VARIETIES OF DEMOCRACY AND ECONOMIC GROWTH:

A PANEL DATA ANALYSIS

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Varieties of Democracy and Economic Growth:

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DECLARATION OF ORIGINALITY

I, Özlem Akekmekçi, certify that

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ABSTRACT

Varieties of Democracy and Economic Growth: a Panel Data Analysis

This thesis addresses the question how different democracy varieties affect the economic growth. For the varieties of democracy, the indices of V-Dem Institute are used and the democracies has categorized into five different groups as following: electoral, liberal, participatory, deliberative and egalitarian. With the fixed effect estimation of the regression with Driscoll-Kraay standard errors, panel data for 86 countries over the period from 1960 to 2016 is used.

The findings imply that, economic growth have positive correlation with all democracy indices and strongest correlation is with egalitarian democracy. Since electoral democracy index act as basic essential of other democracy indices; add to regressions performed with these indices, the correlations of components without the partial score of electoral democracy index is also analyzed separately. Findings show that participatory, deliberative and egalitarian democracy components are not significant without the essential characteristics of any democracies.

As control variables, geopolitical region, trade openness, life expectation and primary schooling are estimated as significant for all democracy variations. However, only for egalitarian democracy, ethnic fractionalization is insignificant in some circumstances. Also, the coefficient of ethnic fractionalization is lowest for the egalitarian democracy. This finding is supportive to following arguments in the literature, democratic regimes tend to manage ethnic fractionalization better and equal distribution has highly important role in this. In consideration of the literature and the findings, it may be said that equal distribution of power and resources likely to reduce the unfavorable effects of ethnic fractionalization on economic growth.

ÖZET

Demokrasi Çeşitleri ve Ekonomik Büyüme: Panel Veri Analizi

Bu tezde farklı demokrasi çeşitlerinin ekonomik büyüme üzerindeki etkisi üzerine çalışıldı. Farklı demokrasi çeşitleri için, V-Dem Enstitüsü'nün endeksleri kullanılarak, demokrasiler beş farklı kategoride incelendi: poliyarşi, liberal, katılımcı, müzakereci ve eşitlikçi. Her bir demokrasi endeksinin ekonomik büyüme ile ilişkisi ayrı ayrı incelendi.

Veriler, tüm demokrasi endekslerinin ekonomik büyüme ile pozitif korelasyona sahip olduğunu ve en etkili olanınsa kaynakların ve gücün eşit dağılımını ifade eden eşitlikçi demokrasi olduğunu gösterdi. Analizde, poliyarşi herhangi bir demokrasi endeksinin temelini oluşturduğundan, diğer demokrasi çeşitlerinin etkileri de tek başlarına ve poliyarşiden bağımsız olarak ayrıca analiz edildi. Bulgular, katılımcı, müzakereci ve eşitlikçi demokrasi bileşenlerinin, herhangi bir demokratik rejimin temelini oluşturan seçim demokrasisi olmadan bir önem arz etmediğini gösterdi.

Kontrol değişkenlerinden dördünün (jeopolitik konum, ticaret açıklığı, ortalama yaşam süresi, ilkokul katılım oranları) önemli olduğu bulundu. Ancak etnik fraksiyonların, eşitlikçi demokrasiyle en düşük korelasyona sahip olduğu, hatta bazı durumlarda korelasyonun önemini kaybettiği gözlemlendi. Bu bulgu, demokratik rejimlerin etnik fraksiyonlaşmayı otokratik olanlara kıyasla daha iyi yönettiğini savunan bazı argümanları destekler nitelikte. Literatürdeki bu argümanlar ve bu tezdeki bulgular göz önünde bulundurulduğunda, kaynakların ve gücün eşit dağıtımının, etnik fraksiyonların ekonomik büyüme üzerindeki bazı olumsuz etkilerini azaltabilecek nitelikte olduğu söylenebilir.

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CHAPTER 1

INTRODUCTION

Democracy is under threat all around the world. According to Freedom House Report, since 2005, global freedom has been declining every passing year and only in 2019, 64 countries have lost their rights and liberties. Same report also shows that even the democratic countries with world's greatest economies also suffer from declines in democracy. (Repucci, 2020) Also, although the number of democracies drop down below the number of autocracies, the number of protests also increased and reached its all-time peak in 2019. (Maerz, Luhrmann, Hellmeier, Grahn, & Lindberg, 2020)

Discussions on democracies are not new. Since Ancient Greece, the debates on the forms of government and democracy have been controversial and discussed in the contexts of several fields including philosophy, politics and economics. Even though it is controversial since Plato (1962), the literature is diversified since the second half of twentieth century. (Richter, 2005)

In 1960s, there are several studies on origins of democracy and liberty. (e.g., Hayek, 1960; Lipset, 1960; Moore, 1966) With the rise of "new institutional economics" , that studies on the man by considering the constraints imposed by institutions, the literature on the relationship between democratic institutions and growth is also varied. (Coase, 1984; Ghardallou & Sridi, 2019) Although there are various academic studies on the issue since the beginning of the nineties, the literature remains inconclusive. (e.g. ., Sirowy and Inkeles, 1990; Tavares and Wacziarg, 2001; Papaioannou and Siourounis, 2008; Acemoglu, Naidu, Restrepo, & Robinson, 2019)

While the arguments in favor of democracy are focusing on human capital, property rights, political stability and technology; opponents tend to measure the direct economic impacts. (Ghardallou & Sridi, 2019) Also, in terms of long-term and cumulative effects of democracy, recent studies show positive long-term economic impact. (Papaioannou & Siourounis, 2008; Acemoglu, Naidu, Restrepo, & Robinson, 2019).

Although there have been many studies about the impacts of democracy and the debates are highly controversial, the literature on the relation between the economic growth and the types or varieties of democracy is scarce. In this thesis, relation between democracy and economic growth is discussed by classifying democracy into different categories. The economic impacts of the different democracy indices are analyzed separately.

To distinguish the democracy components and analyze the impact of them on economic growth, the V-Dem approach of V-Dem Institute of University of Gothenburg is used. (V-Dem Institute, 2020a) V-Dem indices measure hundreds of different characteristics of democracies and categorizes democracies into several groups. In this thesis, the democracy is categorized into five different groups as in V-Dem. These groups are electoral(polyarchy) liberal, participatory, deliberative and egalitarian democracy. Electoral democracy index act as basic essentials of democracy and measured by variables consisting clean elections, freedom of expression, freedom of association, suffrage and so forth. Other four democracy indices are aggregated by using both electoral democracy index and related democracy component proportionately. For instance, to calculate liberal democracy index, V-Dem aggregates scores of electoral democracy(polyarchy) index and liberal component index. Other indices are defined as following, while liberal democracy

component is emphasizing individual and minority rights, participatory component measures active participation to political processes. Egalitarian component is mostly about the equal distribution of power and resources between different social groups. Lastly, deliberative component considers the decisions made in a polity. (V-Dem Institute, 2020a) These democracy categories are explained in detail in Chapter 3 and list of sub-indices of these categories are added to the Appendix B.

When these democracy categories and findings in the literature are combined, we would see that each of the characteristics that is supported as beneficial or harmful on economic growth, refers to different components of democracy. For instance, while people focusing on positive economic impacts of educational equality on economy, they are actually referring the egalitarian index in our categorization.

By using annual panel data of 86 countries for the time period between 1960 and 2016, the correlation between different democracy indices and economic growth is estimated.

The content of the thesis as follows. In Chapter 2, the literature review is presented in detail. In the Chapter 3, data and statistics are described. After the explanation of methodology in Chapter 3, findings of Driscoll-Kraay fixed effect estimator for each democracy index is presented in Chapter 4. Chapter 5 concludes the thesis and also includes the discussion section. Country list is available in Appendix A and the variables that are used to measure the each of the democracy indices and components are shown in Appendix B.

CHAPTER 2

LITERATURE REVIEW

While Plato is stating his suspicions on democracy, he was claiming that tyrannies arise from democracy and the most severe forms of slavery or tyranny springs from the extreme forms or the excess of liberty in democracies. (Plato, 1962) The claims of Plato (1962), may be adduced as one of the oldest arguments against the democracy. Although the debates on the democracy dates to Ancient Athens, it is still inconclusive and a matter of discussions in several contexts.

In 1960's there are several studies focusing on the origins of democracy and its relationship with economic growth. (e.g., Hayek, 1960; Lipset, 1960; Moore, 1966) While studying bases of politics, Lipset (1960) finds positive relation between democracies and economic growth. He uses several different indices to measure economic development such as urbanization, education, industrialization and average wealth, and he finds same results each time. He suggests that high education levels are not sufficient but necessary condition to democracy. He also argues that more developed countries have more chance to sustain democracy. Because high income levels, which means more development, are necessary for the acceptance of democratic institutions. Because when there is enough wealth in the country, redistribution does not cause some people to lose their power and they would be less likely to resist. (Lipset, 1959; Lipset, 1960) In 1966, Moore also focused on the origins of democracy and categorized the routes to the modern world into 3 groups; bourgeois, conservative and communist revolution. And according to him, these revolutions end in democracy, fascism and communism, respectively. He summarizes the role of middle class in the path to democracy with his famous

argument “no bourgeois, no democracy.” Briefly, in 1960s, the studies were mostly about the origins and prerequisites of the democracy and its relationship with economic growth was being discussed.

The rise of the number of studies on the relationship between democratic institutions and economic growth is relatively new with respect to democracy discussion. According to Richter (2005) in the first half of 1900s, the literature on the relationship between economic growth and institutions was relatively scarce. However, in 1970s, Williamson (1973) introduced the term “New Institutional Economics” and became highly popular. Therefore, the number of studies on institutions and economic growth are increased in following years. North (1986) defines modern institutional economics as a field that combines institutional theories and economics. He suggests that it act as a “bridge between theory and observation” because rather than assuming complete rationality; real people, real institutions and constraints are observed to implement the theory on the institutions. (North, 1986)

Then, the growing debates on the political institutions and economic growth has concentrated on the democracy. (Ghardallou & Sridi, 2019) There are a lot of studies focusing on this relationship since 1990s. (e.g. ., Sirowy and Inkeles, 1990; Tavares and Wacziarg, 2001; Papaioannou and Siourounis, 2008; Acemoglu, Naidu, Restrepo, and Robinson, 2019) However, while some of them finding positive impact of democracy on economic growth, others estimates tend to indicate negative effects. There are also various studies concludes with ambiguous findings.

The literature on the negative impact of democracy is concentrated on the disincentive impact of redistributive policies on investments and savings, increased government expenditure, decreased physical capital accumulation and increased immediate consumption. (Przeworski & Limongi, 1993; Perotti, 1996) In other

words, these studies are more likely to focus on direct economic effects. Helliwell (1994) argues that although the countries that have higher income levels tends to democratize, the effect of democracy on economic growth is more likely to be negative. However, he mentions about the effect of democracy on several areas like education, policy, inequality. Then, he suggests that through these areas, democracy may have indirect positive impact on economic growth. Since these areas were unstudied, he concludes the paper with ambiguous views on net economic growth.

Tawares and Wacziarg (2001) also finds both negative and positive impacts of democracy. Their findings show that democracy impacts human capital accumulation positively but physical investment rates negatively. They argue that democracy creates trade-off between social benefits and direct economic costs by reducing income inequality at the expense of decreased investment levels.

As in the positive findings of Tawares and Wacziarg (2001), supporters of democracy are more likely to focus on indirect positive effects of democracy on economic growth through improvements in education, public health and policy, property rights, political stability, decreased inequality, technology and increased human capital (Minier, 1998; Ghardallou & Sridi, 2019) For instance, Acemoglu and Robinson (2000) argues that democratization provides a path to mass education and decreased inequality. Also, add to their mentioned findings on human capital, Tawares and Wacziarg (2001) mentions about the positive impact of democratic regimes on the political stability. Baum and Lake (2003) suggests that direct impact of democracy on economic growth is not significant and its effect is most likely to be indirect through increased life expectancy and secondary education. They argue that these indirect effects are positive.

There are also several studies that support positive direct impact of democracy on economic growth. (e.g., Papaioannou and Siourounis, 2008; Acemoglu, Naidu, Restrepo, and Robinson, 2019). Papaioannou and Siourounis (2008) argues that democratization causes almost 1% increase in GDP per capita. Acemoglu et. al. (2019) builds their democracy measures on the study of Papaioannou and Siourounis (2008) and finds positive impact, even in the long term. They suggest that countries have 20% higher per capita GDP after 25 years and the impact is relatively greater in the countries that have higher level of secondary education and supports Hayek (1960)'s arguments on the long-term positive effects of democracy.

Various democracy indices are used to measure democracy variable in studies. Freedom House and Polity indices are the widely used ones. Papaioannou and Siourounis (2008) combine both two indices in their study and they also use Golder(2005) for regime classification. With these data sets, they use dichotomous democracy measure. Acemoglu et. al. (2008) also combines Polity and Freedom House. Acemoglu et. al. (2019) also follow the dichotomous measure of Papaioannou and Siourounis (2008) and extend it with another two datasets Cheibub, Gandhi, and Vreeland (2010, as cited in Papaiannou et. al., 2008) and Boix, Miller, and Rosato (2012, as cited in Papaiannou et. al., 2008). Baum and Lake (2003) also uses Polity and checks it with Freedom House Index as well as Przeworski et. al. (2000). Helliwel (1994), Perotti (1996), Minier (1998), Tawares and Wacziarg (2001) and Acemoglu et. al (2008) are also some examples of the studies in which Freedom House Index is used.

Log GDP per capita is used in almost all the articles in the literature and generally, data is taken by World Bank Development Indicators. (e.g., Helliwel,

1994; Tawares and Wacziarg, 2001; Acemoglu et. al., 2019) There are also other studies measure economic growth with different indices. For instance, Baum and Lake (2003) uses annual growth rate in real GDP and the data is also taken from World Bank Development Indicators.

Control variables in this thesis are explained in Chapter 3. Also, the variables used in the some of the similar studies focusing on the relationship between democracy and economic growth are listed in Table 1.

Although there are many studies on the relationship between economic growth and democracy, the literature on aspects of democratic institutions and different varieties of democracy is relatively unstudied. In this thesis, the economic impacts of different democracy indices are analyzed separately. The classification of V-Dem is used to categorize democracies. (V-Dem Institute, 2020a) In the next chapter, the differences of these five democracy indices and other descriptive statistics are explained in detail.

Table 1. Summary of the Variables Used in the Literature

Citation	Article Title	Variables
Jenny A. Minier (1998)	Democracy and Growth: Alternative Approaches	log of GDP per capita, democracy index, investment, education, log of fertility, log of life expectancy, educational spending, government consumption, civil rights, terms of trade, black market premium.
Robert J. Barro (1996)	Democracy and Growth	log of GDP per capita, democracy index, male schooling, female schooling, log life expectancy, log of GDP*human capital, log of fertility, government consumption ratio, public educational spending ratio, black market premium, rule-of-law index, terms-of-trade change, investment ratio, infant mortality rate, Gini – income inequality, urbanization, OPEC dummy, log population, ethnolinguistic fractionalization.
Daron Acemoglu et. al. (2019)	Democracy Does Cause Growth	log of GDP per capita, democracy, GDP in 1960 quintiles*year effects, soviet dummies, regional trends, regional GDP and trade, regional unrest GDP and trade, spatial lag of GDP, spatial lag of GDP and democracy, log of investment share in GDP, log of total factor produdictivity, index of economic reforms, log of trade share in GDP, log of primary school enrollment, log of secondary school enrollment, log of child mortality, dummy for unrest, dummy for colonies.
Yi Feng (1997)	Democracy, Political Stability and Economic Growth	GDP per capita, democracy, education, investment, inflation, trade, irregular, major and minor regular government change, Islamic dummy, Confucian dummy.
Roberto Perotti (1996)	Growth, Income Distribution, and Democracy: What the Data Say	GDP per capita, democracy dummy, male schooling, female schooling, PPP value of investment deflator, government expenditure on social security and welfare, government expenditure on health, government expenditure on education, income taxes to personal income, urbanization, labor taxation in GDP, marginal tax rate, fertility, life expectancy, sociopolitical instability, dummies for regions, dummy for more than $1500 GDP.
Jose Tawares & Romain Wacziarg (2001)	How Democracy Affects Growth	GDP per capita, democracy, log initial income, investment rate (%GDP), human capital, Gini coefficient – income inequality, political instability, black market premium, trade openness – trade share (%GDP), government consumption (%GDP), inflation rate, distortions.
Acemoglu et. al. (2008)	Income and Democracy	log of GDP per capita, democracy, log population, education, savings rate, trade-weighted log GDP, trade-weighted democracy, labor share, savings rate, age structure, religion, independence year, constraint on the executive at independence, religion, population density in 1500.
Matthew A. Baum, David A. Lake (2003)	The Political Economy of Growth: Democracy and Human Capital	log of GDP per capita, democracy, female life expectancy, female secondary enrollment, labor force, investment, population, residuals of secondary enrollment, residuals of life expectancy.
Papaioannou and Siourounis (2008)	Democratization and Growth	log difference in GDP per capita, investment, schooling, life expectancy, government consumption, trade share, long-run income effect, long-run growth effect, regional trends, reverse transition.

CHAPTER 3

DATA AND DESCRIPTIVE STATISTICS

In this thesis, panel data between 1960 and 2016 of 86 different countries is used. All the democracy scores are taken from 2020 V-Dem Dataset prepared by V-Dem Institute (2020b) in the V-Dem Institute of University of Gothenburg. According to the Democracy Report 2020 (Maerz, Luhrmann, Hellmeier, Grahn, & Lindberg, 2020) published by V-Dem Institute, since 2001, the number of autocracies is higher than the number of democracies all around the world for the first time. From 2009 to 2019, the ratio of people living in autocratizing countries increased from 6 percent to 34 percent in proportion to total world population. Surprisingly, while the restrictions on protests are increasing with the intensifying autocratizations, number of protests are also increased and even, reached to its all-time peak. (Maerz et. al., 2020)

For the 86 countries in the period between 1960 and 2016, the number of democracies and autocracies are continuously changing. For the sample that is used in this thesis, number of democracies are increasing from 22 to 57, during the relevant period. In Figure 1, the change in the number of democracies and autocracies is shown. Data for the regimes are also taken from V-Dem Codebook v10 (V-Dem Institute, 2020a) and Luhrmann, Tannenberg, & Lindberg (2018, as cited in V-Dem Institute., 2020b) While total number of autocracies in the graph are showing the sum of closed and electoral autocracies, total number of democracies refers to electoral and liberal democracies. V-Dem Dataset v10 (V-Dem Institute, 2020b) consists 202 countries for the time period between 1789 and 2019. Democracy Report 2020 (Maerz et. al., 2020) is prepared by considering this data. As aforementioned above, according to this report, it is seen that the number of

autocracies is higher than democracies in 2019 for the first time in years since 2001 and the number of people living in autocracies is increasing. In this thesis, although the data is taken from V-Dem Dataset v10 (V-Dem Institute, 2020b), only 86 countries for the years between 1960 and 2016 is considered. In this part of data set, number of democracies are still higher than the number of autocracies for the recent periods. However, as it can be seen in the Figure 1, after 2000s, the increase in number of democracies and the decrease in autocracies become slower and therefore, the graph becomes flatter.

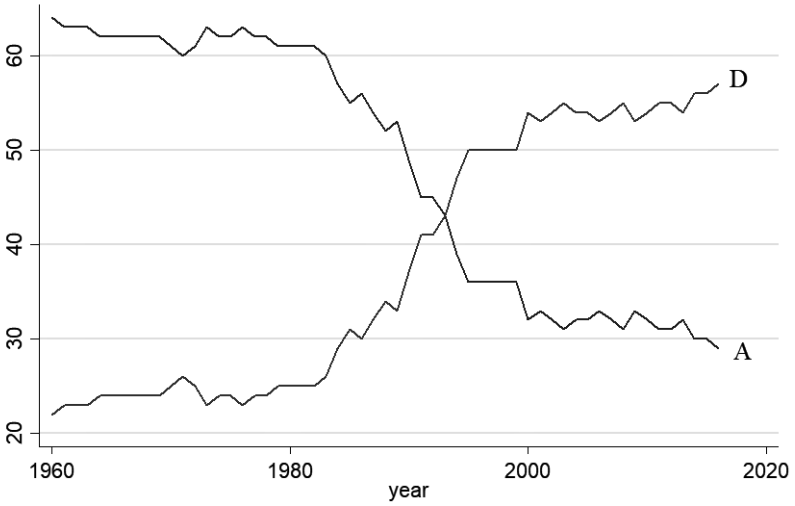


Figure 1. Number of autocracies and democracies in the 86-country sample

There are five different democracy indices in V-Dem Data as following: polyarchy or electoral, liberal, participatory, deliberative and egalitarian. Basically, electoral democracy index act as an essential attribute of democracies and measure the fundamental necessities of any democracy. Electoral democracy index is the aggregation of the multiplicative and additive polyarchy indices, which equals weighted averages of five different sub-indices and multiplicative interactions between them. These five sub-indices are freedom of expression and freedom of

association, share of population with suffrage, clean elections and elected officials. For other four democracy indices, V-Dem takes electoral index into account proportionately since it is essential for any democracy and calculates the score by combining the electoral democracy index and related democracy component . For instance, to measure the liberal democracy index, twenty five percent of the electoral democracy score over 1.585 and twenty five percent of the liberal democracy component score and five percent of the multiplication of liberal component and electoral democracy score over 1.585 are summed. The proportions are exactly same for four of the democracy indices. Related calculations of V-Dem are shown in the Table 2.

Liberal component index measures the protection of individual and minority rights. For measurement, aggregates constraints on the executives, justice, equality and individual liberty by considering different genders and religious groups, freedom from torture, forced labor, political killings. Participatory component is more about the participation to political processes and includes elections of regional and local government, participatory environment, civil organizations and direct voting like referendums. Deliberative component index focuses on the decisions that are reached in a polity. This includes indices on justifications of political elites, their respect to counter arguments and the level of advice elites take when it comes to political decisions. Finally, egalitarian component index is about the equal distribution of the protection, resources and power between different social groups. Equal protection is about the protection of rights and freedoms and the level of equal liberties of different social groups. Measured resources are health, education, welfare programs and national budget. As final index of egalitarian component index, equal

distribution of power is about the distribution of political power between different social groups, socioeconomic positions and genders. (V-Dem Institute, 2020a).

Figure 2 and Figure 3 show the mean of yearly scores of each democracy component and index for the whole data. In Figure 2, curves have parallel behavior because of the data structure. As mentioned above, for each index, electoral democracy component is added to aggregation. Therefore, all of them tend to follow the shape of electoral democracy index. Figure 3 shows the change in each democracy component. With respect to democracy components, the scores in descending order for recent times are as following; deliberative, liberal, egalitarian, electoral and participatory. According to these scores, in general, the polity in decision making and protection of minority rights may be the characteristics of democracies that are achieved more in this sample than the core essential democracy characteristics and active participation.

Table 2. V-Dem Aggregations of the Democracy Indices

Electoral Democracy (Polyarchy) Index	.5 Additive Polyarchy Index + .5 Multiplicative Polyarchy Index
Liberal Democracy Index	.25 Electoral Democracy Index$^{1.585}$ + .25 Liberal Component Index + .5 (Electoral Democracy Index$^{1.585}$ + Liberal Component Index)
Participatory Democracy Index	.25 Electoral Democracy Index$^{1.585}$ + .25 Participatory Component Index + .5 (Electoral Democracy Index$^{1.585}$ + Participatory Component Index)
Deliberative Democracy Index	.25 Electoral Democracy Index$^{1.585}$ + .25 Deliberative Component Index + .5 (Electoral Democracy Index$^{1.585}$ + Deliberative Component Index)
Egalitarian Democracy Index	.25 Electoral Democracy Index$^{1.585}$ + .25 Egalitarian Component Index + .5 (Electoral Democracy Index$^{1.585}$ + Egalitarian Component Index)

Note: The aggregations are taken from V-Dem Codebook v10 (V-Dem Institute, 2020a).

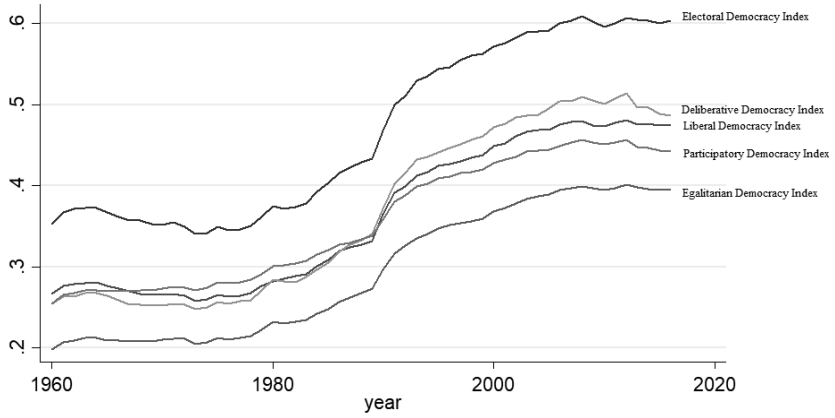


Figure 2. Mean of yearly scores of the democracy indices

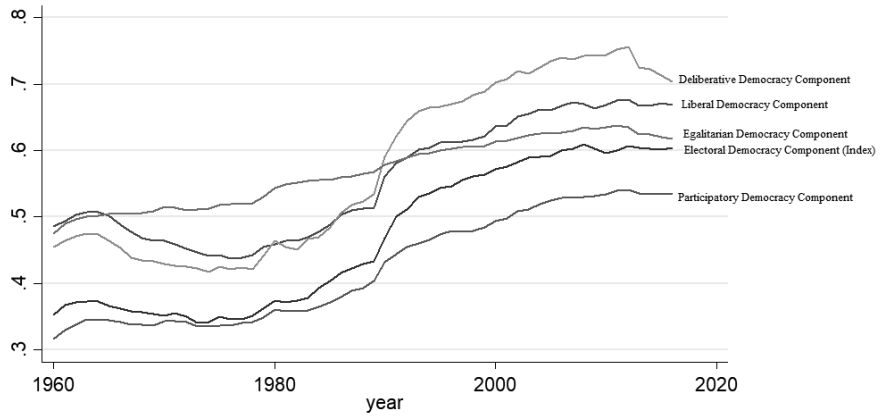


Figure 3. Mean of yearly scores of the component indices

For GDP per capita, data is taken from Maddison Project Database and used log of the real GDP per capita in 2011 dollars, which is convenient for growth comparisons.

For the democracy components and GDP per capita the data was available for the entire sample. The control variables are chosen as following, geopolitical region, trade openness, ethnic fractionalization, life expectancy, primary school enrollment.

Geopolitical region data consists six categories and taken from V-Dem Dataset v10 (V-Dem Institute, 2020b) with combinations of Teorell et. al. (2019) and

Quality of Government Dataset (Dahlberg, Holmberg, Rothstein, Alvarado Pachon, & Axelsson, 2020) as cited in V-Dem Institute (2020b). These six categories are Eastern Europe and Central Asia, Latin America and the Caribbean, The Middle East and Norther Africa, Sub-Saharan Africa, Western Europe and North America and as final group, Asia and Pacific. These classifications are based on the geographical distance and understanding of democratization. (V-Dem Institute, 2020a and Dahlberg et. al., 2020) In the literature, there are also other studies that find significant effects of regional trends and region dummies are significant on the relationship between growth and democracy. (e.g., Acemoglu et. al., 2019; Perotti, 1996). Acemoglu et. al. (2019) suggests that, countries in the same region tend to be affected from the democratization in each other and democratizations increase GDP.

Trade openness is another important characteristic on the relationship between economic growth and democracies. Acemoglu et. al. (2019) argues that trade shocks can affect both democracy and economic growth. In the democracy and growth studies, while Feng (1997) is finding positive impact of trade openness on economic growth, Tawares and Wacziarg (2001) found no significant relationship even though they expected positive relation between trade openness and both of economic growth and democracy. Therefore, trade openness as control variable is also included in this thesis. The variable is the ratio of total export and import of goods and services as a percentage of total GDP. The data source is World Bank Development Indicators (2020) Since GDP excludes import, the ratio of trade openness to GDP may be higher than 100 percent for some values.

Third control variable is ethnic fractionalization. In the literature, there are some studies focusing on the relationship between ethnic diversity and democracy and/or economic growth. (e.g., Collier, 2000; Jensen and Skaaning, 2012; Fish and

Brooks, 2004) Fish et. al. (2004) expects the negative impact of ethnic diversity on both democracy and economic growth. Collier (2000) argues that while diversity is negatively affecting the economic growth in autocratic countries, there is no such relationship for the democratic ones. According to the report of Freedom House (2002), democracies succeed more in monoethnic societies. Hence, in this thesis, ethnic fractionalization is used as a control variable to explain the relationship between economic growth and democracy. Ethnic fractionalization data is taken from the Quality of Government Dataset. (Dahlberg et. al., 2020). According to this dataset, ethnic fractionalization corresponds to two randomly chosen individuals that belong to different ethnicities in the same country.

Life expectancy is another variable highly used in the democracy and economic growth studies. (e.g. Minier, 1998; Baum and Lake, 2003; Perotti, 1996; Barro, 1996) Baum et. al. (2003) argues that democracy has no direct impact on economic growth. However, they suggest that, in poor countries, through the increased life expectancy, the effect of democracy is indirect and positive. Higher life expectancies enhance work habits, skills, productivity respectively, therefore promotes growth. (Barro and Sala-I-Martın, 1995, as cited in Perotti, 1996) Data for life expectancy is taken from V-Dem Dataset v10 (V-Dem Institute, 2020b).

Last variable of the study is total primary school gross enrollment rate in a given country. There are various studies focusing on the relationship between democracy and schooling in several manners including primary, secondary, female, male and so forth. (e.g. Acemoglu, 2008, 2005; Minier, 98; Perotti, 96) Lipset (1959) argues that economic growth enhances education and more educated people likely to prefer more democratic views. Minier (1998) also suggests that countries with lower level of educations are more likely to have decline in democracy. Add to direct

positive impact of education on democracy, Acemoglu et. al. (2000) argues that democratization promotes to expand education and makes it accessible for the masses. There seems to be there may be two-sided relationship between education and democracy. In this thesis, the effect of education on the relationship between democracy and economic growth is estimated by adding it as a control variable. As education variable, primary school gross enrollment ratio of the population is chosen. Gutema & Bekele (2004) suggests that among all schooling levels, primary schooling has the highest impact on economic growth. The study of Colclough (1982) are also supportive to this idea and argues that social and economic returns of primary education is much more than the return of any other higher education level. According to Colclough (1982) primary schooling has both direct and indirect benefits on economic development. It provides direct economic impact on every economic sector by enhancing productivity. It also has social benefits including decreased fertility and improved health, communication and culture. These social benefits also improve economic development, which represents the indirect impact of primary schooling on economy. The primary schooling gross enrollment data is taken from World Bank Development Indicators (2020). Data consists all age groups and since the existence of various reasons including early enrollment and repetition, some values for the ratio of primary school enrollment to GDP per capita may be higher than 100 percent.

As aforementioned above, data was available for the entire sample of GDP per capita and democracy variables. For the control variables, the missing data is filled with exponentially weighted moving average and the period is chosen as four. Summary statistics can be seen in Table 3.

Table 3. Summary Statistics for the Variables Used in the Regression

Variable	Mean	Std. Deviation	Minimum	Maximum
GDP Per Capita	9766.759	11210.43	134	67180
Electoral (Polyarchy) Index	.4659639	.2881027	.013	.924
Liberal Index	.3612281	.2843999	.009	.891
Participatory Index	.2929788	.2240004	.011	.808
Deliberative Index	.3673201	.2806382	.007	.899
Egalitarian Index	.3547929	.2565761	.019	.887
Liberal Component	.5528827	.2875947	.02	.978
Participatory Component	.4225838	.2074108	.04	.88
Deliberative Component	.5724578	.3018296	.04	.989
Egalitarian Component	.5671302	.2390276	.052	.977
Geopolitical Region	3.732558	1.426023	1	6
Trade Openness	63.46631	43.45914	.0209992	437.3267
Ethnic Fractionalization	.4767833	.2442151	.039456	.952575
Life Expectancy	65.24639	10.77006	12.6	83.7
Primary School Gross Enrollment	92.12566	26.69731	11.71429	165.6454

Note: See the text for the reason of why the trade openness and primary school gross enrollment ratios to GDP per capita is over 100 percent. For the life expectancy variable, extra low and outlier value 12.6 represents the expected lifetime based on age-specific mortality in Rwanda, 1994.

CHAPTER 4

EMPIRICAL METHODOLOGY

The main question of this thesis is how varieties of democracy affects the economic growth. As the effects of different democracy indices on economic growth is estimated, log GDP per capita is taken as dependent variable to measure economic growth. Each one of the democracy varieties are taken as independent variable and their effects are measured separately. Therefore, each index for electoral, liberal, deliberative, participatory and egalitarian democracies are measured with same regression below, one by one. Geopolitical region, trade openness, life expectancy, ethnic fractionalization, life expectancy and primary school enrollment rate as other control variables are also taken as independent variables.

The data consists values for 86 countries over the period between 1960 and 2016, hence, panel data estimation method is used. The regressions are performed in a static setting. Hence, the estimation model is in the below form:

$$\ln y_{ct} = \beta_0 D + \theta X_{k_{ct}} + \alpha_c + \delta_t + \varepsilon_{ct}$$

The dependent variable y_{ct} refers to log GDP per capita in country c at time t. β represents the coefficients of five different democracy indices. Each one of the five different democracy variables have scores between 0 and 1. $X_{k_{ct}}$ and θ stands for different control variables and their coefficients. α_c stands for country fixed effect and δ_t refers year-fixed effects. As final variable, ε_{ct} is the error term which represents the any other shocks on the dependent variable.

To decide between fixed and random effects models, Hausman test is used. (Hausman, 1978) Hence the test rejected the hypothesis of not systematic differences in coefficients, fixed effects estimator is used. Then, as one of the basic assumptions of linear model, homoskedasticity is checked and it is found that data is heteroskedastic. Data is also controlled in terms of stationarity, serial correlation and cross-sectional dependency. Among the unit root tests, Levin-Lin-Chu Test is chosen because the data is strongly balanced and the assumption suggests that N is fixed and T tends to infinity and therefore, N/T approaches zero. (Levin, Lin, & Chu, 2002) The test shows that panel has no unit roots, then, it is stationary. Wooldridge test also showed the presence of autocorrelation. (Wooldridge, 2002) Cross -sectional dependency is also found in data structure. Therefore, the data is heteroskedastic, serially correlated and cross-sectionally dependent. Since, the test is chosen in the view of data characteristics.

Regression with Driscoll-Kray standard errors assumes an error structure with heteroskedasticity, serial correlation and correlation between panels for regressions including fixed effects (within) estimator. (Driscoll & Kraay, 1998) Hence, it is chosen as the estimator of the panel in this thesis. Although the estimator can manage missing values, the data is filled with exponentially weighted moving average for four-year periods.

CHAPTER 5

FINDINGS OF THE ANALYSIS

The correlation of each democracy index and economic growth are estimated separately. As shown in the Table 4, the correlations between each democracy index and GDP growth are estimated to be significant and positive. Also, in Figure 4, the relationship between each democracy index and GDP growth is also shown with graph. In Figure 4, the relationship is visualized with two-way scatter plots and the prediction for GDP growth from a linear regression of growth on different democracy indices are visualized with the line on the scatter plot. In all reason, the behavior of graphs and line is parallel with the fixed effect regression results. Figure 4 is also showing a positive relationship between GDP growth and each of the democracy index as in Table 4. The most apparent relationship is seen in the graph of egalitarian democracy index. As could be expected, in Table 4, the egalitarian democracy has the highest coefficient that equals 0.416815 (standard error = .0627499). On the contrary, although electoral democracy is required for other four democracy categories to benefit them economically, it has the lowest coefficient that equals 0.1573329 (standard error = .0456493). To put it in different way, egalitarian democracy has the highest positive correlation with the growth rate of GDP per capita when the regression is performed without control variables.

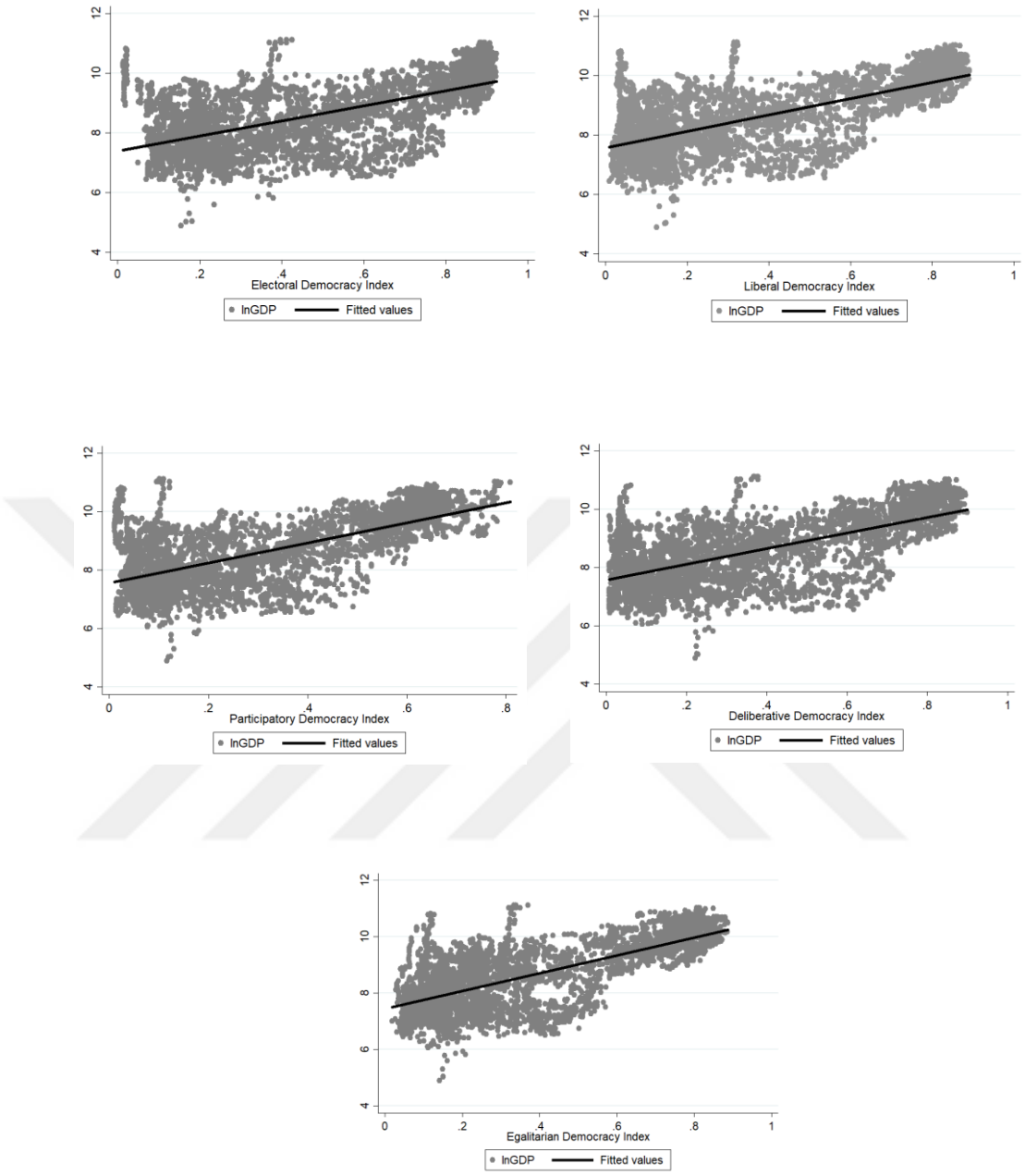


Figure 4. Two-way scatter plots for each democracy index and log of GDP per capita

Table 4. Correlations of Democracy Indices and log of GDP per Capita

	Within Estimates	P-value
Electoral Democracy (Polyarchy)	.1573329**	.001
	(.0456493)	
Liberal Democracy	.2994116**	.000
	(.0492979)	
Participatory Democracy	.3521169**	.000
	(.0610358)	
Deliberative Democracy	.2194106**	.000
	(.0503217)	
Egalitarian Democracy	.416815**	.000
	(.0627499)	

Note: ** denotes .05 significance level.

As aforementioned above, all the democracy indices are aggregated by using the combination of electoral democracy index and the related democracy component index. (V-Dem Institute, 2020a) In Table 4 and the rest of the thesis, indices are used to estimate the correlation between democracy and economic growth. However, to compare the democracy indices as combinations and democracy components alone, the correlations of democracy components without the partial score of electoral democracy on economic growth are also analyzed and shown in Table 5. Even though all the democracy indices are statistically significant and have positive correlation with economic growth; only electoral and liberal democracy components are significant. Participatory, deliberative and egalitarian democracy components become meaningful and effective only when they are combined with the electoral democracy index. In other words, without the essentials of democracy such as freedom of expression, suffrage and clean elections; other democracy components cannot have a significant correlation with economic growth. Only liberal democracy component has significant correlation without combining it with electoral democracy

index. However, even the coefficient of liberal democracy component is significantly increasing when it is combined with electoral democracy index. The coefficient is increasing to .2994116 (.0492979) from .1332254 (.041982).

Table 5. Comparison Between the Democracy and Component Indices

	Democracy Indices	p-value	Component Indices	p-value
Electoral (Polyarchy)	.1573329**	.001	.1573329	.001
	(.0456493)		(-.0456493)	
Liberal	.2994116**	.000	.1332254	.002
	(.0492979)		(.041982)	
Participatory	.3521169**	.000	-.072707	.114
	(.0610358)		(.0453277)	
Deliberative	.2194106**	.000	-.0020486	.953
	(.0503217)		(.034479)	
Egalitarian	.416815**	.000	.0853488	.125
	(.0627499		(.0547878)	

Note: ** denotes .05 significance level. Since polyarchy component as basic essential of democracy is completely same with the polyarchy index and used as a requisite of other democracy indices, coefficients of electoral democracy component and index is exactly the same.

Tables that are numbered between 6 and 10 show the fixed effect estimates of the regression with Driscoll-Kraay standard errors for each of the democracy indices. While Table 6 is showing the findings for electoral democracy, Table 7 is about the liberal democracy, Table 8 presents the regressions for deliberative democracy and the findings in Table 9 and Table 10 is about the participatory and egalitarian democracy indices, respectively. Except ethnic fractionalization, all the variables are significant at level .05. The exception of ethnic fractionalization is explained in detail below.

All the estimations show that, for each democracy index, while the coefficients of geopolitical region, trade openness and life expectancy are positive, ethnic fractionalization and primary school enrollment rates have negative correlation with the economic growth. And the negative correlation is shared among these two variables when they are added to regression together.

The coefficient of geopolitical region is very high in all the estimations. The coefficient changes within the range between 1.916941 (.0351958) and 2.131014 (.0043136). The effect of trade openness is also positive as expected; however, the coefficients are not high and varies between .0045379 (.0004686) and .005049 (.00052). Even though higher positive correlation was expected, this may be because of the high relationship between trade and democracy as suggested in Milner & Kubota (2005). The argument is that democracy precedes trade liberalization and free trade. As third control variable with positive correlation with the economic growth, the estimation shows that increased life expectation also increases economic growth. This positive correlation was expected as aforementioned above in data characteristics.

Ethnic fractionalization and primary school enrollment rates have negative coefficients in all the estimations. Except egalitarian index, ethnic fractionalization is significant for all democracy indices when primary school enrollment rates are excluded. For electoral and deliberative indices, ethnic fractionalization is still significant in all the regression even when the primary schooling is included. For the estimations of liberal and participatory democracy indices, when primary school enrollment rates are included in the regression, ethnic fractionalization lose its significance at .05 level. However, it is still estimated as significant at .1 level.

But only for the egalitarian index, when life expectancy is included in regression, ethnic fractionalization becomes insignificant in both in .05 and .1 significance levels. It remains insignificant primary schooling is added to regression additionally. Also, lowest coefficients for ethnic fractionalization are found in the regressions with egalitarian index. Therefore, it can be said that, only for the egalitarian index, ethnic fractionalization become less effective and even insignificant in some specific circumstances. The reason may be as following. As mentioned above, literature mostly estimates that ethnic fractionalization is negatively correlated with economic growth and/or democracies. (e.g., Collier, 2000; Jensen and Skaaning, 2012; Fish and Brooks, 2004) Most of these studies argue that this negative impact on growth may be prevented with good institutions and enhanced political rights, hence, democracies are more likely to manage fractionalization and reduce conflict that is caused by diversity. (Easterly, 1999; Collier, 2000; Bluedorn, 2001) Easterly (1999) also mentions about the "tragedy of commons" effect on the ethnic conflict between several groups. Alesina & Ferrera (2005) also mentions about the importance of equal power distribution, in which any of the groups can force nondemocratic rule, on managing ethnic diversity. These arguments indicate the characteristics of egalitarian index, which basically refers to the equal distribution of resources and power. In the view of such information, it can be expected that the increase in egalitarian index score may reduce the adverse effect of ethnic fractionalization on economic growth. Unsurprisingly, the lowest coefficients and even insignificant results for ethnic fractionalization is estimated in the regressions performed with egalitarian index.

As final variable, primary school enrollment rate increases the R-squared almost 7 percent in all the estimations. However, contrary to expectation, the

coefficients of primary school enrollment are negative in the estimations. This may be caused by the static model that is used in this thesis. Because, even though the high primary school enrollment rates are accepted as the requisite of high GDP growth in the literature, it promotes growth indirectly and through the increased human capital enhancements including increased labor productivity and knowledge, decreased fertility rates and so forth. (Peaslee, 1967; Colclough, 1982) Since the positive impact of these changes likely to arise in the long-term, dynamic model would be more efficient

Table 6. Correlation of Electoral Democracy (Polyarchy) Index and Economic Growth with Explanatory Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Electoral Democracy	.1573329**	.1573329**	.1158638**	.1062083**	.1041323**	.1003028**
	(.0456493)	(.0456493)	(.0437531)	(.0434263)	(0433181)	(.0364742)
Geopolitical Region		2.131014**	2.067945**	2.090435**	1.92503**	1.984848**
		(.0043136)	(.0098401)	(.0121976)	(.0352989)	(.0297673)
Trade			.005049**	.0050446**	.0049819**	.0045819**
			(.00052)	(.0005198)	(.0005114)	(.0004682)
Ethnic Fractionalization				-.1679665**	-.1465957**	-.0901958**
				(.0390151)	(.0390753)	(.0342363)
Life Expectancy					.0109684**	.0183791**
					(.002128)	(.0017915)
Primary Schooling						-.0078844**
						(.0005521)
R-sq.	.4769	.4769	.5145	.5149	.5202	.5831

Note: ** denotes .05 significance level.

Table 7. Correlation of Liberal Democracy Index and Economic Growth with Explanatory Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Liberal Democracy	.2994116**	.2994116**	.2465983**	.2384155**	.2539085**	.1919305**
	(.0492979)	(.0492979)	(.0472097)	(.0464404)	(.0469038)	(.041805)
Geopolitical Region		2.124497**	2.062185**	2.079109**	1.90311**	1.970371**
		(.0035209)	(.0092273)	(.0114009)	(.0347145)	(.0292694)
Trade			.0049809**	.0049781**	.0049036**	.0045379**
			(.0005196)	(.0005195)	(.0005096)	(.0004686)
Ethnic Fractionalization				-.1272507**	-.0986348**	-.0629449***
				(.0385099)	(.0388498)	(.0343107)
Life Expectancy					.0115393**	.0187247**
					(.0020652)	(.0017304)
Primary Schooling						-.0077844**
						(.0005487)
R-sq.	.481	.481	.5176	.5178	.5237	.5847

Note: ** and *** denote .05 and .1 significance levels, respectively.

Table 8. Correlation of Participatory Democracy Index and Economic Growth with Explanatory Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Participatory Democracy	.3521169**	.3521169**	.3147604**	.3037773**	.3065053**	.234852**
	(.0610358)	(.0610358)	(.0605751)	(.0598386)	(.0611975)	(.0543622)
Geopolitical Region		2.127214**	2.062291**	2.079891**	1.912374**	1.977253**
		(.0032357)	(.0093637)	(.0117636)	(.0358785)	(.0304413)
Trade			.0050427**	.0050377**	.0049729**	.0045888**
			(.0005259)	(.0005257)	(.0005168)	(.0360512)
Ethnic Fractionalization				-.1323144**	-.1092466**	-.0700223***
				(.0397996)	(.0402338)	(.0017709)
Life Expectancy					.0110743**	.0183927**
					(.0021203)	(.0005508)
Primary Schooling						.0078044**
						(.0005508)
R-sq.	.4797	.4797	.5173	.5176	.523	.5844

*Note: ** and *** denote .05 and .1 significance levels, respectively.

Table 9. Correlation of Deliberative Democracy Index and Economic Growth with Explanatory Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Deliberative Democracy	.2194106**	.2194106**	.1832549**	.1740603**	.1795382**	.1455502**
	(.0503217)	(.0503217)	(.048002)	(.0475225)	(.0473971)	(.0418451)
Geopolitical Region		2.130949**	2.066555**	2.086037**	1.916941**	1.980069**
		(.0034247)	(.0092918)	(.0475225)	(.0351958)	(.0299892)
Trade			.005039**	.0050344**	.0049677**	.00458**
			(.000522)	(.0005219)	(.0005132)	(.0004703)
Ethnic Fractionalization				-.1467026**	-.1222075**	-.0768159**
				(.0395781)	(.0396596)	(.0351029)
Life Expectancy					.0111542**	.0184963**
					(.0021038)	(.0184963)
Primary Schooling						-.006799**
						(.0006498)
R-sq.	.4783	.4783	.5159	.5162	.5217	.5838

Note: ** denotes .05 significance level.

Table 10. Correlation of Egalitarian Democracy Index and Economic Growth with Explanatory Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Egalitarian Democracy	.416815**	.416815**	.3758765**	.3666583**	.3812725**	.2486951**
	(.0627499)	(.0627499)	(.0612756)	(.0608512)	(.0611696)	(.0576703)
Geopolitical Region		2.117511**	2.053709**	2.065962**	1.891373**	1.965901**
		(.0042709)	(.0098607)	(.0123003)	(.0344026)	(.029576)
Trade			.005019**	.0050162**	.0049466**	.0045827**
			(.0005246)	(.0005247)	(.0005154)	(.0004737)
Ethnic Fractionalization				-0.0904551**	-.0625914	-.0490341
				(.0386024)	(.037973)	(.0348189)
Life Expectancy					.0114543**	.0185506**
					(.0020688)	(.0017423)
Primary Schooling						-.0077168**
						(.0005553)
R-sq.	.482	.482	.5193	.5194	.5194	.5847

Note: ** denotes .05 significance level.

CHAPTER 6

DISCUSSION AND CONCLUSION

In this thesis, the correlation between different varieties of democracy and economic growth is explored. The findings show that all five of the democracy categories have significant positive correlation with growth. Electoral democracy is served as a basic essential of any democratic regime and taken into consideration while measuring the other four democracy indices. Hence, it can be said that other four democracy categories – liberal, participatory, deliberative and egalitarian- are the combinations of related democracy components and electoral democracy index partially. The regressions performed with only the related democracy components indicate that although liberal and electoral democracy is still significant alone, deliberative, participatory and egalitarian democracy components are not significant without the partial score of electoral democracy index. Hence, these three democracy categories have no significant correlation with economic growth when the essentials of democracy are not satisfied. Besides, although the liberal democracy component still significant alone, its coefficient increases substantially when it is combined with electoral democracy.

The regressions carried out with control variables imply that geopolitical region, trade openness and life expectancy have significant and positive correlation with the economic growth. The negative correlation is found for remaining two control variables: ethnic fractionalization and primary school enrollment rates. Although primary school enrollment rates are found as significant and it increased the R^2 substantially, it has negative coefficient in all regressions. The reason of this unexpected negativity may be caused by the static structure of our model. Dynamic model can be more likely to show the long-term positive effects of primary school

enrollment on economic growth. Although ethnic fractionalization remains significant with different levels in four of the democracy variations, in egalitarian democracy, it has the lowest coefficients and lose its significance some of the regressions carried out with control variables. To the best of our knowledge, there is not any study on the relationship between ethnic fractionalization in the literature. However, some arguments about the negative effect of "tragedy of commons" and positive impact of "equal power distance" on preventing the adverse effects of ethnic fractionalization may address the reason of our findings. (Easterly, 1999; Alesina et. al, 2005)

Since, it is known that democracies are likely to overcome the ethnic conflict better than autocracies, it may be because of the increasing egalitarian democracy score. (Collier, 2000; Bluedorn, 2001) Add to that, since egalitarian democracy is found as the most effective democracy index in this study, more systematic analysis on the egalitarian democracy index and conflict may be important area for future research. Also, as it is discussed above, since some positive impacts of democracy tend to arise indirectly and in the long-run, dynamic setting may be more likely to yield more realistic results. Especially for the primary school enrollment rates, the findings of the dynamic study may be more compatible with the literature. Therefore, static setting that is used in this thesis may be the limitation of the model.

APPENDIX A

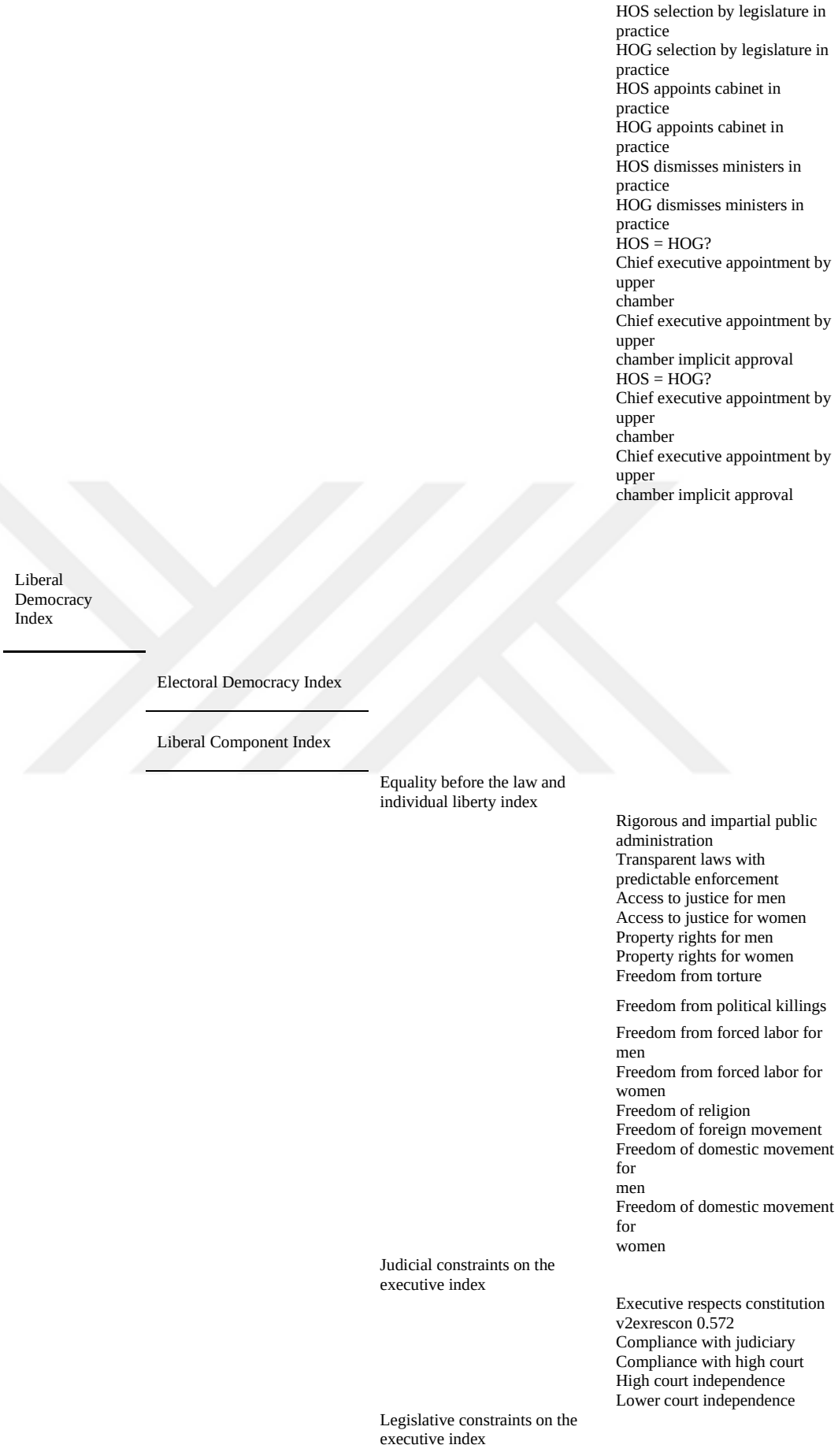
COUNTRY LIST

Country Name	Country Name	Country Name
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Argentina	Guatemala	Panama
Australia	Haiti	Paraguay
Austria	Honduras	Peru
Belgium	Hungary	Philippines
Benin	India	Poland
Bolivia	Indonesia	Romania
Brazil	Iran	Rwanda
Bulgaria	Iraq	Saudi Arabia
Burkina Faso	Ireland	Senegal
Cambodia	Israel	Sierra Leone
Canada	Jamaica	Singapore
Chad	Jordan	Spain
Chile	Kenya	Sri Lanka
Colombia	Lebanon	Sudan
Costa Rica	Liberia	Sweden
Cyprus	Madagascar	Switzerland
Democratic Republic of the Congo	Malawi	Syria
Denmark	Malaysia	Tanzania
Dominican Republic	Mali	Thailand
Ecuador	Mauritania	The Gambia
Egypt	Mauritius	Togo
El Salvador	Mexico	Tunisia
Ethiopia	Morocco	Turkey
Finland	Netherlands	Uganda
France	New Zealand	United Kingdom
Gabon	Nicaragua	United States of America
Germany	Niger	Uruguay
Ghana	Nigeria	

APPENDIX B

V-DEM DEMOCRACY INDICATORS AND INDICES

Democracy Index	Mid-Level Democracy and Governance Index	Lower-Level Democracy and Governance Index	Indicator
Electoral Democracy Index			
	Additive Polyarchy Index		
	Multiplicative Polyarchy Index		
		Freedom of expression and alternative sources of information index	
			Government censorship effort—Media
			Harassment of journalists
			Media self-censorship
			Media bias
			Print/broadcast media perspectives
			Print/broadcast media critical
			Freedom of discussion for men
			Freedom of discussion for women
			Freedom of academic and cultural expression
		Freedom of association index (thick)	
			Party ban
			Barriers to parties
			Opposition parties autonomy
			Elections multiparty
			CSO entry and exit
			CSO repression
		Share of population with suffrage	
			Percent of population with suffrage
		Clean elections index	
			EMB autonomy
			EMB capacity
			Election voter registry
			Election vote buying
			Election other voting irregularities
			Election government intimidation
			Election other electoral violence
			Election free and fair
		Elected officials index	
			Legislature bicameral
			Lower chamber elected
			Upper chamber elected
			Percentage of indirectly elected legislators lower chamber
			Percentage of indirectly elected legislators upper chamber
			HOS appointment in practice
			HOG appointment in practice


HOS selection by legislature in practice
HOG selection by legislature in practice
HOS appoints cabinet in practice
HOG appoints cabinet in practice
HOS dismisses ministers in practice
HOG dismisses ministers in practice
HOS = HOG?
Chief executive appointment by upper chamber
Chief executive appointment by upper chamber implicit approval
HOS = HOG?
Chief executive appointment by upper chamber
Chief executive appointment by upper chamber implicit approval
Liberal Democracy Index
Electoral Democracy Index
Liberal Component Index
Equality before the law and individual liberty index
Rigorous and impartial public administration
Transparent laws with predictable enforcement
Access to justice for men
Access to justice for women
Property rights for men
Property rights for women
Freedom from torture
Freedom from political killings
Freedom from forced labor for men
Freedom from forced labor for women
Freedom of religion
Freedom of foreign movement
Freedom of domestic movement for men
Freedom of domestic movement for women
Judicial constraints on the executive index
Executive respects constitution v2exrescon 0.572
Compliance with judiciary
Compliance with high court
High court independence
Lower court independence
Legislative constraints on the executive index

Legislature questions officials in practice
Executive oversight
Legislature investigates in practice
Legislature opposition parties

Participatory Democracy Index

Electoral Democracy Index

Participatory Component Index

Civil society participation index

Candidate selection, National/local
CSO consultation
CSO participatory environment
CSO womens participation

Direct popular vote index

Initiatives permitted
Initiatives signatures %
Initiatives signature-gathering time
limit
Initiatives signature-gathering period
Initiatives participation threshold
Initiatives approval threshold
Initiatives administrative threshold
Initiatives super majority
Occurrence of citizen-initiative this
year
Referendums permitted
Referendums signatures %
Referendums signature-gathering period
Referendums participation threshold
Referendums approval threshold
Referendums super majority
Referendums administrative threshold
Occurrence of referendum this year
Plebiscite permitted
Plebiscite participation threshold
Plebiscite approval threshold
Plebiscite super majority
Plebiscite administrative threshold
Occurrence of plebiscite this year
Constitutional changes popular vote
Obligatory referendum participation
threshold
Obligatory referendum approval threshold
Obligatory referendum super majority
Obligatory referendum administrative

			threshold
			Occurrence of obligatory referendum this year
			Obligatory referendum credible threat
			Popular referendum credible threat
			Plebiscite credible threat
		Local government index	
			Local government elected
			Local offices relative power
			Local government exists
		Regional government index	
			Regional government elected
			Regional offices relative power
			Regional government exists
Deliberative Democracy Index			
	Electoral Democracy Index		
	Deliberative Component Index		
			Reasoned justification
			Common good
			Respect counterarguments
			Range of consultation
			Engaged society
Egalitarian Democracy Index			
	Electoral Democracy Index		
	Egalitarian Component Index		
		Equal protection index	
			Social class equality in respect for civil liberties
			Social group equality in respect for civil liberties
			Weaker civil liberties population
		Equal access index	
			Power distributed by gender
			Power distributed by socioeconomic position
			Power distributed by social group
		Equal distribution of resources index	
			Means-tested vs. universalistic policy
			Particularistic or Public good
			Educational equality
			Health equality

Note: Table of V-DEM Democracy Indicators and Indices is completely taken from V-Dem Codebook v10 (V-Dem Institute, 2020a)

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