions I have used the dummy variables to create a National “Political Trust Index”, a result of the sum of all the Trust variables. The resulting National Political Trust Index therefore reflects how many national institutions a certain individual in the dataset trusts in total.

My dependent variable is Trust for the EU as a whole instead of looking at trust for the most important EU institutions separately and running separate regressions for them, something that has been done earlier. My view is that European Citizens have enough knowledge about how these institutions work and function in order to judge them separately from each other. Note that the fact that I built an index for trust in national institutions implies that I am assuming



that citizens have enough knowledge about these institutions to be able to judge them separately from one-another. In my opinion this is a more reasonable assumption given that citizens are interacting with several of these institutions regularly. News and information about the performance and “behaviour” of these institutions is also common and available through national media outlets.

Certain factors that have been tested in earlier research could not be included due to the fact that the questions that were used for this data have been removed from more recent Eurobarometers. One of these factors was if the respondent perceived that his country was benefiting from the European Union. As this factor had a very strong effect on the likelihood of trusting all EU institutions (Munoz et al. 2011) I do not expect to get as good of a model without it. I will though look at if countries are objectively gaining from the EU budget at a national level to see if this has a similar effect. It is also worth noting that a certain percentage of the entire sample has missing or invalid answers on some of the questions that have previously been included, and for this very reason these variables have been excluded. An example of this is the variable indicating left-right political placement, a question for which close to 18% of the respondents in the surveyed EU28 countries responded ”Don’t know” or refused to respond altogether. Since Left-right placement has not been shown to have a particularly strong relationship with trust for the EU, I have excluded this variable since it would have made me lose too many observations. In previous research the including of these variables has led to a high percentage of missing observations, something I think may have influenced the results.

All predictors except for Political Trust Index, Age and Corruption are dummy variables. This is because it is my view that results from ordinary variables are more difficult to interpret, unless they are assumed to be continuous, an assumption I was not willing to make with the dependent variable and I am not willing to make with the predictors either.

When coding for the Political Trust Index, the ”Don’t know” answers were considered as a zero in the sum instead of a missing value. This way I avoided losing many observations and I consider the variable still very reliable in measuring what it is supposed to measure: the number of institutions the respondent trusts.

How I have coded for variables included in the analysis but not accounted for here is displayed in the coding table (Table 1.) below.

## 3.2 Country-level predictors

I will use two country-level predictors in my model since using more than two variables, since there are only 28 countries in the sample, would not give very reliable results.

Our first variable, the indicator of corruption, will be the corruption perception index, taken from the Transparency International website (Transparency 2017) and displays data from 2017. The CPI has been centered since all countries in Europe have relatively high scores due to Europe having relatively low corruption levels when compared to the rest of the world. This makes the different data points more comparable in the model. Note that all other independent variables have also been centered, due to this being recommended by Sommet and Morselli (2017, p.211) where they claim that centering makes the regression easier to interpret.

The second variable has been calculated from the EU budget data (European Parliament, 2016) . The data has been recoded to create a dummy variable that has a value of zero for countries that get back less money than what they put into the EU budget, while a value of one has been assigned to countries where more money is invested back than what the country has put into the budget. When coding for these budget “winners” and “losers” a problem arose; the budget spent on EU institutions and administration is included in the money that is spent back into one’s country, leading Belgium to only gain from the EU budget if one considers the institutions and administration as money that the people in Belgium are benefitting from. I believe this to be a reasonable assumption, since even if those working in the institutions are not necessarily citizens of Belgium, the money they get in salaries are most likely spent back into the local economy. Furthermore, the building and maintenance of these institutions, which probably also constitutes a large portion of this money, is most likely contracted out to Belgian firms. Therefore I have coded Belgium as a country that benefits from the EU budget.

Variable	Description	Variable Values
Trust in EU	Trust for following institutions The European Union	0=Tend not to trust 1=Tend to trust
in National Parliament	The (NATIONALITY) Parliament	
in National Government	The (NATIONALITY) Government	
in Political Parties	Political Parties	
in Justice/Legal System	Justice/the (NATIONALITY) Legal System	
in Public Administration	Public administration in (OUR COUNTRY)	
in Regional or Local Public Authorities	Regional or Local Public Authorities	
Political Trust Index	Total number of National Institutions respondent trusts	Can have value from 0-6
Political Discussion National	Frequency of Political discussions with friends and family regarding National issues	0=Never 1=Occasionally
Political Discussion European	Frequency of Political discussions with friends and family regarding European issues	or Frequently
Democracy Satisfaction	Satisfaction with way Democracy works in own country	0=Not at all satisfied or Not very satisfied 1=Fairly satisfied or Very satisfied
Education	Age when one finished with Education	0=Finished before age of 20 1=Finished at age 20 or later, Still studying
Rural or Small Town	Size of community in which the respondent lives	0=Rural, Towns and Suburbs, Small Urban Areas 1=Cities, Large Urban Areas
Attachment to country	Respondents self-reported attachment to own country	0=Not at all attached or Not very attached or Fairly attached 1=Very attached
Gender	Man or Woman	1=Man 2=Woman
Age	Respondents Age in Years	
Corruption	Corruption Perception Index  Higher numbers represent lower perceived levels of corruption	Can assume any value from 0-100
Country Profits from EU	Indicates if more EU budget money is spent back into country than what is put into budget	1=Country profits 2= Country does not profit

*Table 1. Coding table for the dependent variable and for all the independent variables used in the analysis.*

In order to be able to compare the countries in the EU, I had to recode the country identifying variable in the dataset. This is because the data puts East and West Germany and Northern Ireland/Great Britain into different groups. While it may be possible that these groups differ between each other it is my aim to look at differences between countries that depend on their political systems. Since these countries share political systems then they must be combined for my multi-level analysis. Another important consideration I had to make about the dataset is that the Eurobarometer has an almost equal number of observations in each member country, which means that smaller countries have more observations than larger countries relative to the total population size. This leads to smaller countries being

overrepresented if one conducts analyses on the entire sample. A way to fix this would be to weight the data. When it comes to weighting the data for the analysis, the GESIS institute states that for this kind of statistical method the choice of weighting or not depends on the situation and the goal of the analysis (GESISb 2018). I will prefer to weight my data when conducting the single-level model since I want countries to have an effect on the regression proportional to their population size. When performing the multi-level model it is my view that this kind of weighting is not necessary since the model understands that it is comparing observations nested within different categories or, in this case, countries.

## 4 Analysis

My first analysis consisted of a simple cross tabulation where i check if there are more respondents that trust the EU parliament if they also trust their own national institutions. The results show, amongst other things, that 76,3% of those that trust their own parliament also trust the EU, and 65,05% of those that do not trust their parliaments, also do not trust the EU. This seems to indicate support for the Congruence model, at least at the individual level. Our next analysis will aim at seeing if this relationship still holds to be true after controlling for other factors that influence trust in the EU.

### 4.1 Single-level Logistic Regression Analysis

First, a simple individual level logistic regression has been performed. This is to see if the results will be similar to the ones had by Arnold et al. (2012) when they performed a individual level logistic regression. The reason for using logistic regression is, as I have earlier stated, because our dependent variable has only two possible values.

With logistic regression the model will try to predict what likelihood there is for a citizen to trust the EU based on his trust for national institutions, support for Democracy in own nation and so on.

First I will perform a regression with only trust for national democratic institutions and satisfaction with Democracy in own country as independent factors. Then I will introduce all other factors. This is to see how much adding these additional factors actually better the model fit. Furthermore, I will perform regressions with only individuals from EU15 countries and then with only individuals from EU13 countries. This is because corruption and bad government performance are more salient issues in the new member states, and since previous results have shown that corruption (and by extent, poor government performance) have an effect on the relationship between trust for national institutions and trust for the EU it can be interesting to see if the effects of these variables on trust for the EU differ between these groups.

Lastly, Multilevel Logistic regressions have been performed. What this means is that I am going to examine what effect the individual level variables have when controlling for higher-level(country-level) effects such as corruption.

The results of the first simple logistic regression (Table 1) indicates that for all individuals in the EU28 countries, Political Trust and Democracy Satisfaction are significant. The results indicate that for every extra political institution citizens trust in their country, they are 67-77% more likely to trust the EU. Those that are more satisfied with Democracy in their own country were also more likely (15-42%) to trust the EU. When looking at the same model and separating the individuals in groups based on if they are citizens of the older EU15 members or the EU13 New member states, we notice that the relationship is stronger in the EU15 than in the EU13, with Democracy Satisfaction having a non-significant effect for individuals in the latter group.

Variables	Individuals in EU28		Individuals in EU15		Individuals in EU13 NMS	
	Odds Ratio	95% C.I. OR	Odds Ratio	95% C.I. OR	Odds Ratio	95% C.I. OR
Political Trust Index	1.722***	(1.676 - 1.769)	1.837***	(1.773 - 1.903)	1.496***	(1.437 - 1.557)
Democracy Satisfaction	1.283***	(1.154 - 1.427)	1.470***	(1.279 - 1.690)	0.920	(0.798 - 1.061)
Constant	0.196***	(0.181 - 0.212)	0.128***	(0.114 - 0.144)	0.533***	(0.484 - 0.587)
Observations	24,659		14,061		10,598	

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Table 2. Results of logistic regression, with only two predictors, for individuals in EU28, EU15 and EU13

After this initial model I performed the same kind of logistic regression, but controlling for the other individual-level factors. When looking at the model results (Table 2) political trust index was still highly significant regardless of what group of individuals the model was analyzing. This seems to indicate that Life Satisfaction, Political Interest, Employment status, Education, Gender and Age do not seem to have much effect on the relationship between trust for national institutions and trust for the EU. Political Trust and Satisfaction with Democracy are both still highly significant. Democracy Satisfaction had still a three star significance when looking at all individuals and for those in the EU15 countries. In the simple model for the EU13 NMS, there seemed to be no relationship between satisfaction in Democracy and trust for the EU, but when we now have introduced all of our control variables, we notice that this relationship becomes significant and the results indicate that those that are more satisfied with their own Democracy are actually 5-30% less likely to trust the EU, compared to those that are less satisfied with their own Democracy. This could also be interpreted as those that are more dissatisfied with Democracy in their own nation are more likely to trust the EU. This goes in sharp contrast with the results for the EU15 countries where the model predicts that citizens that are satisfied with Democracy will be 23-65% more likely to trust the EU. This result seems to partly provide evidence for the contestation model even if it is not with the variable that we expected and not for the entire sample.

When looking at the effect of the newly introduced variables, the model indicates that Life Satisfaction has a significant relationship with trust for the EU, although only for citizens in the new member states, with those that are more satisfied with their lives being more likely to trust the EU than those that are not. Frequency of political discussions regarding National or EU issues is insignificant, regardless of whether one is looking at citizens of all countries or if looking specifically at the EU15 and EU13. I have also previously to this tested to see if the Political Interest Index from the Eurobarometer would be significant, given that it had been in previous cited research, but this was also insignificant in every test. This result diverges from previous research results that I have cited, that indicated that this factor is highly significant and positively correlated with trust for the EU. The results indicate that being a student or having ended ones education after the age of 20 means you are more likely to be trusting of the EU for individuals in EU28/15 and the NMS13 states. The likelihood is 20-48% greater for all individuals in the EU.

Previous studies had sometimes shown significant differences between genders when it comes to trusting the EU, with results indicating that women were less likely to trust the Union. My results are also significant but seem to indicate the opposite effect with women being 2.6-24.3% more likely to trust the EU than men, when controlling for all other variables in the model. This relationship was not significant in the analysis with only citizens in the EU15. Age was, as expected, a significant factor with older citizens being significantly less likely to trust the EU when compared to younger ones. Citizens living in rural areas or small towns and cities were 10.8-26.7% less likely to trust the EU than those that lived in larger urban areas and cities. Attachment to country had no significant effect when looking at all surveyed respondents but was significant in the EU15 and EU13. The relationship was the opposite between these two groups, leading the total analysis to be insignificant. In EU15 countries those that felt very attached to their country were less likely to trust the EU compared to those that were less attached, while those that felt very attached to their own country in EU13 were more likely to trust their own country when compared to those that were less attached.

Variables	Individuals in EU28		Individuals in EU15		Individuals in EU13 NMS	
	Odds Ratio	95% C.I. OR	Odds Ratio	95% C.I. OR	Odds Ratio	95% C.I. OR
Political Trust Index	1.713***	(1.665 - 1.762)	1.825***	(1.759 - 1.894)	1.500***	(1.440 - 1.563)
Democracy Satisfaction	1.223***	(1.094 - 1.367)	1.425***	(1.233 - 1.647)	0.818**	(0.703 - 0.952)
Life Satisfaction	1.128	(0.988 - 1.287)	1.205	(0.993 - 1.462)	1.313***	(1.124 - 1.534)
Political Discussion Nat	1.157	(0.988 - 1.355)	1.146	(0.935 - 1.404)	1.238	(0.990 - 1.549)
Political Discussion EU	0.947	(0.820 - 1.094)	0.898	(0.745 - 1.082)	0.936	(0.771 - 1.136)
Education Length	1.333***	(1.201 - 1.480)	1.338***	(1.173 - 1.527)	1.211*	(1.041 - 1.409)
Rural / Town resident	0.809***	(0.733 - 0.892)	0.784***	(0.692 - 0.888)	0.814**	(0.705 - 0.939)
Attachment to Country	0.972	(0.880 - 1.073)	0.852*	(0.750 - 0.969)	1.196**	(1.044 - 1.370)
Gender	1.129*	(1.026 - 1.243)	1.069	(0.945 - 1.208)	1.277***	(1.117 - 1.460)
Age	0.990***	(0.987 - 0.993)	0.990***	(0.987 - 0.993)	0.992***	(0.988 - 0.996)
Constant	0.233***	(0.180 - 0.302)	0.178***	(0.126 - 0.250)	0.396***	(0.277 - 0.568)
Observations	24,067		13,755		10,312	

\*\*\* $p < 0.001$ , \*\* $p < 0.01$ , \* $p < 0.05$

Table 3. Results of logistic regression for individuals in EU28, EU15 and EU13

The results of this analysis show that there are differences in results from what we expected and that there seem to be differences in what causes trust for the EU between citizens for the EU15 and those in the EU13 member states. This result, combined with the fact that previous research has shown that Trust for national institutions became insignificant when controlling for national-level factors, has led me to perform a multi-level analysis to see if considering for country-level differences could create a model that has a better “fit” than those that only account for individual-level information.

## 4.2 Including Country-level characteristics – The Multi-level model

What does having a logistic multilevel model mean? As Sommet and Morselli (2017, p.207) put it “Having two levels has two implications. First, the (log-)odds that the outcome variable equals one instead of zero will be allowed to vary between clusters [...]. Specifically, we will differentiate between the average log-odds that the outcome variable equals one in the overall sample [...] and the variation of this log-odds from one specific cluster to another (later referred to as forming the random intercept variance).”

Put simply, this implication means that we will not assume that all citizens from the start have the same base likelihood of trusting the EU since there are countries where the likelihood of trusting the EU is higher or lower than the average for the entire sample. Therefore we will let the intercept (the base likelihood) that citizens trust the EU vary from country to country.

The second implication is that “the effect of a lower-level variable on the (log-)odds that the outcome variable equals one instead of zero will also be allowed to



vary between clusters[...]. Specifically, we will differentiate between the average effect of the lower-level variable in the overall sample (later referred to as the fixed slope) and the variation of this effect from one specific cluster to another (later referred to as forming the random slope variance[...])”(Sommet, Morselli 2017, p.207). What this means is that we will allow for the individual level predictors to have varying effects(or slopes) in different countries, since there may very well be countries where the relationship between trust in national institutions and trust in the EU is stronger than others, and possibly even countries where this relationship is negative.

I have performed a simple test in order to see what percentage of the total variance in the dependent variable is due to differences between countries. The result is that the variance between different countries is highly significant. The result is shown in *Appendix A* The results indicate that country-level factors are estimated to account for a little less than 6 percent of the total variation in trust for the EU. I deem this would warrant the addition of random intercepts into our model in order to better it.

When considering what variables could have varying strengths of effect between different countries, I choose what variables I think have theoretical reasons of having random slopes so our political trust index will be one. I have first performed a test following instructions in Sommet and Morselli’s article (2017, p.212-213) where they suggest running a model without the random slope and then one with the random slope to see if this betters the model, otherwise one may risk uninterpretable findings and overparameterization. The results of this test show that adding a random slope to the variable political trust significantly betters the model fit. I have then performed similar tests with most of the important variables in our model. The results, presented in the *Appendix B*, indicate that adding a random slope only betters the model for the variables political trust, Democracy satisfaction and attachment to one’s own country. Therefore these three variables will be allowed to vary in effect in the final model in order to better it.

Lastly, I have run the final regression model with the random intercept and the random slope (or effect). In this regression I have also controlled for cross-level interactions between CPI and Political Trust for National Institutions (In my case National Political Trust Index) since previous research had found this interaction to be a significant predictor of trust for the EU. These results cannot be interpreted the same way that the single-level model can and I will therefore not be interpreting the strength of these effects, just if they are significant and the direction of the relationship is of importance here.

My results seem to differ from these previous research results. My variable for Political Trust in national institutions is still significant even after

introducing the country-level corruption effect and its cross-level interaction. The interaction between CPI and Trust in national institutions is also a insignificant predictor of trust for the EU in my model, further going in conflict with the results of Arnold et al. (2012). Corruption perception index is significant and indicates that respondents living in countries that are perceived to be more corrupt are more likely to trust the EU than those living in countries with lower levels of perceived corruption (results can be confusing since higher numbers in CPI indicate less corruption). Most of the independent variables are significant except for political discussion that is insignificant both for those that frequently discuss national issues and eu issues, exactly as in the simpler individual level models. The average effect of attachment to own country also becomes insignificant when adding the random slope. At the nation level our newly introduced variable controlling for if the country in question is a net benefactor of the EU budget is insignificant.

Multilevel Mixed Effects Logistic Regression		
Variables	Odds Ratio	95% Confidence Interval Odds Ratio
Political Trust Index	1.885***	1.774-2.004
Democracy Satisfaction	1.353***	1.133-1.616
Life Satisfaction	1.572***	1.435-1.721
Political Discussion Nat	1.064	.956-1.18
Political Discussion EU	1.042	.949-1.144
Education Length	1.272***	1.187-1.363
Rural / Town resident	.882***	.822-.946
Attachment to Country	1.056	.928-1.202
Gender	1.066*	1.003-1.134
Age	.992***	.990-.994
Corruption Perception Index	.968**	.948-.988
CPI*Political Trust Index	1.003	.999-1.007
Country Profits from EU budget	1.658	.898-3.063
Constant	.930	.727-1.190
Observations	24067	

\*\*\* $p < 0.001$  \*\*  $p < 0.01$  \*  $p < 0.05$

Table 4. Results of the final multi-level logistic regression.

The unexplained variance in trust for the EU between different countries did not decrease, rather increase to 10%. This is odd as we would expect that letting the effects and base likelihood of trusting the EU vary between clusters would decrease the unexplained variance between countries. Sommet and Morselli (2017, p.214) explain that the unexplained variance can sometimes increase when adding the random slope and intercept, but that this is due to how random and fixed effects are estimated and it is therefore not necessarily an issue. I have made a test to see if the introduction of the country-level variables betters the model by significantly lowering the log-likelihood value and this does in fact

happen, with the log likelihood going from -13219.082 to -12126.164 indicating that accounting for differences between countries significantly improves the model fit to the data.

## 5 Discussion of Results

My results have differed from those had by previous research, and I will here discuss the differences and my arguments for their validity. As I have earlier stated, my research has not followed the same methodological choices that previous papers analysing the same subject have had. This is due to my understanding that the variables, such as the ones that form the data present in the Eurobarometer, cannot be used as dependent and independent variables with the methods that have been used by several earlier researchers. My main independent variable is also quite different from those used in previous research, due to it being a representation of the number of national institutions trusted rather than just a binary variable indicating trust for a specific national institution.

For all our analyses hypothesis 1.1 was always valid. While we have noted that the model is bettered by letting the strength of this effect vary from country to country, it has still a positive relationship with trust for the EU no matter the strength. Even when introducing corruption our hypothesis 1.1. stays true. This provides evidence for the congruence model.

Our results indicate that there are significant differences in trust for the EU when comparing those living in smaller communities or rural areas and those living in larger urban areas, indicating that individuals in the former group are less likely to be trusting of the EU. This confirms our H2 hypothesis, even when Attachment to own country is added as a control variable.

Our results seem to confirm our satisfaction with Democracy hypothesis (H3), but only for a certain group of countries in the union; the individual-level model seems to indicate that this factor has a positive relationship with trust for the EU but, when analyzing individuals in the EU15 and EU13 separately, the results indicate that there is a stronger significance in the results for both groups when analyzed separately, with those *satisfied* with Democracy in the EU15 being more likely to trust the EU while those *dissatisfied* with Democracy in the EU13 are more likely to trust the EU. These results indicate that further research regarding differences between the EU15 and EU13. This also seems to indicate evidence for the contestation model, but not with the expected variable of national political trust, but with Democracy satisfaction instead, and also only for a certain group of countries.

Life satisfaction does not seem to be significant in the general individual-level model, but shows itself to be significant for respondents in the EU13 NMS with the expected positive effect from our Hypothesis nr 4. In the multi-level

model it becomes highly significant for all countries in question. This is probably due to the lack of weighting in the multi-level model, because when running the individual-level model without weights life satisfaction is significant for the entire sample.

When regarding our hypothesis nr 5, the results indicate that those having finished their studies after the age of 20 (or those still studying) have a higher likelihood of trusting the EU than those that have finished their studies earlier. This seems to partly confirm the cognitive mobilization hypothesis H5.1 but our other variables for cognitive mobilization regarding political interest, with both the individual-level and the country level results indicate that political interest in both national issues and EU ones do not have an effect on individuals trust for the EU, indicate for the hypothesis H5.2 to be valid instead. Perhaps this means that these variables are not good indicators of cognitive mobilization, or perhaps this instead means that the relationship between cognitive mobilization and trust for the EU is changing. This is another result that I believe should be further investigated, since political interest has in past research often been seen as an excellent predictor for trust and support in the EU.

Our demographic control “Age” seem to confirm our hypothesis H6, with older respondents being less likely to trust the EU in all the analyses conducted. Our second demographic control “Gender” was significant in the final analysis and in the single-level one when looking at the entire sample and when looking at only the EU13. The result goes in conflict with previous ones, indicating that women are in fact more likely to trust the EU than men. This means that H7 should be discarded, but it should be noted that the significance of the effect for the entire sample was quite low.

Hypothesis nr.8 is confirmed, with results indicating that citizens living in countries with higher corruption levels are more likely to trust the EU than those living in countries with lower corruption levels. Hypothesis nr.9 is discarded since our results show that introducing the national-level corruption variable does not cause the relationship between trust for national institutions and the EU to become insignificant. Our model also shows that the interaction between corruption and trust in national institutions is insignificant, leading us to also discard our hypothesis nr. 10.

Our newly introduced variable controlling if nations that benefit from the EU budget have higher trust for the EU is insignificant. It is interesting to note that profiting from the EU budget shows to be no significant factor in this analysis even though individuals that believe that their nation is benefiting from EU integration had, in previous analyses, been shown to be more trusting of the EU. Since the same question was not available in the latest Eurobarometer, I cannot see if it would have been significant in this analysis as well but I believe this is likely, which might indicate that citizens perception of their country benefitting from the EU is more important for their trusting of it than the real benefit it

brings. It could also mean that people in countries that benefit from the EU are not necessarily aware of their countries profiting from the EU.

In conclusion, this paper provides evidence for the congruence model, with the relationship between national political trust and trust for the EU being positive and at the same time evidence for the compensation model, at least for citizens in the newest EU13 member states, with Higher Democracy satisfaction having a negative relationship with trust for the EU in EU13 countries.

The paper also provides evidence for corruption not leading the relationship between national political trust and EU trust. This is a result that I believe will need to be investigated further.

## 6 References

Anderson, C.J., 1998. "When in Doubt, Use Proxies. Attitudes toward Domestic Politics and Support for European Integration". *Comparative Political Studies*, vol. 31, 1 , p.569-601.

Arnold, Christine – Eliyahu, V. Sapir – Galina, Zapryanova, 2012. "Trust in the institutions of the European Union: A cross-country examination", *European Integration online Papers*, Special Mini-Issue 2, Vol. 16, Article 8, p.1-39

Eurofound, 2014. *Quality of life in urban and rural Europe*, Publications Office of the European Union, Luxembourg. [Electronic]  
<https://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1420&context=intl>.  
Downloaded: 5/01/2019

European Commission, 2018, *Public Opinion* , [Electronic]  
<http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Chart/getChart/themeKy/18/groupKy/89>. Downloaded: 09/11/2018

European Parliament, 2016. *The EU budget at a glance/The EU budget explained*. [Electronic] Downloaded: 20/12/2018  
[http://www.europarl.europa.eu/external/html/budgetataglance/default\\_en.html](http://www.europarl.europa.eu/external/html/budgetataglance/default_en.html)

GESISa, 2019. *Eurobarometer Data Service/Weighting overview*. [Electronic]  
<https://www.gesis.org/eurobarometer-data-service/survey-series/standard-special-cb/weighting-overview/>. Downloaded: 2/01/2019

GESISb, 2018. *ZA6963: Eurobarometer 89.1*. [Electronic]  
<https://dbk.gesis.org/dbksearch/SDesc2.asp?ll=10&notabs=&af=&nf=&search=&search2=&db=E&no=6963>. Downloaded: 20/11/2018

Hague, Rod – Harrop, Martin, 2016. *Comparative Government and Politics: An Introducton*. 10th Edition. Basingstoke: Palgrave.

Hooghe, Liesbet - Marks, Gary. 2009. "A Postfunctionalist Theory of European Integration: From Permissive Consensus to Constraining Dissensus", *British Journal of Political Science*. 39, p.91-195.

Inglehart, R., 1970. Cognitive Mobilization and European Identity, *Comparative Politics*, Vol.3, 1, p.45-70.

- Kritzinger, S., 2003. "The Influence of the Nation-State on Individual Support for the European Union", *European Union Politics*, Vol.4, 2, p.219-241.
- Munoz, J. - Torcal, M. - Bonet, E., 2011. "Institutional trust and multilevel government in the European Union: Congruence or compensation?" *European Union Politics*, 12(4), p.551-574.
- Nelsen, B. F., Guth, J. L., 2000. "Exploring the Gender Gap: Women, Men and Public Attitudes toward European Integration" *European Union Politics*, Vol.1, Issue 3, p.267–291.
- Pew Social Trends, 2018. *Urban, suburban and rural residents' views on key social and political issues*. [Electronic] <http://www.pewsocialtrends.org/2018/05/22/urban-suburban-and-rural-residents-views-on-key-social-and-political-issues/>. Downloaded: 3/01/2019
- Roden, Lee, 2016. "Sweden's urban-rural divide laid bare in new research", *The Local*, News article. Published 24/11/2016. [Electronic] <https://www.thelocal.se/20161124/swedens-urban-rural-divide-laid-bare-in-new-research>
- Rohrschneider, R., 2002. "The Democratic Deficit and Mass Support for an EU-wide Government", *American Journal of Political Science*, Vol.46, 2, p.463-475.
- Schneider, Gerald - Weitsman, Patricia A., 1996. "The Punishment Trap: Integration Referendums as Popularity Contests" *Comparative Political Studies*, Vol. 28 Issue 4, p.582-607.
- Sommet, N. and Morselli, D., 2017. "Keep Calm and Learn Multilevel Logistic Modeling: A Simplified Three-Step Procedure Using Stata, R, Mplus, and SPSS", *International Review of Social Psychology*, Vol.30, 1, p.203-218.
- Transparency, 2017. *Corruption Perceptions Index 2017* [https://www.transparency.org/news/feature/corruption\\_perceptions\\_index\\_2017](https://www.transparency.org/news/feature/corruption_perceptions_index_2017). Downloaded: 20/11/2018
- The Analysis Factor, 2019. *Pros and Cons of Treating Ordinal Variables as Nominal or Continuous* [Electronic] <https://www.theanalysisfactor.com/pros-and-cons-of-treating-ordinal-variables-as-nominal-or-continuous/>. Downloaded: 06/01/2019



# Appendix A

## **Intraclass Correlation Coefficient**

We run an empty model and calculate the intraclass correlation coefficient ICC

ICC= 0,0585

This means that 5,85% of the variance in trust for the EU is due to National-level effects

The results also show that this is significant since the 95% C.I. runs from 0,035 to 0,096 indicating that it is well above zero.

# Appendix B

## Does adding random slopes better the model fit?

Below are tests performed in order to see if letting the effect of a variable vary from country to country significantly better the model fit.

First we see if adding the random slopes to the variables compared to the empty model better the model fit

Likelihood-ratio test	LR chi2(1) = 328.04
(Assumption: Noslopes nested in Poltrst)	Prob > chi2 = 0.0000

*Adding a slope to Poltrst better the model if no other slopes are present*

Likelihood-ratio test	LR chi2(1) = 233.44
(Assumption: Noslopes nested in Demsat)	Prob > chi2 = 0.0000

*Adding a slope to Demsat better the model if no other slopes are present*

Likelihood-ratio test	LR chi2(1) = 12.73
(Assumption: Noslopes nested in Lifesat)	Prob > chi2 = 0.0004

*Adding a slope to Lifesat better the model if no other slopes are present*

Likelihood-ratio test	LR chi2(1) = 3.88
(Assumption: Noslopes nested in Gender)	Prob > chi2 = 0.0488

*Adding a slope to Lifesat better the model if no other slopes are present (barely significant difference though)*

Likelihood-ratio test	LR chi2(1) = 76.90
(Assumption: Noslopes nested in Attachment)	Prob > chi2 = 0.0000

*Adding a slope to Attachment to own country betters the model if no other slopes are present*

Likelihood-ratio test	LR chi2(1) = 93.56
(Assumption: Poltrst nested in PoltrstDemsat)	Prob > chi2 = 0.0000

*Adding a slope to Demsat if Poltrstindex already has one still significantly betters the model fit*

Likelihood-ratio test	LR chi2(1) = 188.16
(Assumption: Demsat nested in PoltrstDemsat)	Prob > chi2 = 0.0000

*Adding a slope to Poltrstindex if Demsat already has one still significantly betters the model fit*

Likelihood-ratio test	LR chi2(1) = 3.70
(Assumption: Demsat nested in GenderDemsat)	Prob > chi2 = 0.0545

*Adding a slope to Gender if Demsat already has one does not significantly improve the model fit*

Likelihood-ratio test	LR chi2(1) = 233.25
(Assumption: Gender nested in GenderDemsat)	Prob > chi2 = 0.0000

*Adding a slope to Demsat if Gender already has one does not significantly improve the model fit*

**Therefore, gender should not be allowed to have a random slope since this does not significantly improve the model fit**

Likelihood-ratio test	LR chi2(1) = 1.10
(Assumption: Demsat nested in LifesatDemsat)	Prob > chi2 = 0.2932

*Adding a slope to Lifesat does not significantly improve the model fit if Demsat already has one*

Likelihood-ratio test	LR chi2(1) = 221.81
(Assumption: Lifesat nested in LifesatDemsat)	Prob > chi2 = 0.0000

*Adding a slope to Demsat if Lifesat already has one significantly improves the model fit*

**Therefore, Lifesat should not be allowed to have a random slope since it does not significantly improve the model fit**

Likelihood-ratio test                      LR chi2(1) = 53.86  
(Assumption: PoltrstDemsat nested in PoltrstDemsatAttachment)  
Prob > chi2 = 0.0000

*Adding a slope to Attachment to own country significantly improves the model fit even when Poltrstindex and Democracy satisfaction already have slopes.*

**These results provide evidence that Political Trust Index, Democracy Satisfaction and Attachment to own country are three variables to which random slopes should be added**