THE INTERACTION BETWEEN DEMOCRACY AND ECONOMIC GROWTH IN EFTA COUNTRIES

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ABSTRACT

The relationship between democracy and economic growth has been a subject that has been studied by both social and political scientists since the 19th century. In the early days of this relationship, political scientists believed in the future of democracy as a consequence of capitalist development. Over time, this belief has left its place in doubt. Economists have tried to determine the direction of causality between democracy and economic growth through empirical studies. This study also analyzed the EFTA countries outside of Liechtenstein (Norway, Switzerland and Iceland), which can not be reached in terms of democracy in the world according to the EIU-Economist Intelligence Unit. In the analysis, the demographic index from the EIU database and the annual GDP growth rates from the World Bank database were used as variables. Democracy in work has a positive effect on economic growth, but it is the result of the absence of Granger causality between democracy and economic growth.

Key Words: Economic Growth, Democracy Index, Granger Causality Analysis

JEL Codes: O19, O40, O50

EFTA ÜLKELERİNDE DEMOKRASİ VE EKONOMİK BÜYÜME ARASINDAKİ NEDENSELLİK ANALİZİ

ÖZ


Anahtar Kelimeler: Ekonomik Büyüme, Demokrasi İndeksi, Granger Nedensellik Analizi

JEL Kodları: O19, O40, O50

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1. INTRODUCTION

The word democracy comes from the combination of the "demos" in the former Greek Empire, which means society, the people's society or the people's society, and the "kratin" words, which means domination and power in the government (Erdoğan 2003: 235). Although the concept of democracy is based on the Greek Empire, there has been great progress on the way to democratization of the world after 1990, especially with the dissolution of the Soviet Union. Providing or sustaining economic development in today's world can be a major target for developed or developing countries. The underdeveloped countries, which have partially achieved their economic development, are undergoing various regulations or reforms in order to ensure this stability, while the developing countries can carry on economic development.

In terms of some countries, it is seen that there have been major negative developments in the history when democratization and economic development are considered independently from each other. On the contrary, countries that have a strong connection between democratization and economic development seem to have experienced positive developments in terms of social freedoms and economic freedoms. We can collect the studies related to the relationship between democracy and economic growth under three headings (Acaravcı and Erdoğan, 2015: 359-360, Doğan, 2005: 1-2):

**An Approach to Negative Relationships between Economic Growth and Democracy:** According to this incident, there is no strong link between democracy and economic growth. According to Lipset's work, democracy; a costly incentive for developing countries. In this context, the concepts of democracy and economic growth are two contradictory processes and emphasized that processes of economic growth and democracy can not be carried out at the same time.

Olson (1996) pioneered the idea that the democratic processes are complementary to the process of economic growth, as opposed to the Conflict Approach, as a "Conflict Approach" to the literature of economics, which advocates a positive relationship between economic growth and democracy. In this context, the assumption that democracy and economic growth processes are two contradictory processes will cause the restrictive approaches of authoritarian regimes to be legitimized.

**An Unrelated Approach between Economic Growth and Democracy:** Unlike the two conjectures, the view which advocates that no systematic relation be established between economic growth and democratic processes has entered into the economic literature as "skeptical approach". In this context, the process of economic growth can be realized through democratic institutions or authoritarian institutions.

Emerging studies on the effects of democratic developments on economic growth are summarized below. When the results obtained from these studies are evaluated in general, it seems that there is no general compromise on the effects of democracy on economic growth. In the emergence of this result, there is the effect of using additional different sample, data set and estimation methods in order for the countries to have different institutional structure, economic development, democracy level.

In his study of Leblang in 1996, using the Panel Data Analysis Method, he found that Democracy has a positive impact on Economic Growth in the study of over 50 countries between 1960 and 1990; Freng, in its 1997 study, used the Three-Step Least Squares Method to show that Democracy has an indirect positive impact on economic growth in 96 countries between 1960 and 1980; In his study of 2000, Rodrik used the Least Squares Method to show that democracy was a
positive effect on economic growth in 90 countries between 1970 and 1989; Dollar and Kray used the Panel Data Analysis Method in its 2003 study to show that democracy in 168 countries between 2000 and 2001 was a positive effect on Economic Growth; De Haan and Sierman, using the Sensitivity Analysis Method in the 1995 study, found that there was no strong influence between Democracy and Economic Growth in different country groups between 1961 and 1992; Sagittarius, Using the Least Squares Method in the 2002 Study 75 Since there is no significant relationship between Democracy and Economic Growth in the underdeveloped and developing countries between 1971 and 1990; In the study of Butkiewicz and Yanikkaya in 2006, using the Panel Data Analysis Method, there is no or significant relationship between Democracy and Economic Growth in 100 countries between 1970-1999; In his 2008 study Doucouliagos and Ulubasoglu, using the Meta-Analysis method, found that there was no significant relationship between democracy and economic growth; In his work in 1996, Barro explains that using Panel Data Analysis is a negative impact between Democracy and Economic Growth in 100 countries between 1960 and 1990; Tavares and Wacziarg in his 2001 study, using the Panel Data Analysis Methodology, addressed 65 Developed and Developing Countries and found that between 1970 and 1989 there was a negative impact between Democracy and Economic Growth; Haggard and Tiede in their study in 2011, using the Panel Data Analysis Method, found that in 74 countries between 1985 and 2004 there was a weak relationship between democracy and economic Growth in the developing countries, and a weak relationship in the developing countries.

This study presents a vector autoregression analysis (VAR) on democracy and economic growth in EFTA countries outside of Liechtenstein (Norway, Switzerland and Iceland) whose data are not available in terms of democracy in terms of democracy according to the EUI-Economist IntelligenceUnit for the period 2006-2015. In addition, due to its importance in terms of policy proposals, the existence and direction of causal relations between democracy and economic growth will be investigated.

2. DEMOCRACY AND ECONOMIC GROWTH

The nine channels that democracy affects growth include: political instability, price stability, employment-unemployment, quality of government, public sector size, human capital level, income inequality, foreign trade balance and physical capital level. Tavares and Wacziarg, in their empirical work, have reached the conclusion that democracy has accelerated the growth of human capital by reducing human capital accumulation and reducing income inequality, while reducing physical capital accumulation and increasing government consumption (Tavares and Wacziarg, 2001: 45).

One of the important features of the political system is the steady management. Political instability creates ambiguity about policies for the future and leads managers to adopt spoiled behavior against the existing resources of the economy. Because political instability leads to unpredictable future positions of those in government today. This type of environment causes managers to engage in more rent-seeking behaviors when they are in management. One of the most important features of democracy is that it provides transparent rules for the exchange of political forces in power. In addition, democracy encourages open debate over political choices and policy makers, leading to the transfer of power to illegitimate means and political overcrowding. While democracy expresses the transfer of political power in a peaceful and predictable way, the political power in autocracies is subject to transgression in the form of violence and intransigence. The low level of uncertainty resulting from the diminution of political instability is likely to accelerate investment and growth (Tavares and Wacziarg, 2001).
Another channel is the price stability effect. In an inflationary environment, political instability can make the state administration and decision-making processes more difficult, causing inflation to deviate from its targets, causing the economy to enter recession, even downsizing trends. However, the inflationary environment can wear down the opposition party just as the government has worn out the party. Because the opposition can be held responsible for the ineffectiveness of the opposition by the voters from the economic and social conditions that inflation is causing.

The third channel is the employment-unemployment effect. Employment emerging with economic development is the result of parallel growth and full employment goals. Thus, political instability is influencing unemployment through its impacts on economic growth. Political instability, that is, the lack of a democracy affects economic development negatively and increases unemployment rates. However, if political instability is found, a factorial flux appears in the region where political violence is lower in the country (Fielding, 2003: 160). Similarly, in the case of political instability in a country, migration is accelerating especially in the skilled labor force. Therefore, the presence of political instability or violence encourages a brain drain abroad. As a result, economic growth is adversely affected especially when the developing countries are taken into consideration.

Another channel is public sector size. In various theoretical arguments it is pointed out that there is a causal link between the structure of the political institutions and the size of the public sector measured as the ratio of public consumption to GDP. In some studies it has been argued that democracies remain in the domain of policy-making interest groups, so the demands of these groups have increased the size and the size of the government. On the other hand, autocrats have a tendency to expand the scope of the government's activities in the direction of maximizing the effects on the economy. Theoretically, it can be said that it is unclear whether democracies spend less or more than autocracies (Tavares and Wacziarg, 2001: 45).

The management quality is shown as the fifth channel. The United Nations Development Program (UNDP) considers good governance for developing countries as the most important factor in the elimination of poverty and the progress of development (UNDP, 2002: 52). Democracies have positive influence on the quality of management. Managers with good comfort may be inclined to pursue economic policies at the expense of the general majority, but for the benefit of a small segment. It is much easier to control the quality of policy making in democracies and to prevent abuses, by encouraging viable alternatives of opposing parties and by subjecting politicians to regular public trial. In other words, there is a higher potential for arbitrary use of power in autocratic regimes due to the lack of public control over politicians (Tavares and Wacziarg, 2001: 45).

Another channel is the effect of human capital. When democracies are deemed to be more sensitive than dictatorships in meeting the basic needs of the population, policies that favor human capital accumulation in democracies will be preferred. The level of high human capital is at the same time a determinant of democracy as a result. The link between democracy and development can be attributed to the fact that education has increased the demand for democracy. Human capital is one of the major channels of democratic growth (Tavares and Wacziarg, 2001).

The seventh effect is income distribution effect. In economics, inequality increases in the initial stages of industrialization (economic development). Income inequality is even higher in middle-income countries at take-off. With the widespread development of the middle class, democratization is becoming a challenging factor. When the countries at the middle development level start the process of democratization, the rise of a single party leadership or dictatorship has a positive impact on growth.
by narrowing the borders of the state. In later stages, however, the influence of the average voter increases with the spread of democratic rights and the voting process. The lower the average income of the electorate (the majority of the voting population is poor), the higher the demand for public expenditure and the higher rate of taxation. The governments will also have to give weight to this policy. This situation has two consequences for developing (or underdeveloped) countries: as the high tax / high spending policies of the government reduce the capital accumulation rate of the private sector as the capital reduces the post-tax efficiency of the capital, the investment rate decreases and the growth rates decrease. The second result is that despite this policy, the income inequality is still high, causing social unrest, democracy disruption or political instability (Alesina and Perotti, 1994: 360). This is another effect that negatively affects growth.

Another channel is foreign trade balance. The degree of liberalization in foreign trade may be influenced by the dimension of political freedom. Protective policies benefit a limited amount of producers against a large consumer mass. In democracies, protectionism is at a lower level since more emphasis is placed on the preferences of the first group than autocracies. However, as a result of political voting and lobbying, democracies can easily reach high levels of protection. For this reason, the commercial regime effect of democracy is still a question that needs to be empirically proven (Tavares and Wacziarg, 2001; There are a number of studies showing that liberty in foreign trade has a strong positive effect on economic growth. International trade allows countries to take full advantage of comparative advantages. In addition, trade leads to increased competition inside, technological diffusion and scale economies.

The last effect is the accumulation of physical capital. Democratic policy process can lead to the distribution of national income between capital and labor in favor of labor, allowing more effective representation of workers' interests. Higher wages in democracies, with the other conditions being the same, could cause incentives for private investors to decline, as well as to reduce the income of the capitalist.

3. ECONOMETRIC MODEL

The study covering the years 2006-2015 presents a vector autoregulation analysis (VAR) on democracy and economic growth in EFTA countries outside of Liechtenstein (Norway, Switzerland and Iceland), which can not reach top ranking data for democracy in the world according to EUI-Economist Intelligence Unit. All series are calculated as a percentage. In the analysis of the data, E-views were used with 9 econometric package programs. The variables used for unrestricted VAR analysis in the study are as follows: democracy in the EFTA countries (DEMOC) per capita real gross domestic product (GDP).

In the analysis, the demographic index in the EIU database and the annual GDP growth rates from the World Bank database are used as variables. The VAR analysis was used because it did not include the distinction between internal and external variables and provided the opportunity to analyze the dynamic relationships between variables.

The econometric model to be used for the VAR analysis is shown in the equation below.

\[ \Delta GDP = a + \sum_{i=1}^{n} \theta DEMOC_{t-1} + \epsilon_{t} \]
\[
\Delta DEMOC = a + \sum_{i=1}^{n} \theta GDP_{t-1} + \varepsilon_{1,t}
\]

In the econometric model in the equation; \( p \) is the delay length, \( k \) is the variable set, and \( \varepsilon \) is the mean error probability, covariance zero with delayed values, variance constant and normal distribution.

In order for the results obtained in the VAR analysis to be reliable, the series must be stationary. It can be said that the characteristic polynomial obtained from the model that the model is stationary as a whole is the inverse of the roots in the unit circle. If all the roots are in the unit circle, the VAR process is interpreted as a stop (Banerjee et al., 1993: 141).

**Graph 1: Characteristic Polynomial Inverse Roots**

When we look at the stability of the model as a whole, all the opposite roots of the characteristic polynomial are in the unit circle as seen in graphic 1. With this result, we can say that the model's VAR period is stationary.

The cointegration test needs to be done to determine if there is a long-lasting relationship between the series examined for stationarity. For this purpose, Johansen Cointegration test was included in the analysis. Table 1 shows the Johansen Cointegration test results.

**Table 1: Johansen Cointegration Test Results**

- Sample (adjusted): 2006 2015
- Included observations: 21 after adjustments
- Trend assumption: Linear deterministic trend
- Series: GDP DEMOC
Lags interval (in first differences): 0 to 1

### Unrestricted Cointegration Rank Test
**(Trace)**

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Trace</th>
<th>0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CE(s)</td>
<td>Eigenvalue</td>
<td>Statistic</td>
</tr>
<tr>
<td>None</td>
<td>0.513556</td>
<td>1.616718</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.048041</td>
<td>1.033891</td>
</tr>
</tbody>
</table>

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values**

### Unrestricted Cointegration Rank Test
**(Maximum Eigenvalue)**

<table>
<thead>
<tr>
<th>Hypothesized</th>
<th>Max-Eigen</th>
<th>0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of CE(s)</td>
<td>Eigenvalue</td>
<td>Statistic</td>
</tr>
<tr>
<td>None</td>
<td>0.513556</td>
<td>1.513329</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.048041</td>
<td>1.033891</td>
</tr>
</tbody>
</table>

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values**

Taking the trace and eigenvalue test results in Table 1, it is assumed that the cointegrated vector is not at a 5% significance level because the trace and maximum eigenvalue test results are smaller than the critical values. Besides, when we look at the p values in Table 1, we assume zero hypothesis that there is no cointegration at the 5% significance level. In short, according to Johansen Cointegration test result, Vector Auto-Correction Model (VAR) will be used instead of Vector Error Correction Model (VECM) since the series are not co-integrated.

One of the most important problems in the VAR models is determining the delay length. Criteria such as LR (Sequential Modified LR test statistic), FPE (Final Estimation Error Criteria), AIC (Akaiake Information Criteria), SC (Schwarz Information Criteria) and HQ (Hannan-Quin Information Criteria) were used to determine the appropriate lag length. Table 3 below shows the results for selecting the appropriate delay length (Bozkurt, 2007)
Table 2: VAR Lag Order Selection Criteria

Endogenous variables: GDP DEMOC

Exogenous variables: C

Sample: 2006 2016

Included observations: 27

<table>
<thead>
<tr>
<th>Lag</th>
<th>LogL</th>
<th>LR</th>
<th>FPE</th>
<th>AIC</th>
<th>SC</th>
<th>HQ</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-5.761524</td>
<td>NA</td>
<td>0.283727</td>
<td>4.415943</td>
<td>4.511931</td>
<td>4.444486</td>
</tr>
<tr>
<td>1</td>
<td>-1.358223</td>
<td>78.28089*</td>
<td>0.014649*</td>
<td>1.450536*</td>
<td>1.738500*</td>
<td>1.536163*</td>
</tr>
</tbody>
</table>

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion

When the results are examined, the LR, FPE, AIC and HQ criteria indicate that 1 delay is appropriate. In the subsequent analyzes, the optimal delay time will be 1. After determining the appropriate delay, the relationships between the variables will be determined by analyzing the Granger Causality Test, Analysis of Impact-Response Functions and Variance Decomposition methods, respectively, in order to interpret the estimated VAR model result using this delay length.

The results of the cointegration test do not tell us about the direction of this long-term relationship, while ensuring that we have an idea of whether there is a long-term relationship between variables. In order to determine the relationship between variables in the field of economics, the variables should be classified as internal and external (Bozkurt, 2007: 91). For this purpose, Granger developed the Granger Causality test to determine the causal relationships between the variables in the model (Granger, 1969: 424-438). The Granger causality test results of the variables used in the analysis are shown in Table 3.
Table 3: Pairwise Granger Causality Tests

Sample: 2006 2016

Lags: 1

<table>
<thead>
<tr>
<th>Null Hypothesis:</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEMOC does not Granger Cause GDP</td>
<td>27</td>
<td>0.41185</td>
<td>0.5271</td>
</tr>
<tr>
<td>GDP does not Granger Cause DEMOC</td>
<td>0.40633</td>
<td>0.5299</td>
<td></td>
</tr>
</tbody>
</table>

In the results of the causality test, the null hypothesis of "DEMOC Granger is not the cause GDP" and "GDP Granger is not the cause DEMOC" was rejected and there was no double-sided Granger causality relationship between DEMOCRACY and ECONOMIC GROWTH.

In the framework of the VAR analysis, the impact response analysis should be applied in order to be able to see the impact of one of the variables on the current and future values of the shocks themselves and other variables in the error terms. It is important to have Granger causality in impact-response analysis, a method based on structural shocks. Otherwise, a unit shock on a variable will not affect the other variable. According to the results obtained in the causality test, the effect response analysis was performed by sorting the variables from the outside to the inside. While the impulse response functions for the variables in the model are being calculated, the required confidence intervals are generated by Monte Carlo simulations for ± 2 standard errors. The broken lines in the graphs show the confidence intervals for ± 2 standard errors and the straight lines show the response of 1 standard error shock counterattack variable that occurs in the error terms of the model over time (Bozkurt, 2007: 95). The fact that the results of the effect-response analyzes are included in the confidence interval is of significance in terms of understanding whether they are statistically significant. The VAR model examines how the dependent variables react over time when a positive shock is applied to the variables according to a lag length. Figure 2 shows the effect-response functions obtained as an analysis result.
When we look at the impact-response functions, it is determined that the shock effects of the econometric model used are nearer to zero, that is, the system is stationary. Anomalous convergence of influence response functions is an indication of the stability of the econometric model used to predict. The responses of a standard cocaine dependent variable are within the confidence interval. As can be seen from this, the analysis results are statistically significant.

Table 4: Results of Variance Decomposition of Shocks

<table>
<thead>
<tr>
<th>Period</th>
<th>S.E.</th>
<th>GDP</th>
<th>DEMOC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.496673</td>
<td>100.0000</td>
<td>0.000000</td>
</tr>
<tr>
<td>2</td>
<td>1.595759</td>
<td>93.37039</td>
<td>6.629606</td>
</tr>
<tr>
<td>3</td>
<td>1.646419</td>
<td>93.33944</td>
<td>6.660561</td>
</tr>
<tr>
<td>4</td>
<td>1.652442</td>
<td>93.38618</td>
<td>6.613819</td>
</tr>
<tr>
<td>5</td>
<td>1.653863</td>
<td>93.39699</td>
<td>6.603012</td>
</tr>
<tr>
<td>6</td>
<td>1.655678</td>
<td>93.32028</td>
<td>6.679724</td>
</tr>
</tbody>
</table>
Even though there is no Granger causality relation between democracy and economic growth in the study, when the results of variance decomposition are examined, democracy has an increasing effect on economic growth with small rates over time; the conclusion that economic growth is a declining influence over democracy over time emerges.

4. CONCLUSION

Democracy is one of the most fundamental elements for economic growth. Democratic values such as freedom of expression, human rights and the separation of powers constitute the period of economic development. In an environment where there is no democracy, uncertainty and fear manifest themselves. This also affects investments in the negative direction. Democracy is necessary for a stable investment and effective use of natural resources. Democracy increases the accumulation of human capital, allows for consideration of income inequality and causes the rate of economic growth to rise. There is an undeniable relationship between democracy and political and civil liberties. A country that wants to make progress from a social and economic perspective should provide the development of democracy. This shows us that the democratic culture needs to increase human
consciousness, that is, the consciousness of the people, rather than the increasing level of economic prosperity in the short term. In countries such as EFTA countries, the impact of democracy on economic growth can be examined more extensively through models that will be developed by removing the problem of inadequacy of relevant data.

REFERENCES


