DEPARTMENT OF POLITICAL SCIENCE

CORRUPTION AND THE SATISFACTION WITH DEMOCRACY: A TIME SERIES ANALYSIS

The moderating effect of economic inequalities

Jessica Martebo

Abstract

Recent years have shown not only a global decline in democracy, but also that citizens increasingly express dissatisfaction with democracy. Previous research has shown that corruption fosters dissatisfaction with democracy. Existing literature does, however, ignore the temporal perspective, resulting in uncertainty whether changes in corruption lead to changes to in satisfaction with democracy. This gap in the literature is addressed by performing a cross sectional time series analysis using a fixed effects model. The results show a statistically significant effect of that corruption, as an indicator of Quality of Government, affects satisfaction with democracy negatively. The results of the study also show that there is a significant moderating effect of economic inequalities, indicating that corruption has a stronger effect on satisfaction with democracy when economic inequalities are high.

Key words: corruption, Quality of Government, satisfaction with democracy, economic inequality, panel analysis

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Introduction

Democracy is in crisis. Around the world, democracy is declining while autocracy is on a rise, suggesting that Fukuyama's idea of 'the end of times' (1989) is dead. Democracy has yet not won.

According to Freedom House, 2021 was the sixteenth consecutive year of decline in global freedom, with individuals in 60 countries experiencing a deterioration of their political rights and civil liberties. In comparison, only 25 countries experienced improvements (Repucci & Slipowitz, 2022: 12). The same year, 70 percent of the world population lived in autocracies, while a mere 13 percent lived in liberal democracies (Boese, Alizada, Lundstedt, Natsika, Sato, Tai & Lindberg, 2022: 12).

Following Samuel Huntington's (1991) description of democratization as a phenomenon occurring in waves, where a period of intense global democratization is followed by a backlash of democratization, we now find ourselves in the midst of the third wave of autocratization (Lührmann & Lindberg, 2019). With the exception of a return of the classic coup d'états in five countries in 2021, this autocratization wave differ from earlier ones in that democracies are under attack by insiders – democratically chosen leaders that use less obvious and more long-term methods, resulting in a gradual process of democratic recession (Bermeo, 2016: 6; Hanley & Vachudova, 2018: 278). What is most interesting is that leaders with authoritarian tendencies are not only often democratically chosen, but they do also maintain public support while these attacks on democracy are happening.

In the media, and elsewhere in the popular discourse, the dissatisfaction with democracy and political institutions, including the elites that occupy them – the 'establishment' – has been claimed to be the cause of the rise of alternative parties, and the catalyst of events like Brexit and the presidency of Donald Trump (Kaltwasser & Van Hauwaert, 2020; Knot, 2016; McCall, 2020).

Citizens increasingly express dissatisfaction with democracy. In the mid-1990s, a majority of citizens expressed satisfaction with democracy. This is no longer the case. Since then, the

percentage of citizens that express dissatisfaction with democracy has increased from 47.9 percent to 57.5 percent (Foa, Klassen, Slade, Rand & Collins, 2020: 2). This is an increase of about 10 percent for the last quarter-century. As seen in the figure below, this increase is even more evident in recent years.

Figure 1. Global trends in dissatisfaction with democracy.
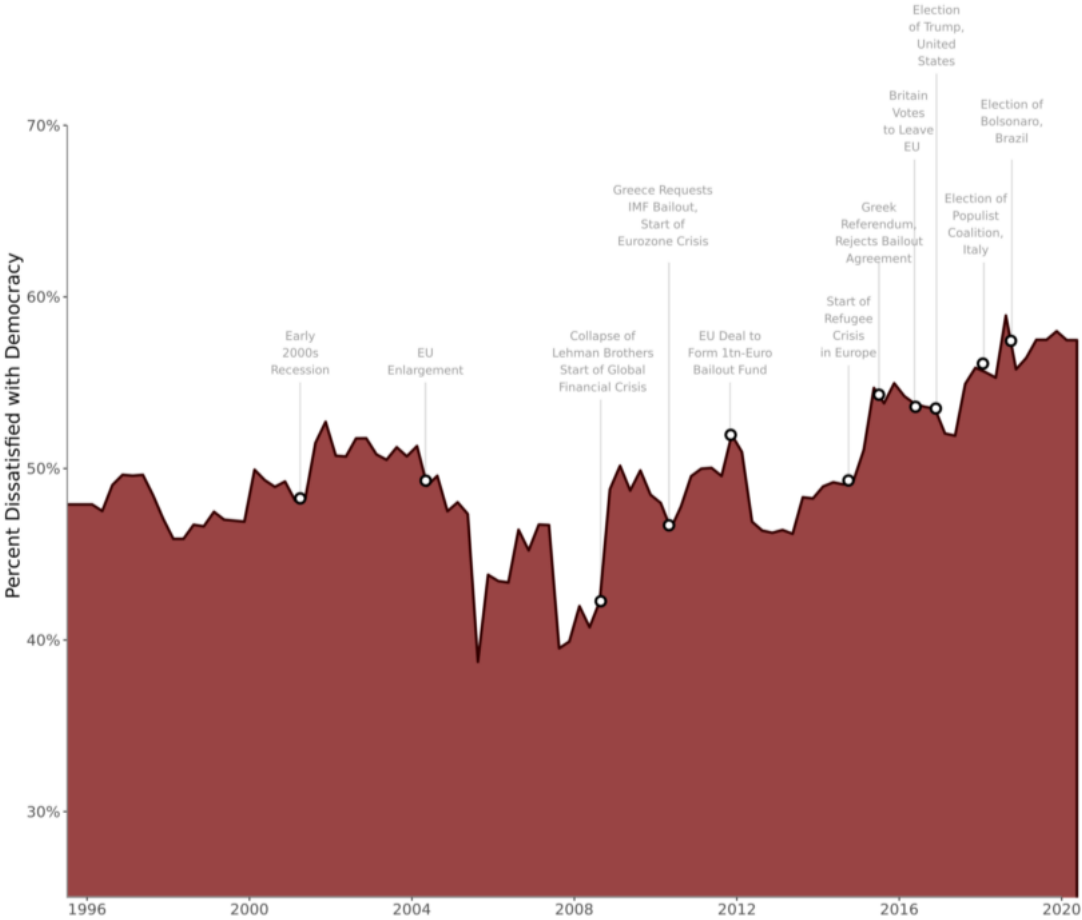
Source: Foa, Klassen, Slade, Rand and Collins (2020: 9).

There is not only a trend of increasing dissatisfaction with democracy, but also in the support for democracy as the preferrable political system. For example, the Latinobarómetro Survey for 2021 showed that only 49 percent of respondents believed that democracy was preferrable to autocracy. In 2010, this number was 63 percent (Latinobarómetro, 2021: 8) meaning that support for democracy in Latin America has dropped 14 percent the past eleven years. Why is

dissatisfaction with democracy rising? And why are people losing faith in democracy as the preferable political system?

This thesis revises a subject that has been forgotten in the new literature on autocratization – namely the factors that drive dissatisfaction with democracy. Following the theory of that political legitimacy is created on the output-side of the political system (Easton, 1957; Rothstein & Teorell, 2005; Rothstein & Teorell, 2012), a central aspect of Quality of Government, namely corruption, is tested as an explanatory factor for citizens' satisfaction with democracy.

Various studies have concluded that corruption – as an essential indicator of Quality of Government – fosters dissatisfaction with democracy. However, existing literature to a large extent fails when it comes to conducting global cross-regional longitudinal studies, making it difficult to draw causal inferences of the negative relationship between corruption and satisfaction with democracy. Democracies features cultural, historical, and institutional differences that are not easily controllable in cross-sectional analyses . This study therefore applies a temporal approach to this issue by asking the question: *Does over-time changes in Quality of Government affect citizens' aggregated satisfaction with democracy?*

Further, previous research does not address any alternative factors that might condition the effect of corruption on satisfaction with democracy. Hence, drawing on the literature on how the state of the economy, another governmental output, affects citizens' assessment of their government, the relationship between corruption and satisfaction with democracy is tested under two central economic aspects as moderating variables.

Aim

The aim of this thesis is to build on previous research on Quality of Government as a creator of regime legitimacy and to get closer to the question of causality when examining the relationship between corruption and satisfaction with democracy. To better understand what creates dissatisfaction with democracy will also enhance the understanding of the wave of global democratic decline that are more and more prevalent in the world. To defend democracy and being able to stand up against authoritarian forces, it is vital to understand which factors that create dissatisfaction with democracy, making citizens attracted to populists and authoritarian leaders that are attack democracy from within.

Disposition

The disposition of the thesis will be as follows. First, satisfaction with democracy is conceptualized, followed by a presentation of the theoretical framework that the study draws upon and a literature review of previous research. The chapter concludes with identifying the empirical gap in that this thesis aims to address. Thereafter, the hypotheses that aim to answer the research questions presented in the introduction are specified. This follows by a chapter of data and methods, including operationalizations of variables and a discussion of the limitations of the study. Next, the results from the study are presented, follow by a discussion of the results and concluding remarks.

Previous research

In this section, the concept of satisfaction with democracy is first discussed, with an emphasis on the debate on whether it can be used as an indicator of regime legitimacy or not. This follows by an introduction of the theoretical framework and a conceptualization of the Quality of Government, including the introduction of corruption as an indicator of political output. The section concludes with a brief synthesis on previous research on the correlation between Quality of Government and different indicators of regime legitimacy and identifying the empirical gap in the literature.

Conceptualizing satisfaction with democracy

Satisfaction with democracy has been broadly used in the literature as an indicator of regime legitimacy. The question is broadly used in opinion surveys all across the world, resulting in a wide range of data that can be easily applied to cross sectional empirical studies. There is, however, a debate on whether satisfaction with democracy can be used as an indicator of regime legitimacy or not.

First, to give a more comprehensive perception of what is referred to when the expression "satisfaction with democracy" is used, a presentation of some examples of how the questions measuring this are formulated is shown (for a full disclosure of survey questions, see Foa et. al., 2020).

The most common formulation is: *"On the whole, how satisfied or dissatisfied are you with the way democracy works in [Country]. Are you…? 0 = not at all satisfied, 1= not very satisfied, 2 = fairly satisfied, 3 = very satisfied".*[1]

In some other surveys, the question is formulated: *"Please tell me whether you agree or disagree with the following statement. Is that strongly or slightly? In general, I am satisfied with democracy. 0 = disagree strongly, 1 = disagree slightly, 2 = agree slightly, 3 = agree strongly".*[2]

A final example is: *"How satisfied are you with the following: The way democracy is developing in our country? 0 = definitely dissatisfied, 1 = rather dissatisfied, 2 = quite satisfied, 3 = definitely satisfied".*[3]

Although all examples are covering the motion of "satisfaction with democracy", there are some slight differences that actually might result in that they are interpreted differently in different contexts.

Satisfaction with democracy has been criticized for being used as an indicator of regime legitimacy, and scholars have argued that the survey questions only refer to satisfaction with *the way* democracy *works in practice*, and not satisfaction with democracy per se (Linde & Ekman, 2003: 391). Looking at the most commonly used example, this argumentation seems logic. Citizens are most probably capable to differentiate between different levels of regime, and thus be critical towards the way democracy works in practice while at the same time support democratic values (Dahlberg & Holmberg, 2014: 518).

On the other hand, others have argued that dissatisfaction with democracy over a long time might affect citizens' support for democratic principles (Seligson, 2002: 424; Stockemer & Sundström, 2013: 144; Wagner, Schneider & Halla, 2008: 30; Weitz-Shapiro, 2008: 288). A study by Canache and Allison showed no statistically significant effect of corruption on support for democratic principles, but they do however argue, in line with the scholars above, that long-time dissatisfaction with democracy may eventually affect the support for democracy. In fact, they go so far as to say that "due to the widespread corruption in Latin

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[1] Question used in Asian Barometer Survey, European Values Study, Latinobarómetro, World Values Survey, Comparative Study of Electoral Systems, Australian Election Study, Eurobarometer: Central and Eastern, Eurobarometer: Applicant and Candidate Countries, Eurobarometer: Standard and Special, Global Attitues and Trends, American National Election Studies, EU Neighbourhood Barometer.
[2] Question used in Voice of the People Series, New Europe Barometer.
[3] Arab Transformation Project.

America, democracy in the region might be racing against the clock" (Canache and Allison, 2005: 106). Another study shows that satisfaction with democracy, as well as the perception of democracy as being effective, affect the support for democracy as a political system (Sarsfield & Echegaray, 2006: 169).

Without tapping into the concept of satisfaction with democracy, other scholars have argued that the degree of legitimacy and support for governments are associated with how citizens evaluate their government's performance (Lipset, 1959; Weatherford, 1992; Przeworski et al., 2000; Camacho, 2014).

Drawing on the argumentation above, this thesis does not intend to equal satisfaction with democracy with support for democratic principles, nor argue that satisfaction with democracy is a direct indicator of regime legitimacy. But political leaders and policy makers (as well as scholars) should take dissatisfaction with democracy seriously. Even if dissatisfaction with democracy does not directly imply a loss of faith in democracy, long-time dissatisfaction with democracy most likely do not *strengthen* the support for democracy as the preferable political system. To put it in a simple (and very non-academic) example: having one bad experience at my favourite restaurant will most likely not results in that never want to go there again. But if this negative experience keeps repeating itself (maybe even for years), it will clearly no longer be my favourite restaurant. To conclude, when referring to (dis)satisfaction in this study, it should not be understood as a direct indicator of regime legitimacy, but rather as an indirect one that *might* result in loss of support for democracy as the preferable political system.

Theoretical framework – the Quality of Government

The theoretical framework in this thesis is based on the concept of Quality of Government, which draws on the framework of Easton, and the separation of the "input" and the "output" dimensions of the political process (Easton, 1957: 384). While the input-side refers to how political power is *accessed*, the output-side refers to how political power is *exercised*. As shown in the figure below, demands and support are created and expressed on the input-side of the political processes, for example through political organization and voting, whereas decision and policies are exercised by the public administration on the output-side. Quality of Government differs from other concept trying to grasp the quality of political systems, such as "good governance". A closer look at the definitions of the two concepts will provide a demonstration of how the two differ when applied to empirical studies.

Good governance is defined as *"(1) the process by which government are selected, monitored and replaced, (2) the capacity of the government to effectively formulate and implement sound policies, and (3) the respect of citizens and the state for the institutions that govern economic and social interactions among them"* (Kaufmann, Kraay & Mastruzzi, 2004: 3).

Quality of Government, on the other hand is defined as *"impartiality in the exercise of governmental power"* (Rothstein & Teorell, 2005: 3).

As demonstrated by the two definitions above, it becomes clear that the concept "good governance" constitutes of norms that are to be found on both the input *and* the output side of the political process, while Quality of Government explicitly amount to practices on the output-side.

Figure 2. Dimensions of the political process.
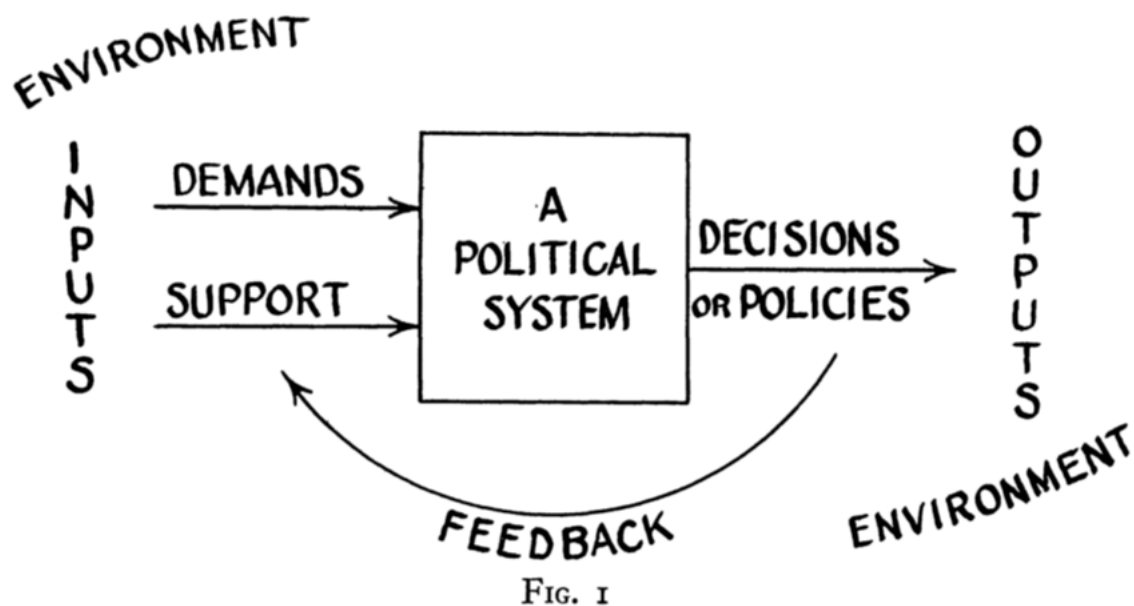
Source: Easton (1957: 384).

Impartiality, then, is defined as *"When implementing laws and policies, government officials shall not take anything about the citizens/ case into consideration that in not *beforehand* stipulated in the policy or the law"* (Rothstein & Teorell, 2005: 4; Rothstein & Teorell, 2012: 24; Strömberg, 2000: 66). Further, Rothstein and Teorell argue that an impartial civil servant should "not be susceptible for bribery, should not decide in cases where her/his friends or relatives are involved, and should not favour any special (ethnic, economic, or other type of

organized) interest when applying laws and rules" (Rothstein & Teorell, 2005: 9). The principle of impartiality also applies when it comes to the recruitment to the civil service (ibid: 4).

To conclude, the theoretical framework that is addressed in this thesis – Quality of Government – refers only to the output-side of the political process, and more precisely to impartiality in the *exercise* of governmental power.

Corruption as an indicator of Quality of Government

Applying the principle of impartiality in empirical research might however seem complicated, since it stipulates an ideal "system of beliefs" (Rothstein & Teorell, 2005: 26) about how actions in the exercise of power should be performed. To deal with this, the Quality of Government Institute has developed an index, building on expert survey data, that measures the level of impartiality in the public administration (Rothstein & Teorell, 2012: 30; Teorell et. al., 2019). However, since the impartiality index is not available in time series data (Teorell et. al., 2019: 531), it cannot be used for this study[4]. Instead, corruption is used a concept to measure the Quality of Government. Since *impartiality* is the norm that is violated when corruption occur (Rothstein & Teorell, 2005: 20), corruption is often seen as a central part of Quality of Government (Dahlberg, Linde & Holmberg, 2013: 8). For example, a police officer that accepts, or demands, a bribe violates the principle of impartiality. This goes for all acts of corruption.

I would, however, like to emphasize the importance of the "corruption as an indicator of Quality of Government" should be interpreted as corruption being *one* indicator of Quality of Government. It does not, and is it not intended to, cover all aspects of Quality of Government. Although the principle of impartiality is violated when corruption is exercised, this goes for many other practices as well. Some examples of other indicators of Quality of Government that is not addressed in this study are: lack of respect for the rule of law (although this is partly addressed, see section about methodology), clientelism, nepotism, cronyism, patronage, lack of respect for property rights and systematic discrimination (see Rothstein & Teorell, 2012: 19-20).

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[4] Although this part is clearly about methodology, it was considered to be of importance to mention here to avoid confusion on why corruption was used instead of tapping in the whole concept of Quality of Government.

Defining corruption is however a rather tricky quest that scholars have engaged in during decades. Traditionally, corruption is defined as "the abuse (or misuse) of public office for private gain" (Alt & Dreyer Lassen, 2003: 345; Treisman, 2000: 399; Warren, 2004: 329). Others have extended the definition trying to make it more precise and include the violation of impartiality, such as "corruption involves a holder of public office violating the impartiality principle in order to achieve private gain" (Kurer, 2005: 230). In this study, the former, traditional definition is used due to that most of the existing data on corruption build on this definition (more about this in the section on operationalizations).

Until the middle of the 1990s, corruption was generally neglected in the social sciences and mostly addressed by economists, of whom many argued that some types of corruption were preferrable for economic development as it would "grease the wheels" and make the economic system more effective (see Rose-Ackerman, 1999). Since then, corruption has been found to have negative effects on a vast number of desired societal outputs, such as economic growth (Acemoglu, Johnson & Robinson, 2002; Knack & Keefer, 1995), subjective happiness and well-being (Helliwell & Huang, 2008; Ott, 2010; Ott, 2011; Samanni & Holmberg, 2010), and democratic consolidation (Rose & Shin, 2001). Adding to that, of course, the issue of this thesis – the satisfaction with democracy.

To conclude, corruption is used as an indicator of Quality of Government, without making claims that it covers all aspect of Quality of Government. It should thus be interpreted as *one* indicator of Quality of Government: corruption is part of Quality of Government, but Quality of Government is *much more* than corruption.

Corruption and satisfaction with democracy – what we know

There is no lack of studies that examine the effect of corruption on satisfaction with democracy and regime legitimacy. This section presents a synthesis of the main findings from the existing literature that have examined the correlation between corruption and satisfaction with democracy and regime legitimacy. It concludes with a discussion identifying the empirical gap and a formulation of the more specific research questions that this study intends to address. As satisfaction with democracy is understood as an indirect indicator of regime legitimacy, studies examining the effect of corruption (or institutional quality) on regime legitimacy and trust in government institutions are accounted for, as they – although

conceptually different – tap into the same phenomena, and because a lack of all of them can results in a threat to democracy (Weitz-Shapiro, 2008: 288).

For a long time, scholars concentrated their quest of identifying explanatory traits for political legitimacy and satisfaction with democracy at the input-side of the political process. Scholars argued, for instance, that electoral democracy and representative institutions were the main creators of political legitimacy (Norris, 1997; Lijphart, 1999; Goodwin-Gill, 2006). Since the middle of the 1990s, however, increased emphasis has been put on the out-put side of the political process (Rothstein & Teorell, 2012: 15). Nowadays, scholars to argue to a growing extent that political legitimacy is in fact created by the outputs of politics (Norris, 2012; Gjefsen, 2012; Dahlberg & Holmberg, 2013).

Previous studies have shown that impartial and effective bureaucracy and low corruption are positively correlated to satisfaction with democracy (Anderson & Tverdova, 2003: 104; Dahlberg, Linde & Holmberg, 2013: 17; Dahlberg & Holmberg, 2014: 518; Wagner, Schneider & Halla, 2008: 31), support for the incumbent government (Canache & Allison, 2005: 106) and institutional confidence (Pellagata & Memoli, 2016: 409). Small-scale, petty-corruption has been found to have a stronger effect satisfaction with democracy than large-scale, political corruption (Stockemer & Sundström, 2013: 139).

When comparing these findings to the effects of indicators found at the input-side of the political system, such as feeling of representation and ideological congruence, studies have shown that the effect of political outputs, in the form of Quality of Government and corruption, have a stronger effect on satisfaction with democracy (Dahlberg, Linde & Holmberg, 2013: 17; Dahlberg & Holmberg, 2014: 518) and regime legitimacy (Gjefsen, 2012: 79).

Moreover, exposure to corruption has been shown to reduce interpersonal trust and belief in the political system in Latin America (Seligson, 2002: 408) and European citizens living countries with higher levels of corruption show lower trust in public officials than citizens living in less corrupt countries (Anderson & Tverdova, 2003: 103). It has also been argued that "efficient and impartial government institutions, characterized by low levels of corruption and discrimination, could be the main source of legitimacy for many regimes" (Gjefsen, 2012: 79).

Contrary to these findings, Gouvea Maciel and de Sousa found no effect of illegal corruption on satisfaction with democracy. Instead, they argue that it is *legal* corruption, rather than

illegal corruption that drives dissatisfaction with democracy (Gouvea Maciel & de Sousa, 2018: 662), where *legal* corruption is defined as "a disintegration of the belief system upon which a particular political system rest" (ibid: 658). Although legal corruption is not addressed in this thesis, these findings are interesting and might be something for future studies to look into.

There is a vast number of studies that have found that low Quality of Government and corruption affects satisfaction with, and support for, democracy negatively. There is also a comprehensive geographical distribution, as studies have addressed Western consolidated democracies (della Porta, 2000; Anderson & Tverdova, 2003; Wagner, Schneider & Halla, 2008), post-communist countries Eastern Europe (Mishler & Rose, 2001), Asian countries (Chang & Chu, 2005), African countries (Cho & Kirwin, 2007), and Latin American countries (Seligson, 2002; Canache & Allison, 2005). However, expect from Gjefsen (2012) all of these studies focus on one specific region, thus identifying the first gap in the literature.

The second, and more important, gap is that there is only one study that have looked at the effect of corruption on satisfaction with democracy *over time* (namely Wagner, Schneider & Halla, 2008). Cross-section studies have a lot of advantages and enables the possibility to control for individual-level factors using multilevel analysis. They do, however, tell us nothing about how the correlation between corruption and satisfaction with democracy develops *over time*. Therefore, I will in this study – and for the first time of my knowledge – conduct a cross sectional time series analysis covering countries from all regions of the world. In doing so, this study contributes to existing research by getting closer to get question of *causality* by enabling the possibility to see whether *changes* in corruption lead to *changes* in satisfaction with democracy.

Finally, there are no studies that address how the correlation between corruption and satisfaction with democracy *interacts* with other variables thus neglecting the possibility that the relationship might be moderated by other factors. To address this, this study test whether the relationship between corruption and satisfaction is moderated by two economic factors – GDP per capita and economic inequalities (more about why these are chosen in the section on hypotheses).

Drawing on the identified gaps in the literature, the intent of this study if to answer the research questions: *"Does corruption affect satisfaction with democracy over time?"* and *"Is the effect of corruption on satisfaction with democracy moderated by economic factors?"*.

Answering these questions will contribute to previous research by first, getting closer to the question of causality and second, exploring if economic factors – a central part of government performance – have a moderating effect on the relationship. The results of this study will also contribute to insights that can be useful to understand the global decline in democracy, namely by identifying factors that are important for regime legitimacy.

Hypotheses

Drawing on previous research and the strong agreement in cross-sectional studies that corruption has a negative effect on satisfaction with democracy, the first hypothesis aims to examine whether this effect remains when the time perspective is taken into consideration.

*H1: Corruption has a **negative** effect on satisfaction with democracy over time.*

The second hypothesis build on the inconclusive findings in the economist research examining the effect of corruption on economic growth, and consequently GDP per capita. While it has been argued in earlier research that corruption can "grease the wheels" and streamline economic transitions, and therefore is desirable to achieve economic growth (Acemoglu & Verdier, 1998; Leff, 1964; Rose-Ackerman, 1999), more recent research have found corruption to be harmful for economic development (Acemoglu, Johnson & Robinson, 2002; Knack & Keefer, 1995), since it "tends to hurt innovative activities" and create unequal opportunities (Mo, 2001: 66-67).

As for the correlation with the dependent variable, economic factors have been found to have an effect on satisfaction with democracy (Stockeremer & Sundström, 2012: 152; Wagner, Schneider & Halla, 2008: 37). Further, GDP per capita has been argued to be an important determinant of policy outcomes such as social well-being, public health, and the environment (Holmberg, Rothstein & Nastiritousi, 2009: 146), factors that would most likely affect people's satisfaction with democracy.

Since previous research has found that GDP per capita affects how satisfied people are with democracy, it is hypothesized that i) GDP per capita has a positive effect on satisfaction with democracy, and that ii) GDP per capita has a moderating effect on the correlation between corruption and satisfaction with democracy, as stipulated in H2. That is, when GDP per capita is high, the effect of corruption on satisfaction with democracy is hypothesized to be weaker. When citizens are satisfied with their economic situation, the effect of corruption in their

assessment of satisfaction with democracy might be weaker. To capture both expectations on how GDP per capita affect satisfaction with democracy above, the variable is both as a moderating variable and as a control variable.

*H2: Corruption has a **weaker** negative effect on satisfaction with democracy when GDP per capita is high.*

GDP per capita can however be criticized as the sole measure of citizens' economic situation. Although a vastly used measurement of a country's level of development, is tells nothing about the distribution of wealth across a population. Therefore, economic inequality is included as another economic variable that is thought to affect satisfaction with democracy, both as a moderating variable and as a control variable.

There is a "chicken-or-the-egg" discussion in the literature on whether corruption creates economic inequality or whether economic inequality provides a breeding ground for corruption. While some argue that economic inequality provides incentives for corruption (Uslaner, 2010), other have found that corruption produces economic inequalities (Gupta, Davoodi & Alonso-Terme, 1998: 29; Gyimah-Brempong, 2001: 202). Without getting into a discussion on what comes first, it is evident that the two factors reenforce one another.

One of the state's primary duties is to collect taxes and redistribute them into collective goods. High levels of inequality can therefore be seen upon as a breach of the social contract, as it implies that the state is not much more than "a means of extracting taxes to support the ruling elite" (Uslaner & Rothstein, 2016: 240). Scholars have found that citizens in countries with high levels of economic inequality tend to have lower support for democratic institutions than citizens in countries with low levels of economic inequality (Andersen, 2012: 21), why it is hypothesized that economic inequality will have a negative effect on satisfaction with democracy. Thereto, since there seem to be a string fertilizing relationship between corruption and economic inequalities, it is hypothesized that economic inequality has a moderating effect on the correlation between corruption and satisfaction with democracy. When levels of economic inequality are high, the negative effect of corruption on satisfaction with democracy is expected to be stronger than when levels of economic inequality are low, as stipulated in H3.

*H3: Corruption has a **stronger** negative effect on satisfaction with democracy when levels of economic inequality are high.*

Methodological approach

In this chapter, the methodological approach for the study is presented in detail. First, operationalizations, including choice of data, of the dependent, independent, moderating and control variables are discussed. Any modifications that have been made to the variables to make the data fit the model specification are accounted for. The summary statistics of all variables is presented in the Appendix. Second, the elaboration model, visualizing the hypothesized relationship between the variables is presented. Finally, there is a discussion of the choice of statistical method, including its strengths and limitations.

Operationalizations

In this section, operationalizations of all variables are presented and discussed, including their validity.

Dependent variable – satisfaction with democracy

To measure satisfaction with democracy, the 'satisfaction with democracy' variable from the Quality of Government time series standard dataset (version 2019) [5] was used. The Quality of Government Institute has aggregated data on satisfaction with democracy from the Human Surveys, making it possible to look at over-time changes on country level. The Human Surveys has combined available data on satisfaction with democracy from 19 different sources[6] covering all regions of the world (Klassen, 2018: 4). Since the variable is a composition of a vast number of different surveys, it minimizes the risk of dubious results (Valargusson & Devine, 2021: 13).

The variable has values for countries from all regions of the world until the year 2016, thus complementing previous studies by studying a global sample. However, number of years with

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[5] The Quality of Government time series dataset from 2019 is used due that Human Surveys no longer publish their merges of available survey because they do not own the data (https://humansurveys.org/)

[6] Afrobarometer, AmericasBarometer, Arab Barometer, AsiaBarometer, Asian Barometer Survey, European Social Survey, European Values Study, Latinobarómetro, World Values Survey, International Social Survey Programme, Comparative Study of Electoral Systems, New Europe Barometer, New Russia Barometer, Voice of the People Series, Consolidation of Democracy in Central and Eastern Europe, Eurobarometer – Standard and Special, Eurobarometer – Applicant and Candidate Countries, Eurobarometer – Central and Eastern, Australian Election Study.

values vary notably between countries where Western Europe and the American stand out by having more observations. Due to inconsequent values for years by country, some criteria were set up for the countries used in the sample. First, since many countries only had reported from 1995 and forward, all observations before 1995 were dropped. Secondly, several countries did not have values reported for every consequent year. To deal with this, a linear interpolation and extrapolation methos was used to fill out missing values. The criteria for use the linear interpolation was that a country needed to have at least 40% reported values to avoid skewedness in the results. This might, however, bias the data, since linear interpolation is based on the assumption that the data follows a linear structure, which is most likely not the case with satisfaction with democracy. Thus, cautiousness is needed when interpreting the results of the study.

A problem with aggregated survey data is that the surveys, as previously reported, do not use the exact same survey questions. Both this, and the fact that satisfaction with democracy measures subjective attitudes, alters the risk of contextual bias (Ott, 2011: 5). For example, respondents might be affected by recent news, their daily mood or even if it is raining outside. Such bias is however random, rather than systematic and thus acceptable. But once again, cautiousness is needed when interpreting the results. There might also be differences in language use and cultural differences that affect how respondents asses their satisfaction with democracy. To account for this, a fixed effects statistical analysis is used, which measures within-unit variation.

The variable ranges from 0-100, where 0 represent 'totally dissatisfied' with democracy and 100 represent 'totally satisfied'. To easier compare the values to those of other variables, the variable is recoded to range from 0-1.

Independent variable – corruption

Corruption suffers from measurement difficulties due to the lack of reliable objective data since most corruption practices are made "under the table". Only looking at, for example, the number of convictions due to corruption would not provide a reliable picture. Therefore, the research is heavily dependent on measurements that capture the *perceptions* of corruption, that is how high citizens and experts *perceive* corruptions levels to be. This is of course a validity problem, and while some scholars are critical to the use of perceptions of corruption as measurement (Kurtz & Schrank, 2006), other favour it, arguing that people base their

decisions upon how they *believe* other people would act (Rothstein, 2011: 102). Arguably, people who *believe* that levels of corruption are high would be more inclined to be dissatisfied with democracy than people who do not believe that corruption is widespread – regardless the *actual* level of corruption.

Corruption is operationalized using the Bayesian Corruption Index. The dataset is constructed upon the traditional definition of corruption as "the misuse of public office for private gain" (Treisman, 2007: 211; Bardhan, 1997: 1321). The variable constitutes an aggregated index of overall perceived levels of corruption. It combines information from 17 different surveys and 110 different survey questions to cover the perceived level of corruption (Standaert, 2018).

The Bayesian Corruption Index is chosen due to broad data cover (for example, Transparency International's Corruption Perceptions Index only have data from 2012 and forth). It is also chosen due its methodological advantages when it comes to conducting time series studies (for a full description of the methodology, see Standaert, 2018).

The variable ranger from 0-100 (recoded to 0-1 in the analysis to facilitate comparisons with other variables), where 0 reflects "absolutely no corruption" and 100 represents "corruption is as bad it can get" (Standaert, 2018). This implies that we should expect a negative correlation between corruption and satisfaction with democracy: when corruption increase (higher values), satisfaction with democracy should decrease (lower values).

Moderating variables – the economic factors

GDP per capita

GDP per capita is operationalized using data from the Maddison Project Database from 2020 (Bolt & Luiten van Zenden, 2020). The GDP per capita variable is measured in constant US dollars (thousands) at the 2011 level, making the values comparable between different years. A logged version of the variable was used throughout the study to deal with abnormal distribution of observations. Histograms showing the distribution before and after the variable was logged are presented in the Appendix.

Economic inequality

To operationalize economic inequality, the Standardize World Income Inequality Database (SWIID) created by Frederick Solt was used. The SWIID database has collected data from

several prominent databases to create a more comprehensive database with greatest coverage across countries and years without the cost of significantly reduced comparability across observations (Solt, 2020: 1183). It contains data from a total of 384 sources, covering 196 countries for as many years as possible between 1960 and 2020 (ibid: 1185).

Economic inequality is measured by the variable 'disposable income inequality'. The variable measures income inequality in gross income minus direct taxes, where 'gross income' refers to the sum of market income and transfer payments. 'Market income', in turn, is the amount of money coming into the household, excluding and government or non-profit organisation assistance (Solt, 2020: 1187). Hence, disposable income inequality measures the inequality between households after salaries, other assistance, and direct taxes.

The variable has values from 0-100, where 0 reflects "total equality" and 100 reflects that inequality is "as high as it gets". The variable is recoded to take on values from 0-1 to facilitate comparisons with other variables.

Control variables

Trying to avoid spuriousness of the results, a number of control variable that are hypothesized to affect the relationship, either by affecting the dependent variable directly, or by affecting the effect of the independent variable, are included (Aneshensel, 2013: 199). The focal relationship is tested under control for GDP per capita, economic inequality, level of democracy, women political empowerment, political stability and absence from violence, life expectancy, and population size.

Democracy

The existing evidence on the effect of democracy on corruption is mixed. While some fail to find any positive effect of democracy on corruption (Ades & Di Tella, 1999: 987; Fisman & Gatti, 2002: 336-338), other have found the opposite: democracies are in face less corrupt (Goel & Nelson, 2003: 127; Triesman, 2000: 417). A clear, but also rather hurtful, insight in the literature is the fact that democracies are not automatically less corrupt than autocracies (Winters & Weitz-Shapiro, 2013: 418), and democratic elections are not a magical cure for corruption (Rose-Ackerman, 1999: 378).

Democracy is included as a control variable to control whether the effect of corruption on satisfaction with democracy is disappears or decreases when factors on the input-side of the

political system is controlled for. Democracy is operationalized by using the "Liberal Democracy Index" from the Varieties of Democracy database (version 11). The variable measures to what extend the "ideal of liberal democracy" is achieved, where liberal democracy refers to constitutionally protected civil liberties, including for minorities, strong rule of law, an independent judiciary, and the level of electoral democracy (Coppedge et. al., 2019: 44). The 'Liberal Democracy Index', rather than the 'Electoral Democracy Index', also enables to control for other factors that are central to the Quality of Government, such as the rule of law and an independent judiciary.

Political Stability and Absence from Violence

Political stability and absence of violence is controlled for since insecurity is another system output that affect the way people perceived their lives notably, and there also their satisfaction with democracy. If people do not feel that the government can keep them secure, which is a part of the social contract, they would most likely be dissatisfied with democracy. Insecurity and violence have been found to affect people's satisfaction with democracy negatively in Colombia (Blanco & Ruiz, 2013: 287) and in Mexico (Blanco, 2013: 54).

Political stability is operationalized using the "Political Stability and Absence of Violence/ Terrorism" from the World Bank's Worldwide Governance Indicators. The data build on views of a large number of enterprise, citizens, and expert survey respondents (Kaufman, Kraay & Mastruzzi, 2019).

Women Political Empowerment

Women political empowerment is used to control for women's subjective sense of representation and their possibility to influence the political sphere, and in extension their own lives. Earlier research has shown that women are less satisfied with democracy than men (Anderson & Tverdova, 2003: 101). If women do not feel that they are represented, they would indeed be more inclined to express dissatisfaction with democracy. When it comes to corruption, some studies have found female political representation to correlate with lower levels of corruption (Dollar, Fisman & Gatti, 1999: 6), while other studies have rejected this (Goetz, 2007).

Women political empowerment is operationalized using the "Women Political Empowerment" variable from the Varieties of Democracy Institute (Coppedge et al. 2019). The variable, measuring how politically empowered women are, is an aggregated index of

variables measuring women's civil liberties, women's participation in civil society, and women's political participation (Sundström et al., 2015).

Life expectancy and population

The relationship is also tested under two background control variables: life expectancy and population. The life expectancy variable comes from the Varieties of Democracy Institute Database (Coppedge et al., 2019) and values represent real years. For population size, the Maddison Project is used (Bolt & Luiten van Zanden, 2020). A logged version of the variable measuring GDP per capita was used to deal with abnormal distribution of observations. Histograms showing the distribution before and after the variable was logged are shown in the Appendix.

Elaboration model

The figure below shows the elaboration model, which is intended to illustrate the hypothesized correlations between the variables. A correlation matrix of all variables is presented in the Appendix.

Figure 3. Elaboration model
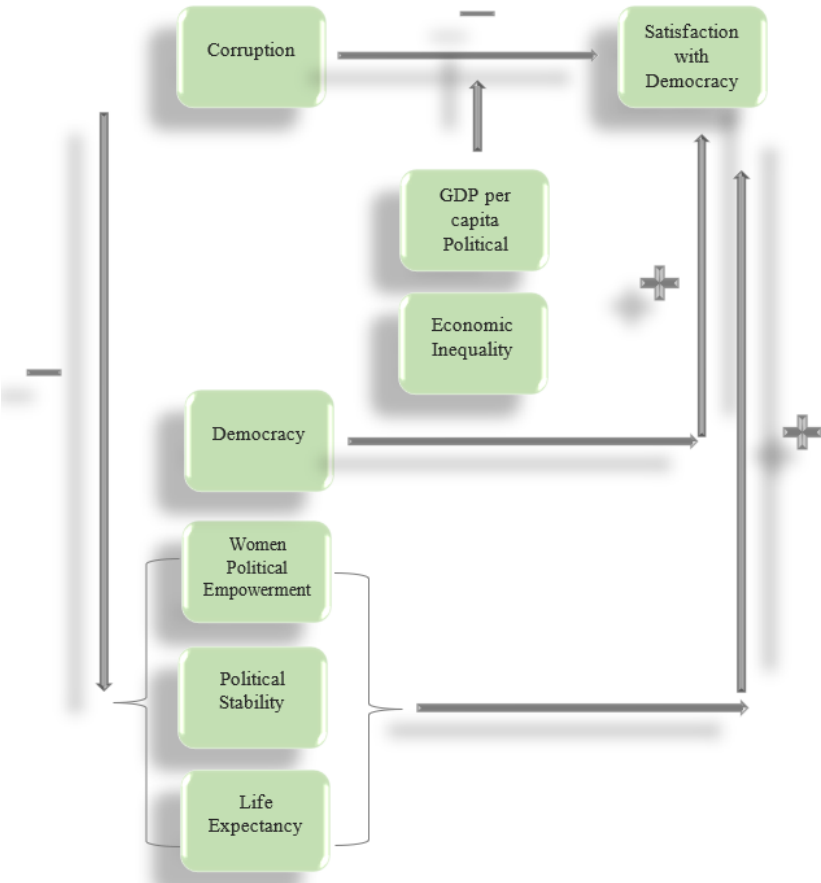
Statistical method

To get closer to the possibility to make causal inferences about the relationship that have been found in cross-sectional studies, and a few regionally centred time series studies, a cross sectional times series statistical method was used. A cross sectional time series with aggregated data on satisfaction with democracy and perception of corruption enables the possibility to see if changes in perceptions of corruption over time are reflected by changes in the satisfaction with democracy (Mehmetoglu & Jakobsen, 2017: 228-9). The use of lagged variables enables the possibility to get even closer to the question of causality, as a cross sectional analysis really just tells us that there is a correlation. Using lagged variables, however, makes it possible to see if changes in perceptions of corruption one year, follows by changes in satisfaction with democracy the year after.

There are however limitations with using a cross sectional time series method. For one, it is not possible to control for factors at the individual level, for example, age, gender, support for the incumbent, political allegiances, economic position and so forth. Since a wide range of multilevel cross sectional studies already have examined the relationship controlling for these factors, a time series study is favoured for its ability to control for contextual factors that cannot be controlled for in cross sectional analysis, such as history, culture, and institutions.

The use of aggregated subjective data is, however, flawed in terms of validity since the sample of subjective data does not constitute of the same respondents each year. This means that differences between years might, at least partly, be due the fact that different individuals have participated in the surveys. The large number of surveys included in the sample, covering grand numbers of respondents is positive in this sense, since it makes the issue less problematic. Claims of certain causality should however be made with cautiousness.

Time series data often suffers from problems with autocorrelation and heteroscedasticity as the same units are measured at several time points (Mehmetoglu & Jakobsen, 2017: 252). The specified model was tested for, and showed signs of autocorrelation, which means that independent variables are correlated to the standard errors (ibid: 148). Autocorrelation can consequently result in problems with heteroscedasticity, which means that the model predicts some values of the dependent variable unevenly – some measuring points will be more precise than others (ibid: 234). Since the model showed signs of heteroscedasticity, the Huber-White robust standard errors, clustered by country were included in all regressions. The tests for autocorrelation and heteroscedasticity, as well as a scatterplot of the estimated

prediction of residuals are presented in the Appendix. To further test the robustness of the results, alternative model specifications were conducted and are also presented in the Appendix. Morocco was identified as an influential observation, why also an alternative regression analysis excluding the country from the model specification can also be found in the Appendix.

The model was tested for multicollinearity to ensure that variables are not too similar to one another, or "one x-variable cannot be perfectly explained by a linear combination of other x-variables in the model" (Mehmetoglu & Jakobsen, 2017: 146). GDP per capita showed signs of too high multicollinearity. Since squared variables naturally result in multicollinearity and can be accepted as it leads to a better model (ibid: 147), the test was redone with a non-logged version of GDP per capita, which showed no signs of multicollinearity (both tests can be found in the Appendix). Initially, infant mortality was ought to be included as a control variable, but it had to be excluded due to multicollinearity problems, resulting from too strong correlation with both GDP per capita and life expectancy. Theoretically, it is highly probable that infant mortality levels drop when GDP per capita increases. Consequently, when infant mortality levels decrease, people live longer.

Proportional representation was intended to be included as a control variable, since earlier research shows inconclusive results on its effect on satisfaction with democracy (Verardi, 2004: 142; Chang & Golden, 2007: 147). However, due to lack of variation in the variable over time within countries, it is not a good fit for a fixed effects analysis, which requires that the values of variable vary over time (Mehmetoglu & Jakobsen, 2017: 248).

Finally, the analysis was made using fixed effects, which measures within-unit varieties. This controls for problems of different formulations of questions in different surveys since the observations is compared to other observations in different years within the same country. A Hausmann test was performed to whether fixed effects analysis or random effects analysis was the best fit for the model, and the test confirmed that fixed effects analysis was preferrable.

Results

In this chapter, the results from the statistical analyses are presented and interpreted. First, a short presentation on the global trends of satisfaction with democracy is presented. Thereafter, the bivariate relationship between corruption and satisfaction with democracy is presented. Next, the regression analysis that examines H1: *"Corruption has a negative effect of satisfaction with democracy over time"* is presented and interpreted, followed by a presentation and interpretation of H2: *"Corruption has a stronger weaker negative effect on satisfaction with democracy when GDP per capita is high"* and H3: *"Corruption has a stronger negative effect on satisfaction with democracy when levels of economic inequality are high"*.

Global trends in satisfaction with democracy

Figure 4 shows the global levels of satisfaction with democracy from 1995 to 2016. It shows that globally, levels of satisfaction with democracy have decreased recent years, implying that dissatisfaction with democracy is increasing. This is in line with the figure presented in the introduction. Also in line with the figure in the introduction, levels of satisfaction with democracy were at their highest around 2005-2007, right before the global financial crises. In the next section, the bivariate relationship between corruption and satisfaction with democracy is presented, which will give an illustration of the focal relationship.

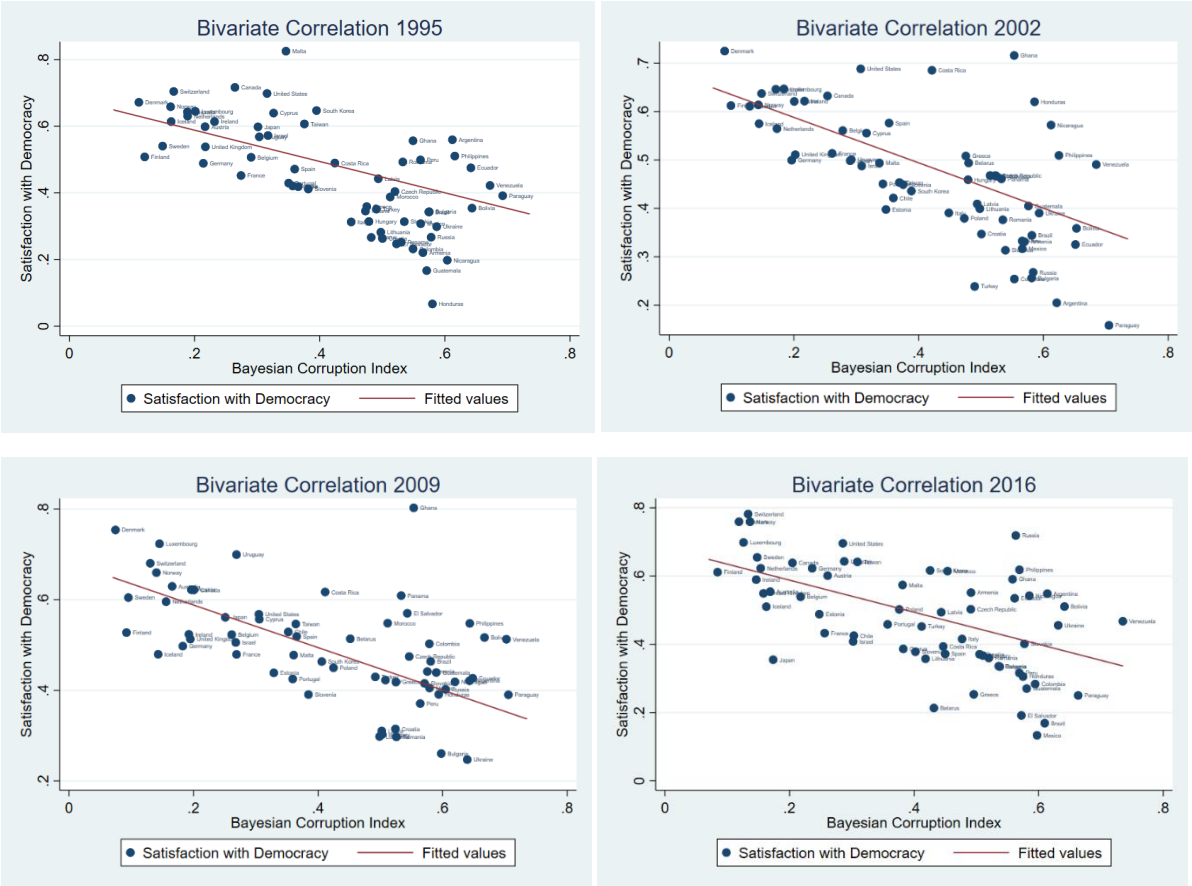**Figure 4. Global values of satisfaction with democracy by year.**
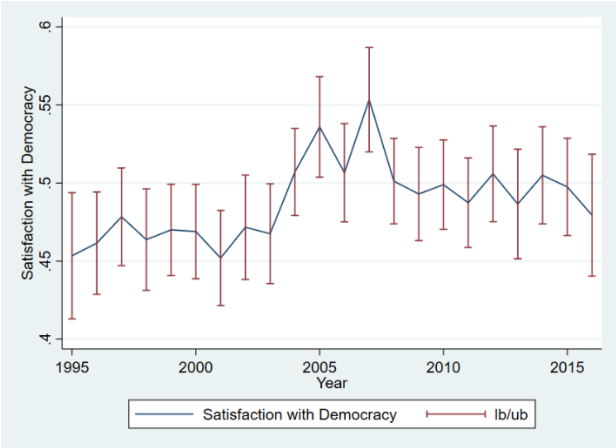
Source: Teorell et. al. (2019), Klassen (2018).

The bivariate correlation between corruption and satisfaction with democracy

In figure 5A-5D below, the bivariate, cross sectional correlation between corruption and satisfaction with democracy is shown in four different years – 1995, 2002, 2009, 2016[7]. In all four years, the graphs show a negative correlation, implying that corruption has a negative effect on satisfaction with democracy. This is in line with previous research and the expected correlation formulated in H1. There are some interesting outliers[8]. For example, both in 2004 and 2009, Ghana has high levels of corruption, but also high levels of satisfaction with democracy. Another interesting observation in graph 5.D, showing the year of 2016, is that Japan, a country with relatively low levels of corruption that year, had lower levels of satisfaction with democracy than the most corrupt country in the sample – Venezuela.

Figure 5.A-5.D. Bivariate correlation between corruption and satisfaction with democracy in year 1995, 2005, 2009, and 2016.
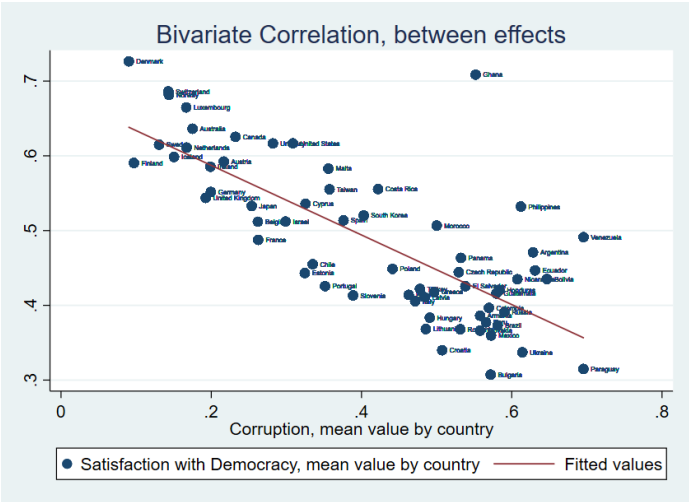

Source: Klassen (2018); Standaert (2018); Teorell et. al. (2019).

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[7] Years chosen to get an even distribution from the sample, which contains observations between 1995 and 2016.
[8] The model is tested for influential observations, where Morocco was identified. The test is presented in the Appendix, as well as a regression table excluding Morocco from the sample.

Figure 6 shows the correlation between the mean values of corruption and satisfaction with democracy of all years in the sample (1996-2016) per country. That is the mean value of Sweden level of corruption between 1995 and 2016, and the mean value of satisfaction with democracy between 1995 and 2016. This graph is shown to get a more comprehensive picture of the bivariate relationship, not just divided by one single year. Once again, there seem to be a negative correlation between corruption and satisfaction with democracy.

While looking at the bivariate correlation between corruption and satisfaction with democracy gives an indication of that there *might* be an effect of corruption on satisfaction with democracy, this may just as much not be the case. The next section will therefore present and interpret the results from the regression analyses.

Figure 6. Bivariate correlation between corruption and satisfaction with democracy, by mean value of years per country.

Source: Klassen (2018); Standaert (2018); Teorell et. al. (2019).

Regression results - the link between corruption and satisfaction with democracy

In table 1, the results from the fixed effects regression analysis are presented. Model 1 shows the bivariate relationship between corruption and satisfaction with democracy without any control variables (what is illustrated in the graphs in the previous section). In model 2, year is included as a dummy variable. In both model 1 and model 2, there is a strong and statistically significant effect of corruption on satisfaction with democracy. Again, this is without the inclusion of any control variables.

Models 3 and 4 show the full specification model with all control variables included, where model 3 does not account for fixed effects for years. Since model 4 is the main model, these results are the most interesting. There is a strong and statistically significant negative effect of corruption on satisfaction with democracy, implying that H1 is supported: corruption has a negative effect on satisfaction with democracy over time.

If compared to model 1 and model 2, the effect drops a little bit, which indicates that the control variables take up some of the effect of corruption on satisfaction with democracy. This is because GDP per capita, disposable income inequality and liberal democracy also have statistically significant effect on satisfaction with democracy. As expected, GDP per capita affects satisfaction with democracy positively. When GDP per capita is higher, citizens are generally more satisfied with democracy. Economic inequality, measured by disposable income inequality, has a statistically significant negative effect on satisfaction with democracy – also as expected. When levels of economic inequality are high, satisfaction with democracy is lower. Interestingly, the effect of economic inequality is even stronger than the effect of corruption. The moderating effect of GDP per capita and economic inequality is addressed further on in this chapter.

Not expected, however, is that democracy has a statistically negative effect on satisfaction with democracy. This result is inconsistent with earlier finding that have shown either a statistically significant positive effect of democracy on satisfaction with democracy (Christmann, 2018; Ariely, 2013), or a statistically insignificant one (Anderson & Tverdova, 2003; Guldbrandtsen & Skaaning, 2010; Singh, 2014). This result will be addressed further in the discussion section.

Table 1 : Regression results – effect of corruption on satisfaction with democracy
Dependent variable: satisfaction with democracy

	Model 1 Fixed effects	Model 2 Fixed effects	Model 3 Fixed effects	Model 4 Fixed effects
Corruption	-0.774***	-0.749***	-0.702***	-0.708***
	(0.230)	(0.242)	(0.216)	(0.203)
GDP/capita (logged)			0.108***	0.094*
			(0.032)	(0.052)
Disposable income Inequality			-0.670**	-0.898***
			(0.289)	(0.305)
Liberal democracy			-0.127**	-0.157**
			(0.069)	(0.069)
Women political Empowerment			0.066	-0.056
			(0.194)	(0.206)
Political stability			0.003	0.021
			(0.018)	(0.020)
Life expectancy			-0.007	-0.000
			(0.005)	(0.007)
Population (logged)			-0.046	-0.030
			(0.096)	(0.099)
Year fixed effects	No	Yes	No	Yes
Country fixed effects	Yes	Yes	Yes	Yes
_cons	0.812***	0.781***	0.960	0.628
	(0.095)	(0.102)	(0.835)	(1.450)
Obs.	1116	1116	1116	1116
R-squared	0.050	0.161	0.124	0.236

Standard errors are in parenthesis
*** p<0.01, ** p<0.05, * p<0.1
All variables except from the dependent and population size were run with one-year lags.
Histograms showing distribution before and after logged variables for GDP per capita and
population size are presented in the Appendix.

Robustness checks

To test the robustness of the results with the fixed effects model, regressions with pooled OLS
and random effects models were run. The results are presented in table 2. Alternative fixed
effects model specifications to deal with problems of heteroscedasticity and unitroot are
presented in table in the Appendix. Since Morocco was found to be an influential observation
for several years, a table for the regression excluding Morocco is also included in the
Appendix.

In model 5-7, the pooled OLS method was used. The effect of corruption on satisfaction with democracy is weaker, however it remains statistically significant. The effect of GDP per capita and liberal democracy is no longer statistically significant, while the effect disposable income inequality remains statistically significant. However, the effect of disposable income inequality goes the opposite direction than expected, meaning that satisfaction with democracy decreases down when disposable income inequality increases. Further, there is a positive effect and statistically significant effect of women political empowerment on satisfaction with democracy, implying that people living in countries with more gender equality are more satisfied with democracy. The most important observation, though, is that the effect of corruption on satisfaction with democracy remains.

In model 4-6, the random effects method was used. Once again, the effect of corruption on satisfaction with democracy remains, although the effect is weaker. GDP per capita and disposable income inequality do not show any significant effect, as they do in the fixed effects model. The unexpected negative effect of liberal democracy remains.

To conclude, the effect of corruption on satisfaction with democracy remains when the specification model is run using alternative statistical models. This implies that the results in the fixed effects model are robust, and that H1 is supported.

Table 2: Regression results – effect of corruption on satisfaction with democracy: pooled OLS and random effects model specifications.

Dependent variable: satisfaction with democracy

	Model 5 Pooled OLS	Model 6 Pooled OSL	Model 7 Pooled OLS	Model 8 Random effects	Model 9 Random effects	Model 10 Random effects
Corruption	-0.454***	-0.454***	-0.686***	-0.513***	-0.507***	-0.526***
	(0.050)	(0.051)	(0.109)	(0.060)	(0.064)	(0.108)
GDP/capita (logged)			-0.003			0.029
			(0.032)			(0.032)
Disposable income Inequality			0.419***			-0.057
			(0.157)			(0.166)
Liberal democracy			-0.124			-0.166**
			(0.086)			(0.066)
Women political Empowerment			0.234*			0.060
			(0.131)			(0.137)
Political stability			0.015			0.021
			(0.012)			(0.018)
Life expectancy			-0.006			-0.006
			(0.005)			(0.005)
Population (logged)			0.002			0.004
			(0.006)			(0.008)
Year fixed effects	No	Yes	Yes	No	Yes	Yes
_cons	0.678***	0.666***	0.972*	0.703***	0.689***	0.860*
	(0.019)	(0.023)	(0.517)	(0.024)	(0.028)	(0.500)
Obs.	1240	1240	1240	1240	1240	1240
Pseudo R²	.z	.z	.z	.z	.z	.z

Standard errors are in parenthesis
*** p<0.01, ** p<0.05, * p<0.1
All variables except from the dependent and population size were run with one-year lags.
Histograms showing distribution before and after logged variables for GDP per capita and population size are presented in the Appendix.

The conditional effects of economic factors – testing the moderating effects of GDP per capita and economic inequalities

In this section, H2: *"Corruption has a weaker negative effect on satisfaction with democracy when GDP per capita is high"* and H3: *"Corruption has a stronger negative effect on satisfaction with democracy when levels of economic inequality are high"* are assessed. As economic development is one of the main goals of a government to achieve, as well as one of the most important factors for citizens when voting, to that the degree that the classical

political party structure is design around views on political economy, it is expected that a country's economic performance should affect how satisfied people are with democracy. Secondly, if a government in a country with high levels of corruption still manage to maintain a good economy and low inequalities, people might not care as much about corruption, hence affecting the effect that corruption has on the satisfaction with democracy. Table 1 confirms this reasoning as both GDP per capita and economic inequalities (measured as disposable income inequality) have strong and statistically significant effects on satisfaction with democracy. The results from the regression analysis with GDP per capita as moderating variable is presented in models 11-12 in table 3 below. Models 13-14 show the results of regressions with disposable income inequality as moderating variable.

The results in table 3 below provide two main insights. First, that there does not seem to be a moderating effect between corruption and GDP per capita. Secondly, that there seem to be a moderating effect between corruption and economic inequality. This indicates that H2 might be rejected and that H3 might be supported. However, it is necessary to look at the conditional effects in graphs to get more insights about how the moderating variables affect the relationship between corruption and satisfaction with democracy.

Table 3: Regression results – conditional effects of corruption on satisfaction with democracy. GDP per capita (model 11-12) and disposable income inequality (model 13-14) as moderating variable.

Dependent variable: satisfaction with democracy

	Model 11 Fixed effects	Model 12 Fixed effects	Model 13 Fixed effects	Model 14 Fixed effects
Corruption	-332.689** (165.305)	-186.029 (158.455)	0.959* (0.562)	1.065* (0.545)
Corruption*GDP per capita (logged)	25.792 (16.121)	11.299 (15.746)		
Corruption* Disposable Income inequality			-5.093*** (1.474)	-5.286*** (1.451)
GDP per capita (logged)	-2.974 (10.648)	2.395 (10.487)		0.094** (0.045)
Disposable income Inequality		-0.841*** (0.304)	1.689** (0.808)	1.740** (0.753)
Liberal democracy		-13.040** (5.632)		-0.088 (0.053)
Women political Empowerment		-4.124 (16.985)		-0.081 (0.187)
Political stability		1.346 (1.943)		0.010 (0.018)
Life expectancy		-0.047 (0.657)		0.001 (0.006)
Population (logged)		-6.155 (9.543)		-0.094 (0.088)
Year fixed effects	Yes	Yes	Yes	Yes
_cons	115.456 (105.851)	160.809 (179.024)	0.283 (0.294)	0.295 (1.233)
Obs.	1240	1240	1240	1240
R-squared	0.188	0.222	0.213	0.248

Standard errors are in parenthesis
*** $p<0.01$, ** $p<0.05$, * $p<0.1$
All variables except from the dependent and population size were run with one-year lags.
Histograms showing distribution before and after logged variables for GDP per capita and population size are presented in the Appendix.

Figure 7 shows how the relationship between corruption and satisfaction with democracy is affected by the conditional effect of GDP per capita. As expected from the results in model 11 and 12 in table 3, GDP per capita has no conditional effect on the relationship between

corruption and satisfaction with democracy. Therefore, H2 is rejected: the effect of corruption on satisfaction with democracy is not weaker when GDP per capita is high.

Figure 7. Conditional marginal effects of GDP per capita.
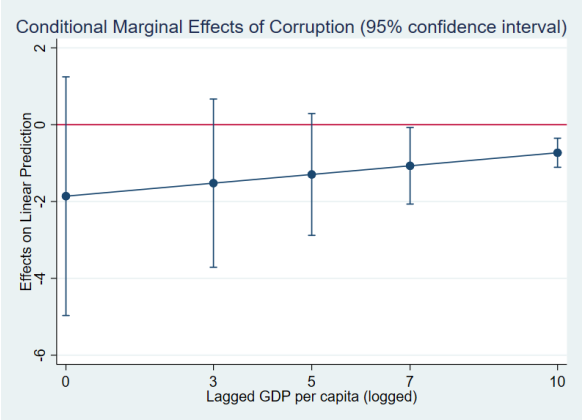
Comment: graph based on model 12 in table 3.

Next, figure 8 shows how the relationship between corruption and satisfaction with democracy is affected by the conditional effect of economic inequality. These results are more interesting. As expected from model 13 and 14 in table 3 above, there is an interaction effect between corruption and disposable income inequality. More precisely, when levels of disposable income inequality are above 0.3, corruption has a stronger negative effect on satisfaction with democracy than when levels of democracy are low. Hence, H3 is supported: corruption has a stronger negative effect on satisfaction with democracy when levels of economic inequality are high.

Figure 8. Conditional marginal effects of disposable income inequalities.
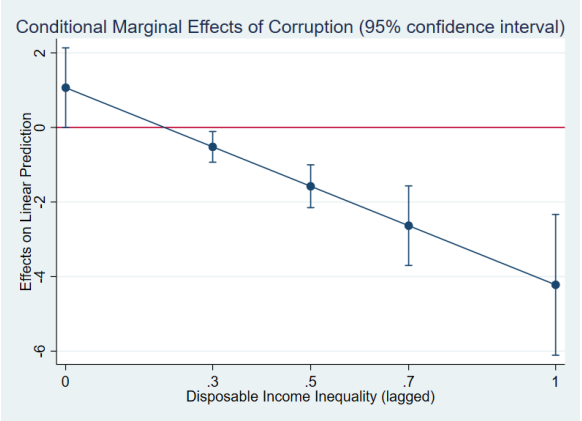
Comment: graph based on model 14 in table 3.

Discussion

The results indicate, in line with what previous research have shown in cross sectional studies (Anderson & Tverdova, 2003; Dahlberg, Linde & Holmberg, 2013; Dahlberg & Holmberg, 2014; Wagner, Schneider & Halla, 2008), that corruption has a negative effect on satisfaction with democracy over time. The answer to the first research question *"Does corruption affect satisfaction with democracy over time?"* is thus, yes – it does. This result contributes to the previous research by getting closer to the question of causality, since a time series fixed effects model analysis control for all time-invariant variables and thus eliminates much of the problems with possible spuriousness in the results (Mehmetoglu & Jakobsen, 2017: 248). These results remain statistically significant throughout various robustness checks.

Further, the results indicate that liberal democracy has a negative effect on satisfaction with democracy. This finding is inconsistent with previous research, which have either found a statistical *positive* effect of the level of democracy on satisfaction with democracy (Christmann, 2018; Ariely, 2013), or a statistically insignificant one (Anderson & Tverdova, 2003; Guldbrandtsen & Skaaning, 2010; Singh, 2014).

Returning to the theoretical discussion on whether legitimacy is created on the input or the output side of the political system, this is very interesting. While corruption, a central parameter of quality of government, has a strong negative effect on how people assess how satisfied they are with democracy, the qualities of democracy itself contrary make people less satisfied with democracy. This might be because people feel that they are more personally affected by corruption than by a living in a democratic system. But is can also imply that people living in countries with higher democratic quality also have higher expectations on democracy, and therefore might be more prone to be dissatisfied with the way democracy works. In next section this relationship will be explored further, as liberal democracy is tested as an interaction term on the relationship to see if corruption has a weaker or stronger effect on satisfaction with democracy, depending on the level of democracy. However, since this result is inconsistent with previous research it might be because that an index of democracy is used. This also results in that it is not possible to see exactly which parameters of democracy that affect satisfaction with democracy negatively.

Another interesting result from the regression analysis is that economic inequality has an even stronger negative effect on satisfaction with democracy than corruption has. Although there are studies that examine the effect of economic inequalities on satisfaction with democracy

(see Andersen, 2012), future studies could engage more in identifying whether corruption or economic inequality is more important for creating dissatisfaction with democracy.

When turning to the second research question of the thesis *"Is the effect of corruption on satisfaction with democracy moderated by economic factors?"*, the answer is less straight forward. The results show that GDP per capita does not have a moderating effect on the relationship between corruption and satisfaction with democracy, indicating that corruption affects satisfaction with democracy negatively regardless of whether GDP per capita is low or high. Economic inequality however, measured by disposable income inequality, did have a moderating effect, implying that when levels of economic inequality are high, the negative effect of corruption on satisfaction with democracy becomes stronger. This indicates that corruption, in combination with high levels of economic inequality are bad news for how satisfied citizens are with democracy.

It is important to emphasize the limitations of the study. As previously mentioned, cautiousness should be taken due to a various of reasons. First and foremost, the study is based on subjective data, both when it comes to satisfaction with democracy and corruption. Secondly, due to missing values in the dependent variable, a linear interpolation and extrapolation method was used to fill in missing values. It is therefore not sure that all values of satisfaction with democracy represents the values that would have been there if surveys had been done every year in every country in the sample. Finally, the model specification showed signs of autocorrelation and heteroscedasticity. Although this is addressed by using robust standard errors clustered by country, and by testing alternative model specifications (presented in the Appendix), cautiousness is needed. Future research should therefore engage in conducting more times series analyses to see if the results in this thesis replicates in other studies.

Conclusion

This thesis has revised a well-established notion found in previous research – that corruption fosters dissatisfaction with democracy. By identifying a lack of time series studies in the existing literature (except from Wagner, Schneider & Halla, 2008), the study has put the correlation between corruption, as an indicator of Quality of Government, to the test of time. The results from the fixed effects time series analysis conducted in this study show that

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corruption leads to dissatisfaction with democracy over time, contributing to previous research by getting closer to the question of causality.

Addressing another gap in the existing literature, namely the lack of studies that explore whether the correlation between corruption and satisfaction with democracy is conditioned by other variables, the study has shown a statistically significant moderating effect of economic inequalities. When economic inequalities are high, corruption has a stronger negative effect on satisfaction with democracy. This indicates that a combination of corruption and economic inequality is bad news for the satisfaction with democracy. Future research should engage in exploring whether there are other factors that condition the relationship between corruption and satisfaction with democracy.

I have addressed satisfaction with democracy as an indirect indicator or regime legitimacy, arguing, in line with previous research (Canache & Allison, 2005; Seligson, 2002; Stockemer & Sundström, 2013), that long-time dissatisfaction with democracy might results in a decreased support for democratic principles. Future research should further address the correlations between satisfaction *with* and support *for* democracy, building on Sarsfield and Echegaray (2006), to better understand how satisfaction with democracy affect regime legitimacy. This would be an important contribution to the literature on autocratization, since the new, third wave of autocratization (Lührmann & Lindberg, 2019) often is driven by public support (Bermeo, 2016). If Quality of Government affects satisfaction with democracy, as this and several other studies have shown, and satisfaction in fact is an indicator of regime legitimacy, this should be of great interest for scholars, political leaders and policy makers that are interested in preserving democracy as the ideal form of government.

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Appendix

Descriptive statsitcs

Variable	Obs.	Mean	Std. Dev.	Min	Max
Satisfaction with Democracy	1386	0.4884157	0.1282077	0.066601	0.8699473
Corruption	1386	0.4122715	0.1724077	0.0706716	0.7352417
GDP per capita (logged)	1386	9.769098	0.7745638	7.526487	11.32435
Disposable Income Inequality	1386	0.352096	0.0860713	0.22	0.543
Liberal Democracy Index	1386	0.6405664	0.2191353	0.093	0.892
Women Political Empowerment	1386	0.8517071	0.0981476	0.404	0.966
Political Stability	1386	0.3477484	0.8273214	-2.374467	1.760102
Life Expectancy	1364	76.02031	4.524221	59.2	84.2
Infant Mortality (logged)	1364	2.133723	0.8668672	0.3364722	4.27944
Population (logged)	1386	9.41578	1.477859	5.588582	12.68767
Year	1386	2005.5	6.346579	1995	2016

Correlation matrix

|	Satisfaction with Democracy	Corruption	GDP per capita (logged)	Economic Inequality	Liberal Democracy	Women Political Empowerment	Political Stability	Life Expectancy	Population (logged)
Satisfaction with Democracy	1.0000								
Corruption	-0.6315	1.0000							
	0.0000								
GDP per capita (logged)	0.4506	-0.7918	1.0000						
	0.0000	0.0000							
Economic Inequality	-0.2965	0.6122	-0.6731	1.0000					
	0.0000	0.0000	0.0000						
Liberal Democracy	0.3769	-0.6914	0.6886	-0.4448	1.0000				
	0.0000	0.0000	0.0000	0.0000					
Women Political Empowerment	0.3554	-0.5712	0.6664	-0.6433	0.7368	1.0000			
	0.0000	0.0000	0.0000	0.0000	0.0000				
Political Stability	0.4221	-0.7214	0.6403	-0.6858	0.7073	0.6332	1.0000		
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			
Life Expectancy	0.3382	-0.6506	0.7924	-0.3723	0.6014	0.5013	0.4712	1.0000	
	0.0000	0.0000	0.4738	0.0000	0.0000	0.0000	0.0000		
Population	-0.1108	0.2129	-0.0478	0.2341	-0.1387	-0.1418	-0.3753	-0.1131	1.0000
	0.0000	0.0000	0.0752	0.0000	0.0000	0.0000	0.0000	0.0000	

Distribution of GDP per capita

The left graph shows the distribution of GDP per capita before the variable was logged and the right graph shows the distribution afterwards. The logged version of the variable was used in all regressions.
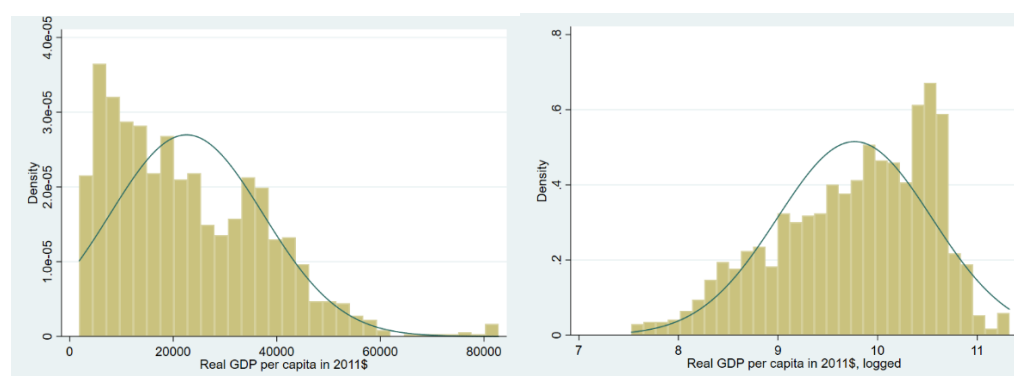
Distribution of population size

The left graph shows the distribution of population size before the variable was logged and the right graph shows the distribution afterwards. The logged version of the variable was used in all regressions.
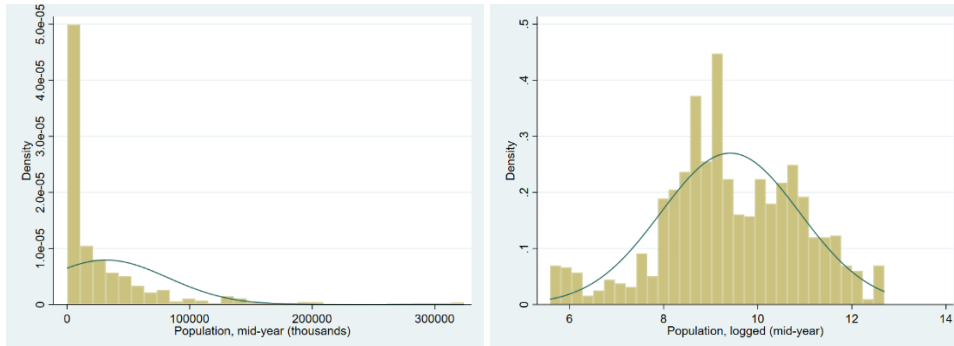
Influential observations

The graph shows the result of the DFBETA test to identify potential influential observations. Morocco stands out as an influential observation. This should not affect the regression since the fixed effects model is used, but table a regression model excluding Morocco is shown in the Appendix.
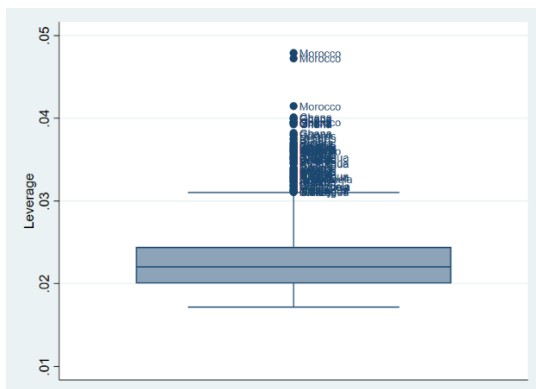
Breusch and Pagan test to see if data can be pooled. The test result is significant which means that data cannot be pooled (pooled OLS).

Breusch and Pagan Lagrangian multiplier test for random effects

Estimated results:	Var	sd = sqrt (Var)
Satisfaction with democracy	0.0164372	0.1282077
e	0.0054184	0.0736098
u	0.0045786	0.0676655

Test: Var(u) = 0

$$\text{chibar2}(01) = 2921.54$$

$$\text{Prob} > \text{chibar2} = 0.0000$$

Multicollinearity test

Dependent variable: Satisfaction with Democracy

Variable	VIF	1/VIF
Corruption	3.65	0.274255
GDP per capita (logged)	6.83	0.146481
Disposable Income Inequality	3.48	0.286971
Liberal Democracy Index	4.07	0.245512
Women political empowerment	3.15	0.317857
Political Stability	3.80	0.263275
Life Expectancy	3.30	0.302888
Population (logged)	1.36	0.737505
Mean VIF	3.70	

Multicollinearity test is shown with GDP per capita as un-logged so show that the multicollinearity problem is a result of using a squared variable.

Variable	VIF	1/VIF
Corruption	4.46	0.224452
GDP per capita (logged)	4.81	0.208003
Disposable Income Inequality	2.90	0.345034
Liberal Democracy Index	3.99	0.250530
Women political empowerment	3.15	0.317129
Political Stability	3.79	0.263682
Life Expectancy	2.40	0.415886
Population (logged)	1.32	0.757609
Mean VIF	3.35	

Hausmann Test

Test: Ho: difference in coefficients not systematic

Chi2 (8)	$= (b-B)'[(V\_b-V\_B)^{\wedge}(-1)](b-B)$
	= 77.89
Prob>chi2	= 0.0000

Autocorrelation test

Wooldridge test for autocorrelation in panel data
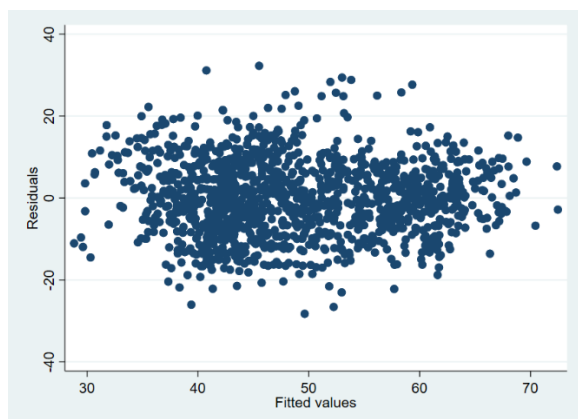H0: no first-order autocorrelation

F (1, 61)	=28.059
Prob>F	= 0.0000

Heteroscedasticity

Modified Wald test for groupwise heteroskedasticity in fixed effect regression model

H0: sigma(i)^2 = sigma^2 for all i

chi2 (62)	= 317.96
Prob>chi2	= 0.0000

Unitroot test

Fisher-type unit-root test for satisfaction with democracy

Based on augmented Dickey-Fuller tests

		Statistics	p-value
Inverse chi-squared(126)	P	212.3989	0.0000
Inverse normal	Z	-4.5756	0.0000
Inverse logit t(319)	L*	-4.7886	0.0000
Modified inv. chi-squared	Pm	5.4426	0.0000

Robustness checks and alternative model specifications.

To test the robustness of the results, alternative model specifications were run. Table 4 shows the main table from results (table 1). The bivariate correlation between corruption and satisfaction with democracy is shown in model 1 and model 2. In model 2, the dependent variable is lagged. Model 3 shows the main model (model 4) from table 1 in results. In model 4, a lagged version of the dependent variable is included as an independent variable in the model specification to deal with problems of heteroscedasticity. In model 5, the dependent variable is lagged to deal with problems of unitroot. In model 4, the effect of corruption on satisfaction with democracy goes down considerably. However, there is still a statistically significant negative effect, implying that the relationship is robust while testing alternative model specifications.

Table 4: Regression results – effect of corruption on satisfaction with democracy: alternative model specifications.

Dependent variable: satisfaction with democracy

	Model 1	Model 2	Model 3	Model 4	Model 5 Lagged DV
Corruption	-0.748***	-0.761***	-0.697***	-0.314**	-0.681***
	(0.220)	(0.202)	(0.200)	(0.128)	(0.174)
GDP/capita (logged)			0.089*	0.020	0.124***
			(0.048)	(0.027)	(0.045)
Disposable income Inequality			-0.876***	-0.388**	-0.868***
			(0.304)	(0.177)	(0.273)
Liberal democracy			-0.139**	-0.069*	-0.125**
			(0.058)	(0.038)	(0.048)
Women political Empowerment			-0.007	-0.007	0.000
			(0.174)	(0.088)	(0.170)
Political stability			0.015	-0.002	0.030
			(0.020)	(0.010)	(0.020)
Life expectancy			-0.001	0.002	-0.005
			(0.007)	(0.004)	(0.006)
Population (logged)			-0.060	-0.083	0.040
			(0.095)	(0.052)	(0.084)
Satisfaction with Democracy (lagged)				0.563***	
				(0.050)	
Year fixed effects	No	No	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes	Yes
_cons	0.800***	0.804***	0.934	0.969	-0.061
	(0.091)	(0.083)	(1.356)	(0.725)	(1.247)
Obs.	1240	1240	1240	1240	1240
R-squared	0.045	0.049	0.221	0.436	0.276

Standard errors are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

All variables except from the dependent and population size were run with one-year lags.

Histograms showing distribution before and after logged variables for GDP per capita and population size are presented in the Appendix.

Table 5 shows regressions of the model when Morocco is excluded due to being a influential observation.

Table 5: Regression results – effect of corruption on satisfaction with democracy. Morocco was excluded due to being an influential observation.

Dependent variable: satisfaction with democracy

	Model 1 Fixed effects	Model 2 Fixed effects	Model 3 Fixed effects	Model 4 Fixed effects
Corruption	-0.729***	-0.691***	-0.663***	-0.658***
	(0.225)	(0.236)	(0.209)	(0.198)
GDP/capita (logged)			0.116***	0.089*
			(0.031)	(0.047)
Disposable income Inequality			-0.743**	-1.032***
			(0.280)	(0.286)
Liberal democracy			-0.103	-0.130*
			(0.064)	(0.067)
Women political Empowerment			-0.058	-0.231
			(0.182)	(0.181)
Political stability			0.003	0.023
			(0.019)	(0.020)
Life expectancy			-0.006	-0.001
			(0.005)	(0.007)
Population (logged)			-0.057	-0.067
			(0.087)	(0.092)
Year fixed effects	No	Yes	No	Yes
Country fixed effects	Yes	Yes	Yes	Yes
_cons	0.791***	0.750***	1.005	1.240
	(0.092)	(0.099)	(0.762)	(1.327)
Obs.	1159	1159	1159	1159
R-squared	0.043	0.155	0.123	0.236

Standard errors are in parenthesis

*** p<0.01, ** p<0.05, * p<0.1

All variables except from the dependent and population size were run with one-year lags.
Histograms showing distribution before and after logged variables for GDP per capita and population size are shown in the Appendix.