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Representatively or effectively satisfied

A comparative analysis in thirty European countries on the effect of representation and effectiveness on satisfaction with democracy and satisfaction with government between 2002 and 2012

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Preface

It took a while, but finally and to my complete satisfaction, here it is: my research paper.

As a graduated journalist I started studying Political Science to make politics more interesting and comprehensible for all citizens. I do understand that a lot of people are not as interested in politics as I am. But at the same time, I am very curious why that is the case, since politics affects everybody. Why is there such a gap between citizens and politics and where does it find its origin? How do citizens evaluate their political institutions and what influences that evaluation? With those thoughts I started my research on political satisfaction.

Political satisfaction can be affected by a lot of factors. In this research I will especially examine institutional macro explanations of political satisfaction. Which characteristics, which can differ in each country, influence the level of satisfaction among citizens in those countries? I specifically focused on satisfaction with democracy and satisfaction with the national government and the differences between both institutions in thirty different European countries between 2002 and 2012.

Before I finished the final version of my research, a whole process of reading, writing, controlling and rewriting passed by before I realized I needed to examine satisfaction. Therefore I would like to thank my supervisor Alex Lehr for his patience as regards to the theoretical part of this research. Also, I would especially like to thank Alex Lehr for his enthusiasm and explanations of difficult statistical models. His advice has lifted my research to a higher level.

Finally I would like to thank Thomas who – reluctantly – always read and corrected my English texts. Although he did not always understand their content. Thank you.

I hope you will enjoy reading this research.

Laura Lenting

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Abstract

Previous research on political satisfaction only covers political satisfaction as a whole, I argue that a distinction between institutions is necessary when examining political satisfaction. In this research I examined the differences between satisfaction with democracy and satisfaction with government by looking at their main function. *To what extent can macro variables of political institutions and their function explain differences between the level of satisfaction with democracy and satisfaction with government among citizens in thirty European countries between 2002 and 2012?* I did a three-level regression analysis on thirty European countries, testing the representation function of democracy and the effectiveness function of government. The main conclusion of this research is that effectiveness is indeed related to satisfaction in government rather than the representation function is related to satisfaction with democracy.

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1. Introduction

This research is on political satisfaction. Political satisfaction is something that is often examined and serves as an indicator that is a much used tool by politicians to advocate for particular policy. For example, in July 2015 a new law was adopted in the Netherlands which makes it possible for Dutch citizens to apply for an advisory referendum. This law is designed to increase the say of the citizens and to narrow the gap between citizens and politics (parlement.com, 4 September 2015). The first advisory referendum in the Netherlands will be held on April 2nd of 2016.

A lot of British voters were dissatisfied with the outcome of the 2015 elections. The 2015 elections in the United Kingdom fanned the debate about the British electoral system, because it was the most disproportional electoral outcome in British history (Electoral Reform Society, 2015). The euro skeptic party UKIP won 12,6% of the votes but only got 0,2% of the seats, which equals one seat (ibid). While in a proportional representation system they could have won 80 seats (ibid).

These are both examples of institutional factors that presumably influence the level of satisfaction in politics in general. Whereas previous research lumped everything related to political satisfaction together, this research will specifically distinguish between satisfaction with democracy and satisfaction with government. In order to do so this research focuses on institutional factors that can explain satisfaction with democracy and government in thirty¹ European countries between 2002 and 2012.

1.1 Distinguishing democracy and government

Previous research on political satisfaction is often lumped together and mainly focuses on satisfaction with democracy. This is remarkable since political satisfaction is thought to be a result of citizens' evaluations of the functioning of political institutions (Zmerli, Newton & Moreno, 2007). Subsequently, political satisfaction cannot be seen as an aggregated level of satisfaction in politics, because every institution that is part of the political landscape generates satisfaction in its own way based on their functioning. Therefore I argue that it is important to distinguish between different political institutions on the basis of their main function when examining political satisfaction.

That different functions are assumed to lead to different evaluations is a way of reasoning that is related to the assumptions rational choice theory makes. Rational choice theory assumes that individual behaviour and attitudes, like political satisfaction, are influenced by individual preferences (Levi, 1997). Individuals behave rationally to maximize these preferences. In the case of attitudes

¹ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

towards political institutions, these preferences are assumed to differ between each institution because each institutions has its own function. Each political institutions has a different function. This also goes for democracy and government.

The essence of democracy is based on the will of the people, be it direct or indirect (Aarts & Thomassen, 2008). In contemporary democracies, elections are the link between the preferences of the citizens and the policies implemented by politicians, this is called political representation (ibid). Democracy is based on the idea that voters elect politicians who are assumed to represent the interests of the voter. Therefore the functioning of democracy, and hence satisfaction with democracy, will be evaluated by citizens based on how well their interests are represented by their representatives (ibid).

The main function of government is not about representation, but the produced policy is presumed to be the most important indicator of government functioning (ibid). The main task of government is producing policies. A positive evaluation of government performance is therefore based on effective and efficient policies, rather than representing the interests of the whole electorate as is the case for satisfaction with democracy (ibid). Therefore I argue that a government will be evaluated on their effectiveness (ibid).

So I argue that when examining political satisfaction with democracy and government it is important to look at the different functions of both institutions, namely representation in the case of democracy and effectiveness in the case of government. This distinction between democracy and government based upon the representation and effectiveness function, has already been applied by Lijphart in his research *Patterns of Democracy* (2012). Lijphart examined the functioning of democracy and government while assuming that democracy is related to representation and government to effectiveness. In order to test his assumption, Lijphart used *the convential wisdom* about majority and representation systems and tested it in a multivariate analysis in thirty-six countries.

“The convential wisdom – which is often stated in terms of the relative advantages of PR versus plurality and majority elections but which can be extended to the broader contrast between consensus and majoritarian democracy along the executive-parties dimension – is that there is a trade-off between the quality and the effectiveness of democratic government. On one hand, the conventional wisdom concedes that PR and consensus democracy may provide more accurate representation and, in particular, better minority representation and protection of minority interests, as well as broader participation in decision-making. On the other hand, the conventional wisdom maintains that the one-party majority governments typically produced by plurality elections are more decisive and hence more effective policy-makers.” (Lijphart, 2012, p. 255)

His most important conclusion is that proportional representation democracies do have a better performance record than majority democracies, but not on all aspects. This implies that the second part of *the convential wisdom* is wrong. Majority systems do not typically produce more decisive and more effective policy-makers than proportional representation systems (ibid). In regard to the first part of *the convential wisdom*, Lijphart (2012) found support for the representation function of democracy. A proportional representation system has a positive effect on democracy performance since it leads to better representation of interests.

Although this research by Lijphart (2012) is about the performance of democracy and government instead of satisfaction, it shows that institutional factors can have different effects on the performance of democracy and government. And since political satisfaction is the outcome of a positive evaluation of institutional performance (Zmerli, Newton & Moreno, 2007), I argue that it is also important to distinguish between democracy and government when examining political satisfaction. Therefore I will examine the difference between the level of satisfaction with democracy and satisfaction with government based on their main function.

To what extent can macro variables of political institutions and their function explain differences between the level of satisfaction with democracy and satisfaction with government among citizens in thirty European countries between 2002 and 2012?

1.2 Methods

To answer the research question I will do a multilevel regression analysis of thirty European countries between 2002 and 2012. A multilevel regression analysis makes it possible to test the different hypotheses on satisfaction with democracy and government by taking country specific elements into account. The aim of this research is to examine whether there are differences in levels of satisfaction towards the functioning of democracy and government by looking at macro factors based on rational choice theory.

In order to test whether the different functions of democracy and government are related to the level of satisfaction with both political institutions, this study will examine the differences between satisfaction with democracy on the one hand, and satisfaction with government on the other. I will investigate the difference between both institutions by arguing from a rational choice perspective. Citizens' satisfaction towards political institutions will be examined by looking at their preferences. This preferences are expected to be influenced by the context citizens live in (Coleman, 1990). Since this context, as Anderson (1997) and Anderson & Guillory (1998) already mentioned, is also important when explaining satisfaction with democracy. Therefore this research especially focuses on macro factors, which make up the context individuals live in (Coleman, 1990). The influence of the representation and effectiveness function on satisfaction with democracy and

government functioning will be examined by looking at the proportionality of the electoral system, the effective number of parties, the level of corruption, economic performance, forms of direct democracy and the level of descriptive representation.

1.3 Previous research

Previous research on political satisfaction did not distinguish between different political institutions but mainly focuses on satisfaction with democracy referring to as general political satisfaction (Aarts & Thomassen, 2008; Anderson & Guillory, 1997; Anderson, 1998). Aarts & Thomassen (2008) examined satisfaction with democracy by use of an ordered regression analysis of 40 elections in 36 different countries between 2000 and 2006. They specifically studied the relationship between satisfaction with democracy and the representation and accountability function of democracy – where accountability refers to the responsibility to produce effective policy. In their study Aarts & Thomassen (2008) link the representation and accountability function to electoral systems. As a majority system aims to produce an effective government and a proportional representation system is designed to represent as many interests as possible (ibid). They conclude that satisfaction with democracy is generally based on the representation function rather than the accountability function of democracy. This does not mean that citizens living in a country with a more proportional representation electoral system are automatically more satisfied with the way their democracy functions. Instead they conclude the opposite. Aarts & Thomassen (2008) found a negative correlation between the proportionality of the electoral system and satisfaction with democracy.

Anderson (1998), on the other hand, found a positive correlation between the proportionality of an electoral system and satisfaction with democracy. He did a regression analysis on 19 European democracies between 1993 and 1995. Anderson (1998) specifically studied how the functioning of the electoral system affected the level of satisfaction with democracy by looking at party and party system performance. The most important conclusion is that especially electoral institutions, like electoral systems, explain satisfaction with democracy.

The impact of the functioning of institutions on the level of satisfaction is support by a cross-national ordinary least square regression analysis by Anderson & Guillory (1997) in eleven European countries. Anderson & Guillory (1997) claim that it is essential to take the institutional context, besides the individual characteristics, in to account when analyzing satisfaction with democracy.

Considering all the research that is done on satisfaction with democracy, there is no agreement on the influence of the electoral system on satisfaction with democracy. It is also notable that Aarts & Thomassen (2008) and Anderson & Guillory (1997) examine satisfaction with democracy by looking at government performance and associate satisfaction with democracy with representation and effectiveness. While I argue that representation is an important function of

democracy and effectiveness is related to government functioning. However, all the research done on satisfaction with democracy by Aarts & Thomassen (2008), Anderson & Guillory (1997) and Anderson (1998) agree on the fact that institutional factors are important to take into account when analyzing satisfaction with the functioning of democracy.

On satisfaction with government little research is done (Wang, 2010). Wang (2010) studied satisfaction with government functioning in six Asian Pacific countries by doing a regression analysis with data from 2008. His main finding is that especially the individual, financial situation is of great influence on the evaluation of government functioning and thus of satisfaction with government. When investigating macro variables, he found out that the economic growth is the most important and powerful factor in explaining government satisfaction. Which can be seen as an indicator of effective policy implemented by the government (ibid).

1.4 Reading guide

This study will continue with the second section about the theory and hypotheses. In this section the rational choice theory, and how it relates to satisfaction with democracy and government, will be explained. In the second section I also formulate the hypotheses. The third section is on the methodology used for this study. It describes the methods that are used to answer the research question. The variables that will be examined are described and operationalized in order to analyze them correctly. The fourth section contains the actual analysis of the multilevel regression analysis. This section analyzes the results of the different models and tests the hypotheses formulated in the theory and hypotheses section. The tables and figures referred to in this section can be found in section 7. Section 5 is the conclusion in which the research question will be answered, possible limitations will be explained. This section also contains recommendations for further research.

2. Theory & Hypotheses

In this section I will work towards formulating hypotheses, which will be tested in the analysis section, based on existing literature about satisfaction with democracy and government. These hypotheses will be formulated from a theoretical framework based on the theory about system behaviour developed by Coleman (1990) combined with a rational choice perspective. This research especially focuses on macro-factors in order to investigate how the institutional context influences individual attitudes towards political institutions like democracy and government. I will start this section by outlining the theoretical perspective I will use and how it is related to my research. This theoretical perspective is the guideline on which assumptions will be based and from which hypotheses will be derived. I will end this section with a table containing an overview of all the hypotheses that will be tested as well as an expectation of their positive or negative effect on satisfaction with democracy or government.

2.1 Theoretical perspective

To find out what the mechanisms behind individual levels of satisfaction with democracy and government are, I will look at macro factors in particular. Examining macro factors to explain micro factors is an approach based on Coleman's variant of methodological individualism (1990). Methodological individualism assumes that individual characteristics can explain social phenomena. According to Coleman (1990) it is not always possible to just aggregate individual characteristics when explaining the system level. "The major problem for explanations of system behaviour based on actions at a level below of that of the system is that of moving from the lower level to the system level" (Coleman, p.6, 1990). This is what he calls the micro-to-macro problem. According to Coleman the linkage between the two levels needs to be explained clearly. In order to do so, it is important to analyze individual attitudes in the context of the system, because the individual level is influenced by the system level. Coleman states that the individual level, also referred to as micro level, is part of the macro structure. So the micro level is incorporated in the macro structure and therefore it is necessary to investigate the macro structure when analyzing individual attitudes like satisfaction with democracy and government.

In order to explain how individual attitudes towards democracy and government arise, I will use rational choice theory. Rational choice theory assumes that individuals have certain preferences and that individuals behave rationally to maximize these preferences (Levi, 1997). These preferences are important because citizens evaluate the functioning of democracy and government based on

their preferences. The evaluation of the functioning of political institutions is assumed to be important when analyzing satisfaction (Zmerli, Newton & Montero, 2007).

“Political satisfaction, or dissatisfaction, arises from citizens’ evaluations of the performance of the regimes or authorities, as well as of their political outcomes, and expresses displeasure with a significant social or political object. In other words, political dissatisfaction is a general rejection of political objects that do not meet the standards citizens set for them.”(Zmerli, Newton & Montero, 2007, p. 44)

2.2 Assumptions

In the remaining part of this section I will make some assumptions, based on the theories about satisfaction with democracy and government, on which I formulate my hypotheses. One of my core assumptions is that satisfaction with political institutions is a result of the evaluation of the performance of each institution (Zmerli, Newton & Montero, 2007). The evaluation of political institutions is assumed to be based on citizens’ preferences. Since I use a rational choice perspective, I assume that citizens prefer political institutions to function in the best possible way. The functioning of political institutions will be evaluated differently because every institution has its own aim (Aarts & Thomassen, 2008). In this research I thus assume that satisfaction with political institutions, like democracy and government, is a result of the evaluation of the performance of each institution based on the preferences of the citizens influenced by the context they live in. In the case of democracy, I assume that representation of interests is the most important function. Representation of interests is the basic principle on which a representative democracy is build. Therefore citizens will most likely evaluate the functioning of democracy on how well their interested are represented. The most important function of government, I assume, is effectiveness. The main task of a government is producing effective policies. Therefore effectiveness is important when citizens evaluate the functioning of their national government. Since the functions of democracy and government are assumed to be different, it is necessary to distinguish between both institutions on the basis of their functions when examining political satisfaction.

2.3 Hypotheses

The following part of this section describes the effect of macro variables on satisfaction with democracy and government by reasoning from a rational choice perspective. In order to do so, I will start describing the expected effect of each variable on the level of satisfaction based on the assumptions about the preferences of individual citizens. After each variable is discussed, a hypothesis is formulated. First of all, the variables that are expected to have an influence on satisfaction with both democracy and government will be described. Those are the variables about proportionality of the electoral system, the effective number of parties and the level of corruption.

After that, the variables that are expected to only influence satisfaction with one of the institutions, either democracy or government, are discussed. The variables are all somehow related to the effectiveness or the representation function of one of the institutions, like government performance, direct democracy and descriptive representation. Because I want to test if the difference between satisfaction with democracy and government can be explained by the effectiveness or representation function.

2.3.1 Proportionality of the electoral system

One of the most studied macro factors in relation to political satisfaction is the electoral system (Aarts & Thomassen, 2008; Anderson & Guillory, 1997; Anderson, 1998). The proportionality of the electoral system shows how closely the distribution of seats in parliament reflects the preferences of the voters as expressed in an election (Gallagher, Laver, Mair, 2011). The level of proportionality varies between electoral systems because the aim of electoral systems varies. A proportional representation system aims to produce a representative parliament, while a plurality system aims to produce a stable government (Sartori, 1994). These different objectives of both types of electoral systems ensures that the level of proportionality is very divergent. In an electoral system with a highly proportional electoral outcome the votes are translated into seats in a proportional way. This proportional distribution of seats makes that the interests of a bigger part of the electorate are represented, because almost every vote actually goes to the party someone voted for (Gallagher, Laver, Mair, 2011).

The proportionality of the electoral system is essential when investigating satisfaction with democracy, because it is an indicator for the level of interest representation. As representation is an important function of democracy, I assume that voters prefer their democracy to be as representative as possible. In contrast to a disproportional electoral system, a proportional electoral system is known for producing a more representative distribution of seats (Gallagher, Laver, Mair, 2011). Thus a more representative distribution of seats leads to better representation of voters interests. Therefore I argue that a more proportional electoral system will lead to a better representation of interests. Voters will therefore evaluate democracy more positively in a more proportional electoral system than in a disproportional electoral system. Therefore I expect higher levels of satisfaction with democracy among voters who are living in a more proportional electoral system.

H1a: The more proportional an electoral system is, the more satisfied citizens will be with democracy.

I expect that a highly proportional electoral system has a positive influence on satisfaction with democracy because the voters preferences are based on the representation function. Since I

assume that government has a different function than democracy, I will also investigate the effect of proportionality on satisfaction with government. I assume that the main function of government is to produce stable and effective policies, whereas representation of interests is expected to be less important for the evaluation of government performance (Aarts & Thomassen, 2008). I expect that the proportionality of the electoral system affects the representation function, but Aarts & Thomassen concluded that it also influences the effectiveness function. The proportionality of the electoral system is an indicator for how proportional votes are translated into seats in parliament (Gallagher, Laver, Mair, 2011). Since a government is formed on the basis of the distribution of seats in parliament, it is likely that the level of proportionality has an influence on government performance.

As a disproportional system is known for producing a two-party system, forming a single-party government is easier and more common in a disproportional electoral system than in a proportional system (Gallagher, Laver, Mair, 2011). A single-party government can implement policies easier than a multi-party government, because the governing party does not have to make concessions to other political parties (Lijphart, 2012). Because I assume effectiveness to be the main function of government, voters are assumed to evaluate government on their effectiveness. A single-party government is expected to produce more effective policies than a multi-party-government and moreover a disproportional electoral system is more likely to produce a single-party government. Therefore I argue that voters prefer a disproportional electoral system when it is about satisfaction in government, as a disproportional system is more likely to produce a single-party government and therefore more effective policies. Since voters are expected to evaluate the performance of their government on effectiveness, I argue that a highly proportional system will have a negative effect on satisfaction with government.

H1b: The more proportional an electoral system is, the less satisfied citizens will be with government.

2.3.2 Effective number of parties

Besides the influence of the proportionality of the electoral system, the effective number of parties is also expected to affect satisfaction with both democracy and government (Anderson, 1998). The effective number of parties is an indicator that measures party fragmentation by weighting the strength of each political party that is represented in parliament (ibid). The higher the effective number of parties, the more fragmented the political landscape is. A fragmented political landscape is known for the representation of more different interests than a political landscape that is less fragmented because there are more political parties in parliament that can make a difference (ibid).

Since I assume that representation is one of the key functions of democracy, I assume that voters prefer their democracy to be as representative as possible. A higher effective number of

parties is an indicator of better representation of interests. Therefore I argue that a higher effective number of parties has a positive effect on the evaluation voters make of how democracy functions. Since satisfaction is assumed to be an outcome of a positive evaluation of a political institution (Zmerli, Newton & Morena, 2007), I argue that a higher effective number of parties has a positive influence on satisfaction with democracy.

H2a: The higher the effective number of parties, the more satisfied citizens will be with democracy.

In the case of satisfaction with democracy, the effective number of parties is expected to have a positive effect because the voters prefer a representative democracy. But when it comes to satisfaction with government, the preferences of voters are expected to be different (Aarts & Thomassen, 2008). I assume that voters prefer a government that produces stable and effective policies (ibid). The higher the effective number of parties, the more fragmented the political landscape is. In a fragmented political landscape it is hard to form a government because there is no clear winner of elections (Anderson, 1998). I assume that the higher the effective number of parties is, the harder it is to form a stable and effective government (ibid).

As satisfaction is the outcome of a positive evaluation of government performance, I assume that voters evaluate government performance on the basis of the effectiveness of their produced policies. Since a higher number of effective parties makes it more difficult to form a stable and effective government, I argue that voters are less satisfied with their government if there is a higher effective number of parties in their national parliament.

H2b: The higher the effective number of parties, the less satisfied citizens will be with government.

2.3.3 Corruption

Both the proportionality of the electoral system as the effective number of parties are variables that are expected to influence the level of satisfaction, because they are related to the representation or effectiveness function of democracy or government. This resulted in opposite hypotheses.

Corruption at the macro level is expected to affect the aggregated level of satisfaction with both democracy and government but is not expected to influence satisfaction with both institutions in different ways (Stockemer & Sundström, 2013). I assume that corruption affects the legitimacy of political institutions and the functioning of political institutions in general and thus the level of satisfaction with democracy and government (ibid).

In this research I assume that satisfaction with democracy arises from the evaluation voters make of the performance of democracy (Zmerli, Newton & Montero, 2007). First and foremost, democracy is expected to produce legitimate power (Stockemer & Sundström, 2013). Corruption is known for the abuse of power and is thus expected to violate one of the key values of democracy

(ibid). I assume that voters want their democracy to produce legitimate power in order to be satisfied with democracy. Since corruption is expected to violate legitimate power, I argue that corruption has a negative influence on the evaluation of democratic performance and thus on satisfaction with democracy.

H3a: The higher the level of corruption, the less satisfied citizens will be with democracy.

Corruption is not only expected to influence satisfaction with democracy, but it is likely that it also affects satisfaction with government (Stockemer & Sundström, 2013). I assume that voters prefer their government to function in the most optimal way and produce effective policies. Corruption is expected to influence the effectiveness of a government because corruption does 'not promote the best minds, but those who pay the biggest bribes' (Stockemer & Sundström, 2013, p. 152). This leads to a dysfunctional government, incapable of producing effective policies. Corruption does not allow government to meet the preferences of the voters, namely producing effective policies. Therefore I argue that corruption has a negative effect on government functioning and thus on satisfaction with government.

H3b: The higher the level of corruption, the less satisfied citizens will be with government.

2.3.4 Economic performance

Besides variables that are expected to influence both satisfaction with democracy and government, I argue that some variables just affect satisfaction with only one of both institutions. This research examines the differences in satisfaction with democracy and government on the basis of rational choice theory. Since this approach assumes that satisfaction is based on the preferences of the voters, it is necessary to link the preferences with the right institutions. In the case of democracy I assume that voters prefer representation, while I assume that satisfaction with government is based on effectiveness. I do not expect economic performance to have an effect on satisfaction with democracy because I argue that it does not influence the representation function of democracy.

H4a: Economic performance does not influence satisfaction with democracy.

Since I assume that voters prefer their government to produce effective policies, I expect that economic development is the desired outcome of policies implemented by the government (McAllister, 1999). As economic development is an indicator that is often used to measure government effectiveness, I assume economic development to have a significant effect on satisfaction with government (Wang, 2010). This statement is supported by Wang (2010), who investigated satisfaction with government in six Asian-Pacific countries and concluded that economic growth has a significant effect on satisfaction with government. Since I assume that voters prefer

their government to be effective and economic performance is an indicator of government effectiveness, I argue that a better economic performance has a positive effect on government performance and thus on satisfaction with government.

H4b: The better the economic performance the more satisfied citizens will be with their government.

2.3.5 Direct democracy

On the one hand there are variables that are expected to only affect satisfaction with government, like government performance. On the other hand there are also variables that are expected to only affect satisfaction with democracy because they are expected to influence the representation function. One of those variables is direct democracy (Dalton, Bürklin & Drummond 2001; Bernauer & Vatter 2011). Bernauer & Vatter (2011) did a multilevel analysis among 24 countries and found that voters are more likely to be satisfied with democracy if there are institutional opportunities for direct participation in the political process. According to Bernauer & Vatter (2011) this is due to the dissatisfaction with the functioning of representative democracy and the way the interests of the voters are represented. Forms of direct democracy seems to assure voters that politicians are listening to them on some point (ibid). With more forms of direct democracy, voters will have the opportunity to express their preferences more frequently rather than once in the four or five years during regular elections (ibid).

I assume that voters prefer their democracy to be as representative as possible in order to be satisfied with democracy. I also assume that forms of direct democracy make it possible for voters to emphasize their preferences more often and thus their interests will be better represented. Since direct democracy is expected to have a positive influence on the representation of interests, I assume that more forms of direct democracy should lead to a more positive evaluation of democracy (Bernauer & Vatter, 2011). As I assume that political satisfaction arises from a positive evaluation of a particular institution, I argue that direct democracy has a positive effect on satisfaction with democracy.

H5a: The more forms of direct democracy in a country, the more satisfied citizens will be with democracy.

I argue that direct democracy affects the representation function of democracy and thus has a positive effect on satisfaction with democracy. Looking at the effectiveness function of government, I do not expect direct democracy to influence that function because more forms of direct democracy do not automatically result in more effective policies. Therefore I argue that there is no relationship between direct democracy and satisfaction with government.

H5b: Direct democracy does not affect satisfaction with government.

2.3.6 Descriptive representation

Apart from that direct democracy is expected to influence satisfaction with democracy, the level of descriptive representation is also expected to affect the representation function and thus the satisfaction with democracy (Philips, 1995). Descriptive representation is expected to affect satisfaction with democracy because of its representation function.

Descriptive representation is about representative bodies being a reflection of society based on individual characteristics like age, gender, residence or education (ibid). When I use descriptive representation in this research, I refer to descriptive representation based on gender. According to Philips (1995) women are better capable of representing the interests of women than men. That means that there is a relation between descriptive representation – representation based on the actual number of women – and substantive representation – representation based on the interests of women. Philips' (1995) argument is based upon the differences between men and women in their everyday lives. Men and women differ in education, exposure to violence, child-rearing, the division of paid and unpaid work but also the fact that female representatives share, at least to some extent, the experiences of other women (ibid). All these differences between men and women assume that women are better capable of representing the interests of other women.

Since I assume that voters want their democracy to be as representative as possible, and women are expected to be better represented by women than men, more descriptive representation is likely to have a positive effect on how democracy functions. As satisfaction with democracy is a result of a positive evaluation of the performance of democracy (Zmerli, Newton & Montero, 2007), I argue that more descriptive representation has a positive effect on satisfaction with democracy.

H6a: The higher the level of descriptive representation based on gender, the more satisfied citizens will be with democracy.

Descriptive representation is about how well women and men are represented in a legislative body, like the national parliament. Therefore I argue that descriptive representation affects satisfaction with democracy, because satisfaction with democracy is based on the representation function of democracy. The same does not go for satisfaction with government, because satisfaction with government is a result of the evaluation of the performance of the national government based on the effectiveness function. Since it is not the main function of government to represent all citizens, but to produce effective policies. I argue that there is no relationship between descriptive representation and satisfaction with government.

H6b: Descriptive representation does not affect satisfaction with government.

2.3.7 Gender

In regards to descriptive representation, I argue that a higher level of descriptive representation – as defined in sex – leads to higher levels of satisfaction with democracy (Philips, 1995). Since I assume that satisfaction with democracy is related to the representation function, voters prefer their interests to be represented as well as possible.

Expecting that women are better in representing women, and men in representing men, it is necessary to look at the representation of men and women in the national parliaments. In all the thirty countries that will be analyzed in my research, men are overrepresented in the national parliament (European Institute for Gender Equality, 2012). Therefore I argue that the interests of men are already represented in order to meet the preferences of men. Women, on the other hand, are underrepresented and so are their interests. As women's interests are underrepresented, I argue that women feel less satisfied with democracy than men.

H7a: Women feel less satisfied with democracy than men.

Thus gender is expected to affect the level of satisfaction with democracy because of the representation function of democracy. When examining satisfaction with government, it is not about representation but about effectiveness. Since gender does not influence the effectiveness function of government, I do not expect any effect of gender on satisfaction with government.

H7b: Gender does not affect satisfaction with government.

2.3.8 Interaction

So if women are expected to feel less satisfied with democracy because they are underrepresented, I assume that more descriptive representation does not automatically lead to more satisfaction among all voters. Since women are underrepresented, while men are overrepresented, I expect the effect of a higher level of descriptive representation to be different for women and men.

Women are more likely to evaluate the performance of democracy more positively when the level of descriptive representation increases, because it increases the representation of women interests and thus their individual preferences. This is not the case for men, because their interests are already well represented since they are overrepresented. Thus I expect that, in contrast to women's evaluation, the individual evaluation of democracy performance by men will not change if the descriptive representation in parliament increases. Therefore I argue that the effect of better descriptive representation in parliament on satisfaction with democracy will be stronger among women than men.

H8a: The positive effect of the level of descriptive representation in parliament on how satisfied citizens are with democracy is stronger among women than among men.

I argue that there will be no effect for descriptive representation or gender on satisfaction with government because both variables are expected to be of no influence on the effectiveness function of government. Therefore I also do not expect an interaction effect of gender between descriptive representation and satisfaction with government.

H8b: The effect of descriptive representation on satisfaction with government will not vary between women and men.

2.4 Overview

Now I have formulated all the hypotheses that will be tested in this research, I will end this section with an overview. Table 1 contains all the different independent variables of which influence on the dependent variables – satisfaction with democracy and satisfaction with government – will be tested. The ‘+’ indicates a positive effect and the ‘-’ a negative effect on the dependent variable. Variables that are expected to have no direct influence on the dependent variable are indicated as ‘0’.

[Table 1 here]

3. Methodology & Data

In this section I will explain which methodology is used to answer the research question: to what extent can the differences in satisfaction with democracy and government in thirty European countries between 2002-2012 be explained by the representation and effectiveness function of each institution? In order to do so, I will start explaining the research design that will be used. After that, I will reflect on the dataset of the European Social Survey, which I use as the main source for collecting the right data. The last part of the section contains the operationalization of the variables that are used in this research. Starting with the dependent variables, followed by the independent variables and concluding with the control variables.

3.1 Research design

This research examines satisfaction with democracy and government in thirty European countries between 2002 to 2012 from a rational choice perspective. The countries that will be examined in this research are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. This research focuses on macro factors that can influence the individual level of satisfaction.

In order to investigate which factors significantly influence satisfaction with democracy and government, I will do a multilevel regression analysis. A multilevel regression analysis is designed for data in which the observations are clustered into groups. Unlike an ordinary least square regression, multilevel regression analysis assumes that errors are correlated within groups. The consequences of not using a multilevel regression can be biased estimates which can lead to rejecting hypotheses too quickly. In the case of my research, citizens are clustered in countries and years. This means that values of individual citizens can be affected by country characteristics which can vary over the years and thus a multilevel regression analysis is needed. A multilevel regression analysis also makes it possible to control for micro variables although I am interested in macro variables. Another advantage of a multilevel regression analysis is that it allows to test a cross-level interaction between micro and macro variables.

3.2 Dataset

For this research the multilevel dataset of the European Social Survey (ESS) will be used. This cross-national survey is conducted every two years since 2001. The dataset of the ESS contains core survey questions on media, politics, subjective well-being, household, socio demographics and human

values. Besides the core survey questions, which are part of the survey every two years, the ESS also contains country variables which can be used for multilevel analysis. These variables are not related to individuals but are country specific. These country variables make it possible to take the context, in which individuals behave, into account.

Since this research analyses satisfaction with democracy and government between 2002 and 2012, I will combine data from six different ESS rounds. Round 1 took place in 2002, round 2 in 2004, round 3 in 2006, round 4 in 2008, round 5 in 2010 and round 6 in 2012. The total sample size of the combined dataset I use in this research consists of 260.205 individuals. In order to make a representative sample as possible, the ESS does a random selection of all persons aged 15 and over. However, the response rate can affect the representativeness of the sample and varies between countries. Between 2002 and 2012, the lowest response rate (30,5%) was achieved in Germany in 2010. In that same year, Bulgaria achieved the highest response rate with 81,4%. Although Germany has the lowest response rate they still reach the target, set by the ESS, of 1500 respondents for countries with a population bigger than 2 million people (ESS, 2012). The mean response rate of the aggregated waves is 61,83%. To avoid bias in the representativeness of the sample, the ESS has developed special weights for variables that have to do with the composition of the population. For gender, education, age and region it is possible to add weights to the dataset in order to make sure that citizens are equally represented on this points (ESS Documentation Report, 2012). Since my research is on macro variables, and I only use gender as study variable, I will not apply the weights. Women are a bit overrepresented in the data (54%), in all 30 countries there are more women than men. Nevertheless, I do not think it essential for my research to use the weights for the gender variable since women are overrepresented in every country I am examining (ESS).

3.3 Operationalization

This research examines satisfaction with democracy and government, that is why this research has two dependent variables. Both variables are part of the core questions of the ESS and are measured in the same way. This makes it possible to compare between satisfaction with democracy and government across a longer period of time. Therefore I will use the data of the ESS to measure my dependent variables.

3.3.1 Satisfaction with democracy

To measure satisfaction with democracy I will use the following question of the ESS: On the whole, how satisfied are you with the way democracy works in your country? The possible answers vary between 0 and 10, whereas 0 means extremely dissatisfied and 10 stands for extremely satisfied. This variable is measured in an ordinal way on an 11-point scale, but will be interpreted as an interval-like variable.

3.3.2 Satisfaction with government

The ESS also contains a question on satisfaction with government: How satisfied are you with the way your national government is doing its job? The answers can, just like satisfaction with democracy, vary between 0 and 10. Where 0 represents extremely dissatisfied and 10 is extremely satisfied. This makes it an 11-point scale which will be interpreted as an interval-like variable.

3.3.3 Proportionality

All the waves of the ESS contain two context variables about proportionality, however both of those variables do not measure proportionality in the way I need them to for this research. The first variable is an index of absolute proportionality and the second variable is about relative proportionality. Both indexes are calculated by use of the effective number of parties. While I use the concept of proportionality as proposed by Gallagher (Gallagher, Laver, Mair, 2011). Since a proportionality variable based on the formula of Gallagher is included in the Comparative Political Data Set (Institute of Political Science, University of Berne, 2015), I will use their data to analyse the proportionality of the electoral system.

Gallagher's Formula², based on least squares, measures the actual level of proportionality because it compares the share of votes with the share of seats for each party. The proportionality index based on Gallagher (1991), calculated by the CPDS, varies from 0 till 100. A score of 0 refers to a highly proportional electoral system and 100 indicates a country with a very disproportional electoral system.

3.3.4 Effective number of parties

The multilevel dataset of the ESS contains two context variables that measure the effective number of parties, both variables are derived from the Comparative Political Data Set (Institute of Political Science, University of Berne, 2015). One variable measures the effective number of parties on the votes level, the other variable measures the effective number of parties on the seats level. The effective number of parties at the seats level is related to the seats in parliament, which is an indicator of representativeness. In the case of satisfaction with government, the seats in parliament are important for forming an effective government. Since the effect of the effective number of parties is expected to influence the representativeness of democracy and the effectiveness of government, I will use the variable that contains the effective number of parties on the seats level.

² The proportionality formula proposed by Gallagher (1991): $LSq = \sqrt{\frac{1}{2} \sum_{i=1}^n (V_i - S_i)^2}$. LSq represents the least squares, which is the basis for the level of disproportionality of the electoral system. In this formula, v represent the share of votes for party i . The s is the share of seats for party i . And n is the number of parties (Codebook: CPDS 1960-2013, 2015)

The measurement of the effective number of parties on the seats level is based on the fractionalization at the legislative level. The fractionalization is measured by use of a formula proposed by Rae (1968)³ based on the share of seats and the absolute number of parties with a range of 0 (minimal fractionalization) to 1 (maximal fractionalization). The effective number of parties can be measured by the formula of Laakso & Taagepera (1979) = $1 / (1 - \text{fractionalization})$. Since the fractionalization is measured up to two decimal places, the effective number of parties on the seats level can in theory vary from 1 to 100 parties. This makes it an interval scale.

3.3.5 Corruption

There are two corruption variables included in the multilevel dataset of the ESS. One of the variables is derived from the governance indicators of The World Bank (data.worldbank.org, 2015), the other one from the Transparency International – Corruption Perception Index (transparency.org, 2015). The corruption variable of The World Bank includes perceptions of the extent to which public power is exercised for private gain. The Transparency International – Corruption Perception Index ranks countries on how corrupt their public sector is perceived to be. Comparing both indexes I conclude that the Transparency International – Corruption Perception Index is the index that I will use to measure the level of corruption, because they use a broader concept of corruption. A broader concept of corruption fits this research better since corruption is assumed to feed a culture of mistrust in society, which influences the evaluation of institutional performance (Catterberg & Moreno, 2005).

The Transparency International – Corruption Perception Index measures corruption on an interval scale from 0 to 100. In the index 0 refers to highly corrupt while a country scores 100 when it is not corrupt at all. Since my hypothesis reads: the higher the level of corruption, the less satisfied citizens are with democracy or government, I will recode the scores the other way around. Recoding the variables makes it easier to interpret the variable during the analysis. This makes that 0 will correspond to countries that are not corrupt at all and 100 refers to highly corrupt countries.

3.3.6 Government performance

In this research government performance is used as an indicator of government effectiveness. The performance of government can be measured in many ways, but since economic performance is often used as measurement of government performance, I will especially focus on the economic performance of government. The ESS provides 17 different economic variables, but none of those

³ The fractionalization formula proposed by Rae (1968):
$$F = 1 - \sum_{i=1}^n s_i^2$$
. F is the fractionalization of the seats in parliament. Whereas s is the share of seats for party i . And n is the number of parties (Codebook: CPDS 1960-2013, 2015).

variables measure growth or changes in GDP over different years. Measuring changes in GDP, rather than absolute numbers, makes it possible to compare between countries and years. Therefore I collect data on GDP growth from The World Bank (data.worldbank.org, 2015).

The GDP growth rate measures the growth of the GDP in a country in a specific year on the basis of the GDP on the year before the measurement. The GDP growth is measured in percentages. It is an interval variable in which the lower the percentages, the lower the economic growth in a country is. The values can be very divergent and show negative and positive values.

3.3.7 Direct democracy

Since direct democracy is a very broad concept that can be measured in many different ways, I will use referenda as an indicator because it is a clear and easy concept to measure. The ESS dataset contains a variable about referenda, but this variable is a dummy variable that only distinguishes between countries with frequent and infrequent referenda. The ESS uses the CPDS (Institute of Political Science, University of Berne, 2015) as their source, but the CPDS is not clear about the operationalization of their variable which makes it unclear what they mean by frequently or infrequently. Therefore I collected the data by myself using the C2D dataset from the Centre of Research on Direct Democracy (Zentrum für Demokratie Aarau, University of Zurich, 2015). A referendum is an instrument for voters to decide directly on some issue, instead of electing politicians to make a decision on their behalf (Gallagher, Laver, Mair, 2011). There are many types of referenda, from citizens' initiatives to governmental referenda. The C2D dataset (Zentrum für Demokratie Aarau, University of Zurich, 2015) contains data on all types of referenda. In this research I will not make a distinction between different forms of referenda, because the possibility of participation via referenda is expected to have a positive influence on satisfaction with democracy (Bernauer & Vatter, 2011). Therefore it does not matter if it is about a citizens' initiative or a mandatory referendum, because it is about the possibility to participate.

For this research I collected all the data (Zentrum für Demokratie Aarau, University of Zurich, 2015) on referenda for the 30 countries I am investigating. I added all the different types of referenda that were held during 2002-2012 in each country. This resulted in a list with values from 0 referenda in eight countries to 84 referenda in Switzerland. Since the outcome is very diverse, I will recode this variable into a dummy variable. In a lot of European countries a referendum was held just once, in 2005, on the European constitution. The theory expects that more institutional opportunities for direct participation will lead to more satisfaction with government (Bernauer & Vatter, 2011). I argue that a single referendum is not a real institutionalized opportunity that makes it possible for voters to express their preferences more often. Therefore I will distinguish between countries that have had organised up to one referendum and countries that have had two or more

referenda between 2002-2012. In the analysis, the value 0 will refer to the countries with up to one referendum and 1 represent countries with two or more referenda.

3.3.8 Descriptive representation

Descriptive representation is an indicator which is not included as a context variable in the ESS. Since descriptive representation is about the number of seats held by women relative to the sex ratio in a particular country, the level of descriptive representation can be calculated⁴. The ESS contains variables for both indicators and in order to lose as little cases as possible I will use the ESS data to calculate the level of descriptive representation. They use data from Eurostat for the population size, disaggregated into men and women. For the percentages of women in parliament, the ESS refers to the CPDS dataset (Institute of Political Science, University of Berne, 2015).

As the population of men and women is an absolute number in the ESS, I will first calculate the percentages of men and women in the population before I can calculate the level of descriptive representation. If both variables are measured in percentages, I can calculate the differences between the number of men and women for both variables. In order for the variable to actually measure descriptive representation, the differences between men and women on both variables are subtracted. The result of that calculation can vary between 0 and 100. The higher the score the higher the level of descriptive representation.

3.3.9 Gender

For each individual in the ESS dataset a gender variable is included. To test the gender hypothesis I will thus use the data of the ESS dataset. In which men are coded as 0 and women as 1.

3.4 Control variables

Besides the study variables I am interested in, I will control for variables that are expected to have an influence on the dependent variables and are related to the independent variables in order to avoid bias (Allison, 1999). All control variables will be part of the models concerning satisfaction with democracy and government because the control variables are not directly related to the representation or effectiveness function of these institutions. For these variables I will use the ESS dataset.

The age of an individual voter is expected to have a positive influence on satisfaction with both government and democracy. The older a citizens is, the more satisfied a citizens will be with democracy and government (Anderson & Guillory, 1997). The variable on age is measured in years. A

⁴ To make sure this calculation is correct, I also tested the models on the percentage of women in parliament (Appendix 4). This operationalization is just slightly different from the calculated descriptive representation, but more reliably since it is not calculated and based on other data. Since the results show no big differences in the final analysis, I decided to use the calculated operationalization of the variable on descriptive representation.

higher level of education is expected to have a positive influence on satisfaction with both government and democracy because I assume that higher educated citizens are better able of making a rational consideration about the functioning of political institutions (ibid). Education is measured on a 5 points scale whereas the lower the score refers to the lower the level of education. Since this variable is measured in an ordinal way, I will make dummy variables with 'upper secondary education completed' as the reference category in order to compare different levels of education. The personal financial situation is expected to have a positive effect on satisfaction in general, and thus in satisfaction with political institutions. When citizens are in a good financial situation, the overall sense of happiness will reflect on the satisfaction with democracy and government (Anderson & Guillory 1997; Wang, 2010). I argue that voters with a higher income are expected to be more satisfied with democracy and government. Therefore I use the variable in ESS which measures the relative income of individuals in 12 parts. That makes it an interval like variable which can vary from 1 to 12, whereas 1 represents an income corresponding to the group with the lowest income of the population and 12 represents the income of the households with the highest income (ESS, showcards 2012).

4. Analysis

In this section I will analyse my data and the results of the regression analyses. I will start by describing the study variables in this research by looking at the descriptive statistics of those variables. First I will discuss the descriptives and distributions of the dependent variables since these are the variables I would like to explain and investigate in this research. Then I will also review the descriptives of the independent variables. After I discussed the descriptives, I will continue with a bivariate analysis to see if there are any relations between my dependent and independent variables. The subsequent models will become more complex because I will test the hypotheses formulated in the theory and hypotheses section by doing a multilevel regression analysis. Finally I will test the two complete models existing of all the variables that are expected to affect the representation function of democracy or the effectiveness function of government. The table and figures I refer to in the text can be found in section 7 Tables & Figures.

4.1 Descriptives

Before starting with the regression analysis, I will first describe the descriptive statistics of my two dependent variables. The descriptives of variables show us the distribution of the values of a variable. After discussing the descriptives of the dependent variables, satisfaction with democracy and satisfaction with government, I will continue with the descriptives of the independent variables related to the representation and effectiveness function.

Both dependent variables got almost 250000 valid cases and around 10000 missing values. The scores on both variables are roughly normally distributed as can be seen in Figure 1 and Figure 2.

[Figure 1 here]

[Figure 2 here]

The standard deviation for satisfaction with democracy is 2.486 and for satisfaction with government 2.464. For both variables goes, the scores vary between 0 and 10. Thus both variables are measured on an 11-point scale. The variables show a relatively big difference on the mean score. The mean score over all respondents in 30 countries on satisfaction with democracy is 5.24, while satisfaction with government has a mean score of 4.16. Although both figures show that 5 is the most given answer, the difference in the mean score arises from the amount of citizens that give extremely low scores to satisfaction with government. Around 25000 citizens are extremely dissatisfied with their government while only 12500 are extremely dissatisfied with democracy. On

the other side, twice as many people gave a 10, thus answered to be extremely satisfied with democracy than people who are extremely satisfied with their government. So the extreme scores are important in causing the different means for satisfaction with democracy and government.

The scores on both satisfaction with democracy and satisfaction with government will be examined in the context of the country and the year citizens live in. Figure 3 and Figure 4 show a line graph of the mean score of satisfaction with both dependent variables in all 30 countries between 2002 and 2012. Since not all countries participated in all the waves of the European Social Survey (ESS), some lines are interrupted. The graphs only show the mean scores for satisfaction in the year a country participated in the ESS between 2002 and 2012.

[Figure 3 here]

Figure 3 shows the mean scores on satisfaction with democracy. The graph clearly shows the countries with a generally higher score on satisfaction with democracy. These are countries like Switzerland, Denmark, Norway, Sweden and Finland. With a mean score of 7.28 between 2002 and 2012 the Danish citizens are most satisfied with their democracy. The Eastern European countries show the lowest scores. Bulgaria, Croatia, Latvia and Romania all have a mean score below 4 on satisfaction with democracy. Remarkable results are shown by Portugal and Spain. Portugal also scores lower than 4 on satisfaction with democracy, which makes it the only non-Eastern European country with such a low score. Striking is the extremely decreasing level of satisfaction with democracy in Spain since 2004. In 2004 Spain was part of the top 10 with the highest scores, but in 2012 only 3 countries show a lower score on satisfaction with democracy.

[Figure 4 here]

Figure 4 shows the mean country scores on satisfaction with government. The same countries representing the highest scores on satisfaction with democracy, show a high score on satisfaction with government. Especially Finland (5.92) and Switzerland (5.80) have a relatively high mean score on satisfaction with government between 2002 and 2012. Latvia has the lowest mean score with only 1.79. But also Bulgaria (2.79) and Portugal (2.87) show a low mean score on satisfaction with government. Just like satisfaction with democracy, the level of satisfaction with government in Spain has extremely decreased the last years.

In general it can be stated that the scores on satisfaction with government are lower than on satisfaction with democracy. For both variables goes that the Northern European countries, including Switzerland, show the highest scores. The Eastern European countries, Portugal and Spain represent

the lowest scores on both variables. The other countries do not have extremely different outcomes and vary around the mean score, but do sometimes switch places across the years.

Table 2 shows an overview of the descriptives of the dependent and independent variables. Since I already discussed the descriptives of the dependent variable I will continue to talk about the independent variables.

[Table 2 here]

The mean score on disproportionality is 5.5604. Denmark (2008) has the most proportional electoral system with a score of 0.35 on disproportionality. France (2002-2006) scores the highest value with 22.9 and has therefore the most disproportional electoral system. The effective number of parties varies between 1.98 in Hungary (2010-2012) and 9.08 in Belgium (2002). The mean score of the effective number of parties is 3.9953. The scores on corruption vary between 3 (Finland, 2002-2004) and 65 (Greece 2010 and Poland 2004). The mean score on corruption across all countries is 30.9. Economic performance, measured by GDP growth, has both negative and positive scores. The mean GDP growth between 2002 and 2012 is 2.2010 percent. The lowest score of -5.30 percent was found in Estonia (2008) while two years earlier (2006) Estonia got the highest GDP growth of 10.40 percent. The scores on descriptive representation vary between 4 percent in Hungary (2004-2006) and 47 in Sweden (2006-2008). The mean score on descriptive representation is 23.25 percent. Since direct democracy is a dummy variable, the scores vary between 0 and 1. In this case the mean score means that 28% of the values on direct democracy are in category '2 or more'. The same goes for the gender variable, the mean value tells us that 54% of the individuals are women.

4.2 Modelling multilevel data structure

Because I assume that the individual scores on satisfaction with democracy and government are influenced by the context citizens live in, I will first test if that is actually the case, so I can use the right method to analyse my data. If my data is nested, and thus influenced by the context, I need a multilevel regression analysis instead of an ordinary least regression analysis, because it takes correlated errors into account. In my research I assume that the level of satisfaction with democracy and government is influenced by the country and the year citizens live in. Thus the individual data is expected to be nested in countries and specific years. This means that individuals are expected to be nested in a combination of countries in specific years and those country-year variables are expected to be nested in countries. There are two different ways to test if my data is nested and consequently need a multilevel, in this case a three-level model, regression analysis.

One way to calculate (see Appendix 1) whether values are correlated is by use of the

intraclass correlation (ICC)⁵. I tested the ICC for a three-level model. The ICC shows the correlations of the dependent variable, in the case of this research satisfaction with democracy or government, within the higher level units countries and years. For satisfaction with democracy the ICC is 46% which means that 46% of the variance in satisfaction with democracy is explained by the year and the country citizens live in. Satisfaction with government has an ICC of 40%. So 40% of the variance of satisfaction with government is explained by the year and the country the citizens live in.

Another way to test if a multilevel model is needed, is the deviance test. This test is based on the comparison of the -2 Log Likelihood ratio of a restricted model and a full model (see Appendix 1). The deviance test shows if there is a significant difference between the restricted model and the full model. In this case, the restricted model is a one-level model and the full model is a the three-level model tested with two degrees of freedom, because of the two restrictions namely year and country. Both satisfaction with democracy as satisfaction with government scores a p-value of <0.001. This means that there is a significant variance between group variance and so I need to use a multilevel regression model to test my hypotheses.

My research focuses on macro level explanations which have a restrictive effect on the power of my regression models. Because of the limited power, and to make sure I do not reject my hypothesis to quickly, I will use a p-value of 0.1 for significant relationships.

4.3 Bivariate analysis

To test whether there is a relation between my dependent and independent variables I will start doing a bivariate analysis. Since I will do a multilevel regression analysis, because the individual data is nested in countries and years, I will also do a multilevel bivariate analysis. A bivariate analysis also shows if a relationship between an independent and a dependent variable is in the same direction as the hypothesis predicted. The results of this bivariate analysis can be found in table 3.

[Table 3 here]

I will start analysing the results of the bivariate analysis by looking at the effect of disproportionality and the effective number of parties on satisfaction with democracy and government. Both independent variables are expected to be important for both dependent variables, since disproportionality and the effective number of parties are related to the representation and effectiveness function. The disproportionality of the electoral system is expected to have a negative effect on satisfaction with democracy (H1a), while a positive effect is expected for satisfaction with

⁵ The formula to calculate the intraclass correlation is: $\rho = \frac{\sigma_{u0}^2}{\sigma_{u0}^2 + \sigma_r^2}$. This comes down to intercept/(intercept+residual)=p-value.

government (H1b). For the effective number of parties, it is the other way around. A higher effective number of parties is expected to have a positive effect on satisfaction with democracy (H2a) and a negative effect on satisfaction with government (H2b). However, the bivariate analysis does not show any relationship between disproportionality of the electoral system or the effective number of parties and the two dependent variables.

Corruption is expected to have a negative influence on both satisfaction with democracy (H3a) and government (H3b). The b-coefficient for both dependent variables are significant with a p-value of <0.01 and show a negative correlation between corruption and satisfaction with both dependent variables. This means that when the level of corruption increases with 1 unit on a scale between 0 and 100, it leads to a decrease of -0.046 in satisfaction with democracy on an 11-point scale. For satisfaction with government the level of satisfaction decreases with -0.042 on an 11-point scale as the level of corruption increases with 1 unit.

For government performance there is no effect expected on satisfaction with democracy (H4a). As can be seen in table 3, there is no significant relationship found between government performance and satisfaction with democracy. The opposite is true for satisfaction with government. I expected a positive relationship between government performance and satisfaction with government (H4b) and the b-coefficient underlines that expectation with a p-value of <0.01 . The level of satisfaction with government is increasing with 0.032 if government performance, measured as GDP growth, increases with 1 percent.

Descriptive representation is expected to have a positive effect on satisfaction with democracy (H6a), while there is no relation expected between descriptive representation and satisfaction with government (H6b). The coefficients in table 3 confirm both expectations. That means that there is no effect found between descriptive representation and satisfaction with government. On the other hand, there is a significant effect between the level of descriptive representation and satisfaction with democracy with a p-value of <0.05 . The coefficient shows that if the level of descriptive representation increases with 1 percent, the level of satisfaction with democracy increases with 0.031.

Direct democracy, measured in number of referenda between 2002 and 2012, is expected to have a positive effect on satisfaction with democracy (H5a). Since this is a dummy variable, the b-coefficient shows the difference between countries with just 0 or 1 referenda and countries with 2 or more referenda between 2002 and 2012. For satisfaction with democracy a significant effect with a p-value of <0.1 is found. However, the b-coefficient is negative which means that citizens living in countries with 2 or more referenda between 2002 and 2012 are -0.691 less satisfied with democracy. This is the opposite of the predicted hypothesis, which expected a positive relationship between the number of referenda and satisfaction with democracy. For satisfaction with government no effect

expected was (H5b) and no effect was found.

The last variable in the bivariate analysis is gender (H7a). Women are expected to be less satisfied with democracy and that is confirmed by the coefficient in table 3. Women are -0.172 less satisfied with democracy than men on a 10 point scale, with a p-value of <0.01. Although I did not expect gender to have an effect on satisfaction with government (H7b), a significant effect was found. Women are -0.079 less satisfied with government than men on a 10 point scale, with a p-value of <0.01.

4.4 Macro variables with micro control variables

The bivariate regression analysis shows the relationship between one independent variable and a dependent variable. This kind of analysis is useful to see whether there is an effect and if that effect is in the predicted direction. Nevertheless, a bivariate analysis is not enough to test my hypotheses. To avoid bias, control variables are needed. Control variables are variables in which you are not interested, but do have an effect on the dependent variable and are correlated with the independent you are interested in (Allison, 1999). The variables I will control for are age, income and education. All three control variables are expected to have a positive effect on both satisfaction with democracy and government. That means that a higher age, a higher income and a higher level of education are all expected to lead to a higher level of satisfaction with democracy or government.

In table 4 the effect of all independent variables on satisfaction with democracy are tested while controlling for age, income and education. Subsequently, table 5 shows the relation of all independent variables and satisfaction with government including the three control variables. Both tables show the b-coefficient and the standard error for the fixed effects and for the random effects.

[Table 4 here]

Table 4 shows the results of seven different regression models on satisfaction with democracy. As formulated in the Theory & Hypotheses section, I expect a negative relation between the disproportionality of the electoral system and satisfaction with democracy (H1a) and a positive relationship for the effect of the effective number of parties and satisfaction with democracy (H2a). Just like the bivariate analysis, there is no significant effect found for the level of disproportionality (Model 1) or the effective number of parties (Model 2) when controlling for age, income and education. For corruption the hypothesis (H3a) was already supported by the bivariate analyses and also when controlling for age, income and education in Model 3 the negative relationship still exists. The b-coefficients shows a negative relationship with a p-value of <0.01. That means that when the level of corruption increases with one, the level of satisfaction with democracy decreases with -0.031

on an 11-point scale. As expected (H4a) there was no relationship found between government performance and satisfaction with democracy. This still stands after including the control variables in Model 4. Descriptive representation is expected to have a positive effect on satisfaction with democracy (H6a) and this was supported by the bivariate analyses with a p-value of <0.05 . When controlling for age, income and education in Model 5, the positive relationship is even significant with a p-value of <0.01 . If the level of descriptive representation increases with one unit, satisfaction with democracy will increase with 0.032. For direct democracy a positive relationship was expected (H5a) and this was supported by the bivariate analyses. However, including the control variables in Model 6 makes that there is no significant effect left between direct democracy and satisfaction with democracy. Women were expected to be more satisfied with democracy than men, and that hypothesis was supported by the bivariate analysis. This effect remains intact with a p-value of <0.001 when including the control variables in Model 7. Women are -0.188 less satisfied with democracy than men on an 11-points scale. The control variables do not all show significant coefficients. It seems that age is not that important in explaining satisfaction with democracy, since it shows no significant effects. Income and education, on the other hand, show mostly significant results with a p-value <0.01 . Only the dummy variable 'less than lower education' does not show a significant effect.

[Table 5 here]

Table 5 consists of seven models testing each independent variable together with the control variables age, income and education on satisfaction with government. I expect a positive effect between the disproportionality of the electoral system and satisfaction with government (H1b). In contrast to the bivariate analysis, this multivariate analysis shows a significant effect between disproportionality and satisfaction with government in Model 1. However, the b-coefficient shows a negative relationship of -0.066 with a p-value of <0.1 instead of the predicted positive relationship. As to the effective number of parties, I expect a negative relationship for satisfaction with government (H2b). But there is no significant effect found for the effective number of parties in Model 2. As expected (H3b), corruption shows a negative, significant effect with a p-value of <0.01 which equals the outcome of the bivariate analysis. The b-coefficient in Model 3 shows that an increase of one unit on the level of corruption, the level of satisfaction with government decreases with -0.030 on an 11-point scale. Government performance is expected to have a positive effect on satisfaction with government (H4b). The hypothesis on government performance was confirmed by the bivariate analysis, but when including control variables this effect disappears. There is no significant effect found in Model 4 between government performance and satisfaction with

government when controlling for age, income and education. To find out why the effect of government performance disappears, I put all control variables one by one in a model with government performance (Appendix 2). The outcome shows that the control variable income makes the effect of government performance disappear.

For descriptive representation there was no effect expected (H5b) but, in contrast to the bivariate analysis, Model 5 shows a positive significant relationship with a b-coefficient of 0.029 between descriptive representation and satisfaction with government with a p-value of <0.05 . Direct democracy was expected to have no effect on satisfaction with government (H6b) and this hypothesis is supported by both the bivariate and the multivariate analysis while controlling for age, income and education in Model 6. Finally, gender was expected to have no effect, but the bivariate analysis already showed the opposite. The same effect remains at the multivariate analysis in Model 7. Women are expected to be -0.117 less satisfied with government than men with a p-value of <0.01 .

The same control variables for satisfaction with democracy are included in the models for satisfaction with government. In all models, age and income show a significant effect in the expected direction with a p-value of at least <0.05 . The older citizens are and the higher their income, the more satisfied citizens are with government. The dummy variables on education show that citizens with less than lower education are more satisfied with government than citizens with upper secondary education. This is the opposite of what I expected.

4.5 Final models

Up to now I only tested one single macro variable, with or without control variables, in different models. Before testing the final models, the next step is to test macro variables while controlling for different macro and micro variables to see which macro variables are related with each other and to unravel the mechanisms behind political satisfaction. The combinations of macro variables are based on the theory of satisfaction with democracy and government as described in the Theory & Hypotheses section. In Appendix 2 and Appendix 3 I included a correlation matrix of all the independent variables for satisfaction with democracy and satisfaction with government to test for multicollinearity (Allison, 1999). Multicollinearity occurs when two or more independent variables are extremely correlated, which can lead to biased estimates. The correlation matrix in Appendix 2 and 3 did not show extreme scores⁶ for multicollinearity for any of the variables.

I have tested different combinations of macro variables before testing the final models. I reported the different models based on a combination of macro and micro variables in the appendix when they do not show any big changes compared to the final model. Variables that did change,

⁶ In this research there is multicollinearity when the correlation shows scores above 0.8 (Allison, 1999).

compared to the final model, I have included in table 6, which shows the outcome of the final models for satisfaction with democracy and satisfaction with government.

Now that I have tested different bivariate and multivariate models, it is time to test the final models as described in the theory and hypothesis section. I will discuss the models by the dependent variables. The results for satisfaction with democracy can be found in table 6 and the outcome of the final model of satisfaction with government are presented in table 7. The final models are based on the theory that distinguishes between the representation function of democracy and the effectiveness function of government. The models contain all the variables that are discussed in the Theory & Hypotheses section, including the control variables. Even though proportionality and the effective number of parties did not show any significant effects in the previous models, I include both variables in the definitive models since they are an important part of the theory about the representation and effectiveness function.

4.5.1 Final model Satisfaction with democracy

Table 6 shows the results of the final model for satisfaction with democracy. Model 1 consists of all macro and micro variables that are assumed to affect the representation function of democracy and thus satisfaction with democracy. To make the model complete and to avoid bias, I include control variables for age, income and education.

[Table 6 here]

Looking at the results of the final regression analysis on satisfaction with democracy in Model 1, I do not see many differences with previous models. For the disproportionality of the electoral system I expected a negative effect (H1a), but just like the previous models, disproportionality still does not show a significant relationship with satisfaction with democracy. The same goes for the effective number of parties. I hypothesized a positive relationship (H2a), but the final model does not show any effect between the effective number of parties and satisfaction with democracy. I expected corruption to have a negative effect (H3a). The hypothesis on corruption was already supported by the previous regression models and remains the same in the final model. Corruption shows a negative relation with a b-coefficient of -0.030 with a p-value of <0.01. An increase of one unit on the level of corruption will lead to a decrease of -0.030 on satisfaction with democracy measured on an 11-point scale. For government performance I did not expect any effect since it is related to effectiveness as opposed to representativeness (H4a). In all previous models this hypothesis was supported and that is still the case in the final model. For direct democracy I expected a positive relationship. The more forms of direct democracy, the more satisfied citizens will be with democracy

(H6a). That hypothesis was supported by the bivariate analysis, but after controlling for age, income and education this effect disappeared. In the final model, Model 1, the hypothesis about direct democracy is not supported anymore.

Something interesting is going on with the interaction variable based on descriptive representation and gender. In Model 2 only descriptive representation, gender and the interaction variables were tested and all of these variables showed a significant relationship with satisfaction with democracy. This has changed in the final model, Model 1, where descriptive representation no longer shows a significant value. While gender and the interaction variable still show significant results.⁷ Since the interaction variable is based upon the descriptive representation and gender variable, I will only interpret the interaction variable. I expected that the effect of descriptive representation should be bigger among women than among men (H8a). This hypothesis was supported by Model 2. In the final model, Model 1, this interaction variable shows a significant b-coefficient with p-value of <0.01. The coefficient shows that the effect of descriptive representation among men on satisfaction with democracy is -0.004 smaller than among women on an 11-point scale. That means that the effect of descriptive representation is bigger among women compared to men. Thus the hypothesis (H8a) is still supported by the predicted value in the final model.

4.5.2 Final model Satisfaction with government

The final model for satisfaction with government includes all variables on which I have formulated a hypothesis in the Theory & Hypotheses section. Those hypotheses are based on the idea that a government needs to produce effective policies. Besides those study variables, I also included control variables about age, income and education. The results are reported in table 7.

[Table 7 here]

As effectiveness is the main function of government, I expected disproportionality of the electoral system to have a positive effect on satisfaction with government (H1b). Although this hypothesis was supported by the bivariate analysis with a p-value of <0.1, in the final model that significant effect disappears. In regards to the effective number of parties, I expected a negative relationship (H2b) and that hypothesis was not supported by the bivariate analysis. There was no

⁷ Since the interaction variable between descriptive representation and gender shows a significant effect, but the two variables on which that interaction variable show no effect with satisfaction with democracy, I test the models again with a different operationalization of descriptive representation. As I calculated the descriptive representation by myself, by subtracting the difference between men and women in the population from the percentage of women in parliament, something could have gone wrong. I tested the models again with descriptive representation measured as percentage of women in parliament. The results can be found in Appendix 4 and showed there is no big difference when I operationalize the variables differently. Therefore I decided to continue the analysis with the operationalization that actually measures descriptive representation, based on the difference between men and women in the population and the number of women in parliament.

effect found at all so is the case in the final model. Corruption was hypothesized to have a negative effect on satisfaction with government and this hypothesis was supported by all previous models. This effect still remains significant with a p-value of <0.01 in the final model. An increase of one unit on corruption will lead to a decrease of -0.037 of satisfaction with government on an 11-point scale. For government performance, measured as GDP growth, I expected a positive effect (H4b). In the previous models the outcomes of the effect of government performance on satisfaction with government varies. In the bivariate analysis (Model 3 in Table 7) there was no effect found and in the combination of macro variables (Model 2 in Table 7) a significant effect with a p-value of <0.1 was found. In the end, the final model shows a significant positive effect with a p-value of <0.05 . The b-coefficient of 0.106 means that an increase of one unit on GDP growth leads to an increase of 0.106 on satisfaction with government on an 11-point scale.

In regards to the variables that were expected to only affect satisfaction with democracy, because they are related to the representation function instead of the effectiveness function, there are no remarkable results. For descriptive representation (H5b), direct democracy (H6b) and gender (H7b) were no effects expected and no effects found. Therefore all hypothesis are supported by the results of the final model. However, the interaction variable based on descriptive representation and gender show a small, but significant with a p-value of 0.1 , effect. The b-coefficient shows that the effect of descriptive representation among men on satisfaction with democracy is -0.002 lower than among women on an 11-point scale. That means that the effect of descriptive representation is bigger among women compared to men. Which makes that the hypothesis is rejected.

5. Conclusion

The main aim of this research is to test if the main function of democracy and government are crucial in explaining citizens satisfaction towards both institutions. Previous research on satisfaction investigated political satisfaction as a whole without making a distinction between different kinds of satisfaction. Some researchers did specify political satisfaction towards specific institutions, but those researchers mainly focussed on satisfaction with democracy. In which they related both the representation and the effectiveness function to the evaluation of the functioning of democracy. In this research I argue that representation and effectiveness are not both functions of democracy, but that effectiveness is related to government functioning and thus to satisfaction with government. That resulted in the following question:

To what extent can macro variables of political institutions and their function explain differences between the level of satisfaction with democracy and satisfaction with government among citizens in thirty European countries⁸ between 2002 and 2012?

To answer this research question I am reasoning from a rational choice perspective. This theory assumes that citizens will try to maximize their preferences based on rational considerations. In the case of this research it implies that citizens evaluate the functioning of political institutions, like democracy and government, on the basis of their preferences. Since political satisfaction arises from the evaluations of the performance of specific institutions (Zmerli, Newton & Montero, 2007), it is necessary to look at the main function of those institutions. As democracy and government have different functions, citizens will evaluate their functioning in different ways. Therefore I distinguish between the representation function of democracy and effectiveness function of government when investigating political satisfaction.

Besides the rational choice perspective, I also assume that individual preferences are influenced by the context citizens live in. This approach is based on Coleman's theory about methodological individualism (Coleman, 1990). This means that citizens evaluations of political institutions are not only based on their personal preferences, but are also affected by the context. Therefore I focused on macro factors that affect micro factors in order to explain individual satisfaction with democracy and government.

Since I tried to answer the research question from a rational choice perspective while taking the context in to account, I used a multilevel regression model. I specified this model to a three-level

⁸ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

model to see if country and year characteristics are part of the explanation of individual satisfaction with democracy and government.

5.1 Results

After testing different models with different combinations of independent variables, the final model showed some interesting results. The most unexpected outcome was found for the effect of the disproportionality of the electoral system and the effective number of parties on both satisfaction with democracy and government. Neither the level of satisfaction with democracy nor the level of satisfaction with government can be explained by the disproportionality of the electoral system or the effective number of parties. Corruption, on the other hand, appears to be an important explanation when investigating satisfaction with both democracy and government. Citizens living in a country that is more corrupt, are likely to be less satisfied with the way democracy and government works. In regard to satisfaction with democracy descriptive representation and gender are important, but there is no proof for direct democracy to affect satisfaction with democracy. Looking at the remaining results for satisfaction with government, government performance is of great importance for citizens. Table 8 and table 9 show an overview of the outcomes of the tested hypotheses regarding satisfaction with democracy and satisfaction with government. The ‘+’ indicates a positive effect and the ‘-’ a negative effect on the dependent variable. Variables that are expected to have no direct influence on the dependent variable are indicated as ‘0’.

[Table 8 here]

The added value of this research is to distinguish different forms of political satisfaction in contrast to previous research. I argued that political satisfaction is the outcome of an evaluation of the performance of specific institutions based on a rational consideration. This approach implies that political satisfaction is based on the main function of a particular institution. For democracy this means that satisfaction is an outcome of the evaluation of the representation function of democracy, while satisfaction with government is based on a positive evaluation of the effectiveness function.

The main results on satisfaction with democracy do not totally endorse that representativeness is key in explaining satisfaction with democracy. The only variables that are related to representativeness and affect satisfaction with democracy are corruption, gender and the interaction variables based upon descriptive representation and gender. Thus can be stated that women are less satisfied with democracy than men because they are less represented in their national parliament. And that corruption has a negative effect on the representativeness and therefore on the level of satisfaction with democracy. The results of the other variables that were expected to affect the representation function of democracy do not show any relationship with

satisfaction with democracy. This is especially striking as regards to the disproportionality of the electoral system and the effective number of parties, since previous research (Aarts & Thomassen, 2008; Anderson & Guillory, 1997; Anderson, 1998) conclude that those variables are of great influence on satisfaction with democracy.

[Table 9 here]

As to satisfaction with government I argued that the effectiveness function is crucial. This expectation is supported by the variables corruption and government performance. But just as with satisfaction with democracy, the importance of effectiveness on satisfaction with government is not supported by the disproportionality of the electoral system or the effective number of parties. Nevertheless, almost all other hypotheses formulated for satisfaction with government are supported by the results. This means that direct democracy, descriptive representation and gender do not affect satisfaction with government. That is line with the expectations because these variables were expected to only affect the representation function of democracy. Therefore I conclude that satisfaction with government can be explained by looking at variables that affect the effectiveness function.

Returning to the research question one could state that the differences between the level of satisfaction with democracy and government in thirty European countries between 2002 and 2012 can be partly explained by the macro variables related to the function of both institutions. This particularly is the case in explaining satisfaction with government because macro explanations related to the effectiveness function showed an effect on the level of satisfaction with government. As to democracy, the representation function cannot help explain the level of satisfaction with democracy. Although satisfaction with democracy cannot be explained by the representation function, this researched showed that it is important to distinguish between different institutions when examining political satisfaction.

5.2 Discussion

In the following paragraph I will discuss the results of my research by looking at the possible limitations of my research and I will make recommendations for further research.

This research examined the differences between satisfaction with democracy and satisfaction with government in thirty European countries between 2002 and 2012. Since my research focused on macro variables, the explanatory power of my model is limited because I only examined thirty countries. Although I tried to avoid this problem by looking at all thirty countries during ten years,

the reader should bear in mind that the power of the models can still be limited. Therefore I recommend subsequent research to examine more countries all over the world.

Notable about the results is that disproportionality and the effective number of parties do not affect satisfaction with democracy nor satisfaction with government while I expected those variables to be of great importance. It is hard to say why the results do not show an effect, since the operationalization of the variables is based on previous research. Previous research concluded that disproportionality and the effective number of parties are indeed important for explaining satisfaction. It may be explained by the limited number of cases, or the effect is influenced by another variable. This can be the case with the disproportionality of the electoral system, as Appendix 5 and 6 do not show a very strong effect ($p\text{-value} < 0.1$) between disproportionality and satisfaction with both democracy and government. When adding corruption or descriptive representation to the model, that effect disappears. I conclude that there is no effect of disproportionality on satisfaction with democracy of government because other macro variables do have a stronger effect.

In regard to the satisfaction with democracy, it is notable that direct democracy has no effect, while I expected that citizens in countries with more forms of direct democracy are more satisfaction with democracy. I operationalized direct democracy as a dummy variable distinguishing between countries with 0 or 1 referendum and countries with 2 or more referenda during 2002 and 2012. I chose to operationalize direct democracy as a dummy to distinguish between countries that never organized a referendum, or just once concerning the European constitution, and countries that organized referenda more often. Since direct democracy is measured over ten years, the value for each countries does not change over the years. This makes that there are only thirty different values, which made it a very small sample with limited explanatory power. The effect may be different when counting the number of referenda per year instead of adding all the referenda during ten years. This can be considered for future research.

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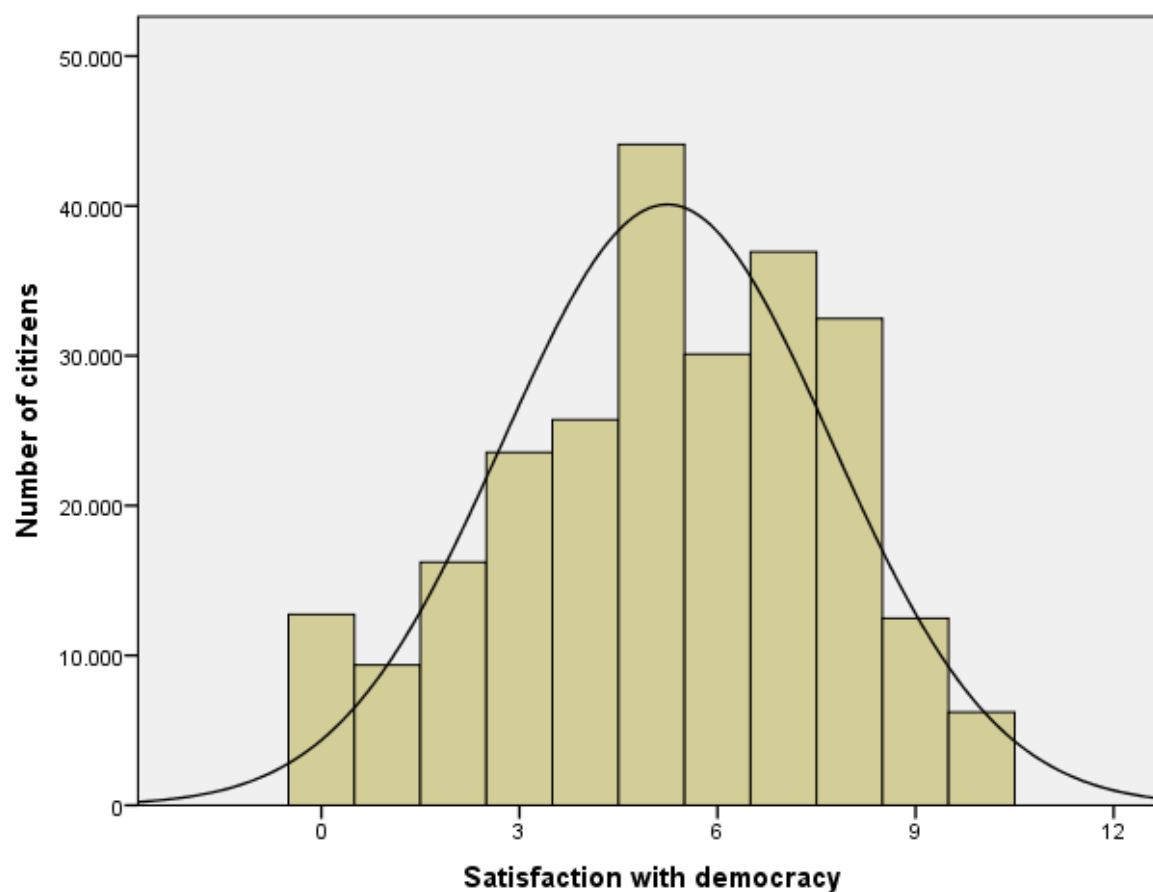
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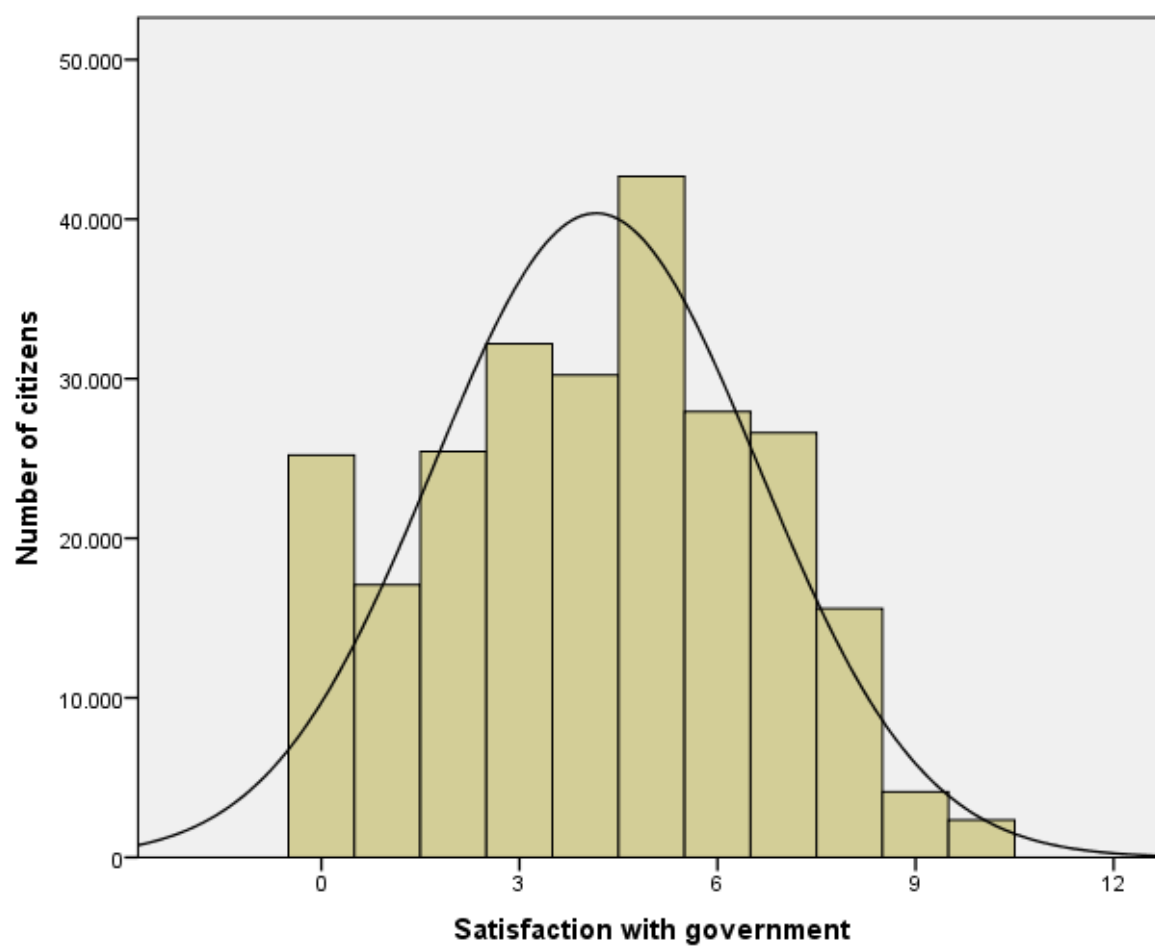
7. Tables & Figures

Figure 1 Distribution of the values on the dependent variable Satisfaction with democracy



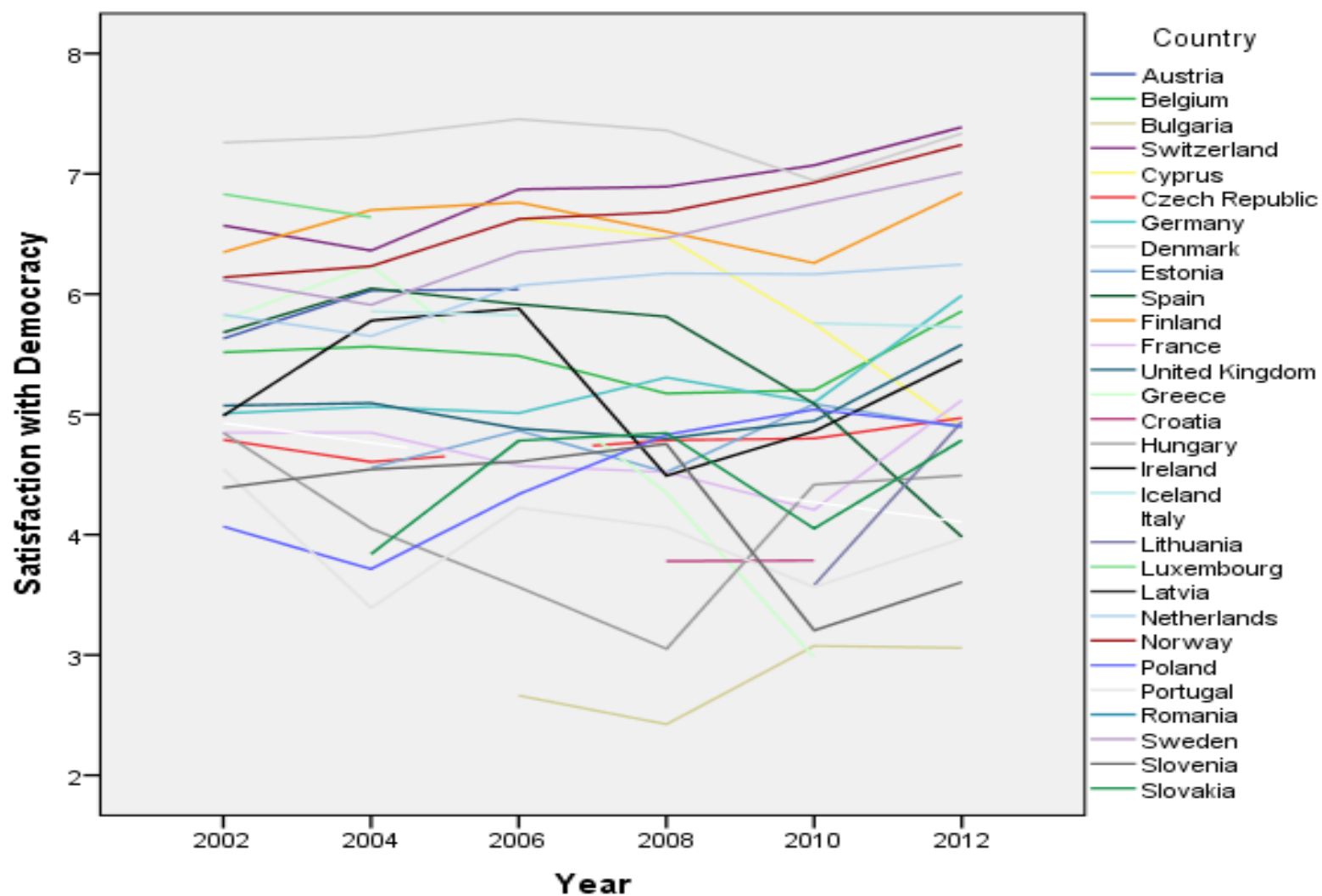
Source: European Social Survey

Figure 2 Distribution of the values on the dependent variable Satisfaction with government



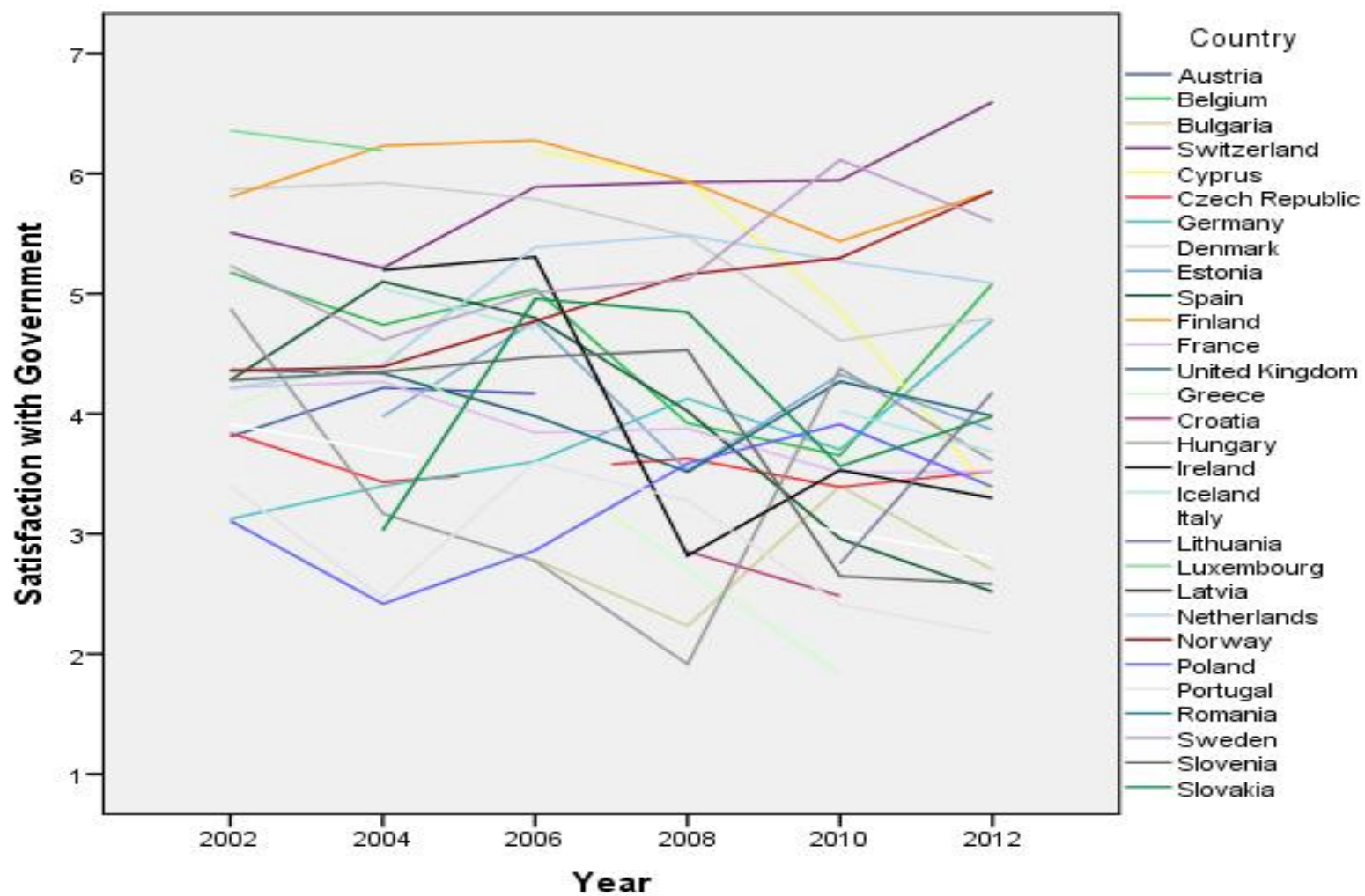
Source: European Social Survey

Figure 3 Line graph represents the mean score of countries on Satisfaction with democracy between 2002 and 2012



Source: European Social Survey

Figure 4 Line graph represents the mean score of countries on Satisfaction with government between 2002 and 2012



Source: European Social Survey

Table 1 Overview tested hypotheses and expected direction on dependent variables

	Satisfaction with Democracy	Satisfaction with Government
Proportionality electoral system	+	-
Effective number of parties	+	-
Corruption	-	-
Economic performance	0	+
Direct democracy	+	0
Descriptive representation	+	0
Women	-	0
Descriptive representation*women	+	0

Table 2 Descriptives on dependent, independent and control variables

	Valid N	Mean or %	Standard deviation	Minimum value	Maximum value
Dependent variables					
Satisfaction with Democracy	249934	5.24	2.486	0	10
Satisfaction with Government	249417	4.16	2.464	0	10
Independent variables					
Effective number of parties	260205	3.9953	1.41246	1.98	9.08
Corruption	260205	30.9	17.955	3	65
Government performance	260205	2.2010	2.47227	-5.30	10.40
Descriptive representation	255206	23.2512	11.10428	4	47
Direct democracy	260205			0	1
0-1 referenda		Reference			
2 or more		28%			
Gender	259911			0	1
Male		Reference			
Female		54%			
Control variables					
Age	258946	47.81	18.502	13	123
Income	86525	6.32	2.545	1	12
Education					
Very low	168537	15%	0.355	0	1
Low	168537	20%	0.400	0	1
Upper	Reference	Reference	Reference	Reference	Reference
Post	168537	2%	0.149	0	1
Tertiary	168537	23%	0.420	0	1

Source: European Social Survey

Table 3 Multilevel bivariate analysis of the fixed effects on Satisfaction with democracy and Satisfaction with government

	Satisfaction with Democracy	Satisfaction with Government
Disproportionality	-0.013 (0.027)	-0.038 (0.030)
Effective number of parties	0.004 (0.081)	0.079 (0.095)
Corruption	-0.046*** (0.005)	-0.042*** (0.005)
Government performance	0.032 (0.019)	0.117*** (0.025)
Descriptive representation	0.031** (0.011)	0.018 (0.012)
Direct democracy (dummy)		
0 and 1	Reference	Reference
2 or more	-0.691* (0.402)	-0.405 (0.371)
Gender (dummy)		
Male	Reference	Reference
Female	-0.172*** (0.009)	-0.079*** (0.009)

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Table 4 Multilevel regression analysis of macro variables with micro control variables on Satisfaction with democracy

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Fixed Effects							
Intercept	5.114*** (0.247)	4.856*** (0.385)	5.778*** (0.250)	4.718*** (0.219)	4.122*** (0.301)	4.991*** (0.227)	4.961*** (0.194)
Disproportionality	-0.051 (0.032)						
Effective number of parties		-0.003 (0.082)					
Corruption			-0.031*** (0.007)				
Government performance				0.035 (0.027)			
Descriptive representation					0.032*** (0.011)		
Direct democracy (dummy)							
0 and 1						Reference	
2 or more						-0.466 (0.399)	
Gender (dummy)							
Male							Reference
Female							-0.188*** (0.015)
Age	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.001 (0.001)	0.000 (0.001)	0.000 (0.001)
Income	0.081*** (0.004)	0.081*** (0.004)	0.080*** (0.004)	0.081*** (0.004)	0.082*** (0.004)	0.081*** (0.004)	0.077*** (0.004)
Education (dummy)							
Very low	-0.023 (0.028)	-0.023 (0.028)	-0.024 (0.028)	-0.023 (0.028)	-0.024 (0.029)	-0.023 (0.028)	-0.016 (0.028)
Low	-0.075*** (0.022)	-0.075*** (0.022)	-0.075*** (0.022)	-0.075*** (0.022)	-0.069*** (0.022)	-0.075*** (0.022)	-0.064*** (0.022)
Upper	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Post	0.208*** (0.051)	0.208*** (0.051)	0.208*** (0.051)	0.208*** (0.051)	0.208*** (0.051)	0.208*** (0.051)	0.207*** (0.051)
Tertiary	0.353*** (0.020)	0.353*** (0.020)	0.353*** (0.020)	0.353*** (0.020)	0.352*** (0.021)	0.353*** (0.020)	0.360*** (0.020)
Random effects							
Residual	4.663*** (0.023)	4.663*** (0.023)	4.663*** (0.023)	4.663*** (0.023)	4.680*** (0.024)	4.663*** (0.023)	4.655*** (0.023)
Intercept cntry	0.759*** (0.230)	0.881*** (0.262)	0.510*** (0.154)	0.914*** (0.270)	0.665*** (0.203)	0.833*** (0.246)	0.881*** (0.260)
Intercept year*cntry	0.058*** (0.015)	0.055*** (0.015)	0.049*** (0.013)	0.051*** (0.013)	0.058*** (0.016)	0.055*** (0.014)	0.056*** (0.015)
Model Summary							
-2 Log Likelihood	363306.7	363309.1	363291.6	363307.4	348894.2	363307.7	362878.3

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Table 5 Multilevel regression analysis of macro variables with micro control variables on Satisfaction with government

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Fixed Effects							
Intercept	4.241*** (0.256)	3.612*** (0.465)	4.771*** (0.267)	3.660*** (0.241)	3.239*** (0.351)	3.917*** (0.227)	3.966*** (0.190)
Disproportionality	-0.066* (0.034)						
Effective number of parties		0.070 (0.106)					
Corruption			-0.030*** (0.007)				
Government performance				0.066 (0.042)			
Descriptive representation					0.029** (0.012)		
Direct democracy (dummy)							
0 and 1						Reference	
2 or more						-0.076 (0.402)	
Gender (dummy)							
Male							Reference
Female							-0.117*** (0.015)
Age	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.001)	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.000)
Income	0.053*** (0.004)	0.053*** (0.004)	0.053*** (0.004)	0.053*** (0.004)	0.054*** (0.004)	0.053*** (0.004)	0.051*** (0.004)
Education (dummy)							
Very low	0.102*** (0.028)	0.102*** (0.028)	0.102*** (0.028)	0.102*** (0.028)	0.088*** (0.028)	0.102*** (0.028)	0.108*** (0.028)
Low	0.002 (0.021)	0.001 (0.021)	0.001 (0.021)	0.001 (0.021)	0.004 (0.022)	0.001 (0.021)	0.009*** (0.021)
Upper	Reference	Reference	Reference	Reference	Reference	Reference	Reference
Post	0.105** (0.051)	0.105** (0.051)	0.104** (0.051)	0.104*** (0.051)	0.105** (0.051)	0.105** (0.051)	0.104** (0.051)
Tertiary	0.151*** (0.020)	0.151*** (0.020)	0.151*** (0.020)	0.151*** (0.020)	0.154*** (0.021)	0.151*** (0.020)	0.155*** (0.020)
Random effects							
Residual	4.589*** (0.023)	4.589*** (0.023)	4.589*** (0.023)	4.589*** (0.023)	4.623*** (0.023)	4.589*** (0.023)	4.584*** (0.022)
Intercept cntry	0.711*** (0.226)	0.741*** (0.244)	0.494*** (0.165)	0.792*** (0.249)	0.701*** (0.225)	0.786*** (0.248)	0.787*** (0.249)
Intercept year*cntry	0.150*** (0.038)	0.160*** (0.041)	0.142*** (0.036)	0.145*** (0.036)	0.152*** (0.039)	0.155*** (0.039)	0.156*** (0.039)
Model Summary							
-2 Log Likelihood	363059.3	363062.4	363049.2	363060.4	349110.3	363062.8	362705.3

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Table 6 Final models on Satisfaction with democracy

	Model 1	Model 2
Fixed Effects		
Intercept	6.284*** (0.750)	4.180*** (0.302)
Disproportionality	-0.042 (0.030)	
Effective number of parties	-0.044 (0.079)	
Corruption	-0.032*** (0.008)	
Government performance	0.034 (0.029)	
Descriptive representation	-0.002 (0.014)	0.035*** (0.011)
Direct democracy (dummy)		
0 and 1	Reference	
2 or more	-0.285 (0.333)	
Gender (dummy)		
Male	Reference	Reference
Female	-0.085** (0.037)	-0.085* (0.037)
Descriptive representation * Gender	-0.004*** (0.001)	-0.004*** (0.001)
Age	0.001 (0.000)	0.001 (0.000)
Income	0.078*** (0.004)	0.078*** (0.004)
Education (dummy)		
Very low	-0.019 (0.029)	-0.018 (0.029)
Low	-0.059*** (0.022)	-0.059*** (0.022)
Upper	Reference	Reference
Post	0.204*** (0.051)	0.204*** (0.051)
Tertiary	0.359*** (0.021)	0.359*** (0.021)
Random effects		
Residual	4.671*** (0.023)	4.671*** (0.023)
Intercept cntry	0.432*** (0.137)	0.666*** (0.203)
Intercept year*cntry	0.050*** (0.014)	0.058*** (0.016)
Model Summary		
-2 Log likelihood	348453.5	348468.5

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Table 7 Final models on Satisfaction with government

	Model 1	Model 2	Model 3
Fixed Effects			
Intercept	5.398*** (0.850)	4.590*** (0.558)	3.660*** (0.241)
Disproportionality	-0.050 (0.032)	-0.039 (0.031)	
Effective number of parties	0.028 (0.093)	0.025 (0.096)	
Corruption	-0.037*** (0.009)	-0.028*** (0.007)	
Government performance	0.106** (0.044)	0.069* (0.039)	0.066 (0.042)
Descriptive representation	-0.024 (0.018)		
Direct democracy (dummy)			
0 and 1	Reference		
2 or more	-0.156 (0.344)		
Gender (dummy)			
Male	Reference		
Female	-0.059 (0.037)		
Descriptive representation * Gender	-0.002* (0.001)		
Age	0.005*** (0.000)	0.005*** (0.039)	0.005*** (0.001)
Income	0.051*** (0.004)	0.053*** (0.004)	0.053*** (0.004)
Education (dummy)			
Very low	0.093*** (0.028)	0.102*** (0.028)	0.102*** (0.028)
Low	0.012 (0.022)	0.001 (0.021)	0.001 (0.021)
Upper	Reference	Reference	Reference
Post	0.101** (0.051)	0.104** (0.051)	0.104*** (0.051)
Tertiary	0.158*** (0.022)	0.151*** (0.020)	0.151*** (0.020)
Random effects			
Residual	4.617*** (0.023)	4.589*** (0.023)	4.589*** (0.023)
Intercept cntry	0.348*** (0.139)	0.425** (0.150)	0.792*** (0.249)
Intercept year*cntry	0.142*** (0.040)	0.134*** (0.035)	0.145*** (0.036)
Model Summary			
-2 Log likelihood	348733.2	363043.8	363060.4

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Table 8 Overview of the tested hypothesis for Satisfaction with democracy

	Hypothesis	Supported/Not supported
Disproportionality	-	Not supported. There was no effect found for the level of the disproportionality of the electoral system.
Effective number of parties	+	Not supported. There was no effect found for the effective number of parties in parliament.
Corruption	-	Supported. The higher the level of corruption, the lower the level of satisfaction with democracy.
Government performance	0	Supported. As expected, there was no effect found for government performance.
Direct democracy	+	Not supported. There was no effect found for the number of referenda, as indicator for more direct democracy, on satisfaction with democracy.
Descriptive representation	+	Not supported. In the final model there was no effect found for the level of descriptive representation in parliament.
Women	-	Supported. The results support the hypothesis that women are less satisfied with democracy than men.
Descriptive representation * gender	+	Supported. The effect of descriptive representation among women is stronger than among men.

Table 9 Overview of the tested hypothesis for Satisfaction with government

	Hypothesis	Supported/Not supported
Disproportionality	+	Not supported. There was no effect found for the level of the disproportionality of the electoral system.
Effective number of parties	-	Not supported. There was no effect found for the effective number of parties in parliament.
Corruption	-	Supported. The higher the level of corruption, the lower the level of satisfaction with government.
Government performance	+	Supported. Government performance, measured as GDP growth, has a positive effect on satisfaction with government.
Direct democracy	0	Supported. No effect was found for direct democracy.
Descriptive representation	0	Supported. No effect was found for descriptive representation.
Women	0	Supported. In the final model no effect was found for gender.
Descriptive representation * gender	0	Not supported. A small, but significant, interaction effect was found between descriptive representation and gender.

8. Appendix

Appendix 1 Output full and restricted model of Satisfaction with Democracy and Satisfaction with Government

	Full model Satisfaction with Democracy	Restricted model Satisfaction with Democracy	Full model Satisfaction with Government	Restricted model Satisfaction with Government
Fixed Effects				
Intercept	5.130861	5.238971	4.117952	4.161136
Random Effects				
Intercept cntry	1.141964		0.826784	
Intercept cntry*year	0.0251038		0.499460	
Residual	4.915474	6.182344	4.866012	6.073611
Model Summary				
-2 Log Likelihood	1107985.200	1164586.108	1103235.911	1157751.429

Source: European Social Survey.

Appendix 2 Testing government performance on Satisfaction with Government with different control variables

	Model 1	Model 2	Model 3	Model 4
Intercept	3.659*** (0.240)	3.747*** (0.187)	3.941*** (0.241)	3.831*** (0.210)
Government performance	0.066 (0.042)	0.118*** (0.025)	0.068 (0.042)	0.120*** (0.028)
Age	0.005*** (0.001)	0.002*** (0.000)		
Income	0.053*** (0.004)		0.050*** (0.004)	
Education (dummy)				
Very low	0.102*** (0.028)			0.129*** (0.019)
Low	0.001 (0.021)			0.046*** (0.015)
Upper	Reference			Reference
Post	0.104** (0.051)			0.044 (0.037)
Tertiary	0.151*** (0.020)			0.202*** (0.015)

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Appendix 3 Correlation matrix macro variables on Satisfaction with Democracy

	Dispro- portionality	Effective number of parties	Corruption	Government performance	Descriptive representation	Direct democracy	Gender
Disproportionality	1	0.355	0.006	0.162	0.234	-0.158	0.000
Effective number of parties	0.355	1	-0.032	-0.036	-0.210	-0.195	0.000
Corruption	0.006	-0.032	1	0.051	0.591	0.153	-0.001
Government performance	0.162	-0.036	0.051	1	0.203	-0.004	0.000
Descriptive representation	0.234	-0.210	0.591	0.203	1	0.393	0.001
Direct democracy	-0.158	-0.195	0.153	-0.004	0.393	1	0.000
Gender	0.000	0.000	-0.001	0.000	0.001	0.000	1

Source: European Social Survey.

Appendix 4 Correlation matrix macro variables on Satisfaction with Government

	Dispro- portionality	Effective number of parties	Corruption	Government performance	Descriptive representation	Direct democracy	Gender
Disproportionality	1	0.327	-0.028	0.166	0.220	-0.141	0.000
Effective number of parties	0.327	1	-0.048	-0.045	-0.186	-0.175	0.001
Corruption	-0.028	-0.048	1	0.087	0.492	0.058	-0.001
Government performance	0.166	-0.045	0.087	1	0.260	0.019	0.000
Descriptive representation	0.220	-0.186	0.492	0.260	1	0.337	0.001
Direct democracy	-0.141	-0.175	0.058	0.019	0.337	1	-0.001
Gender	0.000	0.001	-0.001	0.000	0.001	-0.001	1

Source: European Social Survey.

Appendix 5 Multilevel analysis on Satisfaction with Democracy with descriptive representation operationalized as percentage of women in parliament

	Model 1	Model 2	Model 3	Model 4
Disproportionality			-0.042 (0.030)	-0.042 (0.030)
Effective number of parties			-0.043 (0.075)	-0.043 (0.078)
Corruption			-0.031*** (0.007)	-0.031*** (0.007)
Government performance			0.025 (0.026)	0.026 (0.027)
Descriptive representation (women in parliament)	-0.021* (0.011)	0.023** (0.11)	-0.005 (0.014)	-0.003 (0.014)
Direct democracy (dummy)				
0 and 1			Reference	Reference
2 or more			-0.274 (0.331)	-0.274 (0.331)
Gender (dummy)		-0.099*** (0.024)		
Male			Reference	Reference
Female			-0.188*** (0.015)	-0.067 (0.041)
Descriptive representation * gender		-0.003*** (0.001)		-0.004*** (0.001)
Age			0.000 (.000)	0.000 (0.000)
Income			0.077*** (0.004)	0.077*** (0.004)
Education (dummy)				
Very low			-0.016 (0.028)	-0.018 (0.028)
Low			-0.064*** (0.022)	-0.064*** (0.022)
Upper			Reference	Reference
Post			0.206*** (0.051)	0.203*** (0.051)
Tertiary			0.360*** (0.020)	0.360*** (0.020)
Model Summary				
-2 Log Likelihood	1107982.6	1106413.1	362856.6	362846.6

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Appendix 6 Multilevel regression models with different combinations of macro variables on Satisfaction with democracy

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Fixed Effects						
Intercept	5.336*** (0.476)	6.156*** (0.439)	5.858*** (0.259)	4.465*** (0.384)	4.231*** (0.302)	4.180*** (0.302)
Disproportionality	-0.057* (0.033)	-0.046 (0.027)		-0.031 (0.031)		
Effective number of parties	-0.047 (0.086)	-0.044 (0.075)				
Corruption		-0.030*** (0.006)	-0.031*** (0.007)			
Descriptive representation				0.029** (0.012)	0.033*** (0.011)	0.035*** (0.011)
Direct democracy						
0 or 1			Reference			
2 or more			-0.321 (0.310)			
Gender						
Men				Reference	Reference	Reference
Women				-0.183*** (0.015)	-0.183*** (0.015)	-0.085* (0.037)
Descriptive representation *						-0.004*** (0.001)
Gender						
Age	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.001 (0.000)	0.000 (0.000)	0.001 (0.000)
Income	0.081*** (0.004)	0.080*** (0.004)	0.080*** (0.005)	0.078*** (0.004)	0.078*** (0.004)	0.078*** (0.004)
Education (dummy)						
Very low	-0.023 (0.028)	-0.023 (0.028)	-0.024 (0.028)	-0.016 (0.030)	-0.016 (0.029)	-0.018 (0.029)
Low	-0.075*** (0.022)	-0.075*** (0.022)	-0.75*** (0.022)	-0.058*** (0.022)	-0.058*** (0.022)	-0.059*** (0.022)
Upper	Reference	Reference	Reference	Reference	Reference	Reference
Post	0.208*** (0.051)	0.207*** (0.051)	0.207*** (0.051)	0.207*** (0.051)	0.207*** (0.051)	0.204*** (0.051)
Tertiary	0.353*** (0.020)	0.353*** (0.020)	0.353*** (0.020)	0.259*** (0.021)	0.359*** (0.021)	0.359*** (0.021)
Random effects						
Residual	4.663*** (0.023)	4.663*** (0.023)	4.663*** (0.023)	4.671*** (0.023)	4.671*** (0.023)	4.671*** (0.023)
Intercept cntry	0.756*** (0.228)	.0440*** (0.136)	0.488*** (0.148)	0.639*** (0.194)	0.665*** (0.203)	0.666*** (0.203)
Intercept year*cntry	0.057*** (0.0150)	0.050*** (0.013)	0.049*** (0.013)	0.058*** (0.016)	0.058*** (0.016)	0.058*** (0.016)
Model Summary						
-2 Log Likelihood	363306.4	363289.1	363290.6	348476.1	348477.0	348468.5

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.

Appendix 7 Multilevel regression models with different combinations of macro variables on Satisfaction with government

	Model 1	Model 2	Model 3	Model 4
Fixed Effects				
Intercept	4.296*** (0.589)	4.916*** (0.548)	4.534*** (0.288)	4.590*** (0.558)
Disproportionality	-0.067* (0.037)	-0.044 (0.032)		-0.039 (0.031)
Effective number of parties	-0.012 (0.112)	0.007 (0.098)		0.025 (0.096)
Corruption		-0.028*** (0.007)	-0.030*** (0.007)	-0.028*** (0.007)
Government performance			0.071* (0.039)	0.069* (0.039)
Age	0.005*** (0.000)	0.005*** (0.000)	0.005*** (0.004)	0.005*** (0.039)
Income	0.053*** (0.004)	0.053*** (0.004)	0.053*** (0.004)	0.053*** (0.004)
Education (dummy)				
Very low	0.102*** (0.028)	0.102*** (0.028)	0.102*** (0.028)	0.102*** (0.028)
Low	0.001 (0.021)	0.001 (0.021)	0.001 (0.021)	0.001 (0.021)
Upper	Reference	Reference	Reference	Reference
Post	0.105** (0.051)	0.104** (0.051)	0.104** (0.051)	0.104** (0.051)
Tertiary	0.151*** (0.020)	0.151*** (0.020)	0.151*** (0.020)	0.151*** (0.020)
Random effects				
Residual	4.589*** (0.023)	4.589*** (0.023)	4.589*** (0.023)	4.589*** (0.023)
Intercept cntry	0.716*** (0.233)	0.463*** (0.159)	0.457*** (0.155)	0.425** (0.150)
Intercept year*cntry	0.149*** (0.038)	0.139*** (0.036)	0.137*** (0.035)	0.134*** (0.035)
Model Summary				
-2 Log Likelihood	363059.3	363046.9	363046.0	363043.8

*=p<0.1; **=p<0.05; ***=p<0.01; two tailed. Standard errors in parentheses.

Source: European Social Survey.