



ECONOMIC DEVELOPMENT AND DEMOCRACY IN EMERGING ECONOMIES\*  
YÜKSELEN EKONOMİLERDE EKONOMİK KALKINMA VE DEMOKRASİ

Rabia EFEOĞLU<sup>1</sup>, Sabri AZGÜN<sup>2</sup>



1. Dr. Öğr. Üyesi, Kastamonu Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, refeoglu@kastamonu.edu.tr, <https://orcid.org/0000-0003-2515-1553>
2. Prof. Dr., Atatürk Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, sabriazgun@atauni.edu.tr, <https://orcid.org/0000-0002-3349-2158>

**Abstract**

The aim of this study is to investigate the effects of economic development on democracy with the data for the period 2001-2016 in 24 emerging market economies. This article develops a new methodology and analyzes the impact of openness, economic, social and financial development indicators on the level of democracy. We used the panel ordered qualitative choice analysis method to estimate the relationship between democracy and economic development. We have concluded that economic development is more effective at higher levels of democracy and is higher likely to affect the higher level of democracy. We have shown that economic development raises the level of democracy.

**Keywords:** *Democracy, Economic Development, Ordered Qualitative Choice Analysis.*

**Öz**

Bu çalışmanın amacı, 24 yükselen piyasa ekonomisi için 2001-2016 dönemine ait veriler ile ekonomik kalkınmanın demokrasi üzerindeki etkisini araştırmaktır. Bu makale yeni bir metodoloji geliştirir ve dışa açıklık, ekonomik, sosyal ve finansal kalkınma göstergelerinin demokrasi düzeyine etkisini analiz eder. Demokrasi ve ekonomik kalkınma arasındaki ilişkiyi tahmin etmek için panel sıralı nitel tercih analiz yöntemini kullandık. Ekonomik kalkınmanın demokrasinin yüksek düzeylerinde daha etkili ve yüksek demokrasi düzeyini etkileme olasılığının daha yüksek olduğu sonucunu elde ettik. Ekonomik kalkınmanın demokrasi düzeyini yükselttiğini gösterdik.

**Anahtar Kelimeler:** *Demokrasi, Ekonomik Kalkınma, Sıralı Nitel Tercih Analizi.*

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## GENİŞLETİLMİŞ ÖZET

### Çalışmanın Amacı

Demokrasi ve ekonomik kalkınma ilişkisi güncel bir araştırma alanıdır. Literatürde demokrasi ve kalkınma ilişkisinin yönü tartışmalı olmakla birlikte, uzlaşma ekonomik kalkınmanın demokrasiyi sağladığı yönündedir. Bu çalışmanın amacı, 24 yükselen piyasa ekonomisi için 2001-2016 dönemine ait veriler ile ekonomik kalkınmanın demokrasi üzerindeki etkisini araştırmaktır.

### Araştırma Soruları

Yükselen piyasa ekonomilerinde ekonomik kalkınmanın demokrasi üzerinde etkisi var mıdır?

### Literatür Araştırması

Literatürde demokrasi ve ekonomik kalkınma arasındaki ilişkiyi analiz eden çok sayıda çalışma vardır ve her biri farklı yöntemler kullanarak farklı sonuçlar elde etmiştir. Çalışmalar genel olarak statik ve dinamik panel veri analizlerine dayanmaktadır. Literatürde, demokrasi ve kalkınma arasındaki ilişkinin yönü tartışma konusudur. Bir başka ifadeyle, ekonomik kalkınmanın demokrasi üzerine etkisi, demokrasinin ekonomik kalkınma üzerine etkisi ve demokrasi ile ekonomik kalkınma arasında karşılıklı ilişki üzerine yapılan çalışmalar ile birlikte demokrasi ve ekonomik kalkınma arasında herhangi bir ilişki olmadığına dair yapılan çalışmalar da mevcuttur. Çalışmaların çoğunluğu demokrasinin ekonomik kalkınmayı sağladığı yönünde yapılmasına rağmen, uzlaşma ekonomik kalkınmanın demokrasiyi sağladığı yönündedir. Bu anlamda uzlaşmayı destekleyen ve demokrasi ile kalkınma arasındaki ilişkiyi “bir ülke ne kadar zenginse o kadar demokratiktir” şeklinde ifade eden ve bu alanda ilk çalışmayı yapan Lipset (1959)'dir. Lipsetten sonra birçok araştırmacı tarafından demokrasi-kalkınma ilişkisi incelenmiştir.

### Yöntem

Çalışmada ekonometrik yöntem olarak sıralı nitel tercih modelleri kullanılmıştır. Çünkü bağımlı değişken olarak kullanılan siyasal haklara dayanan demokrasi endeksi 1 ile 7 tam sayıları arasında değerler alan kesikli bir değişken olduğu için, Sıradan En Küçük Kareler tahmin yöntemini kullanarak regresyon modelini tahmin etmek uygun olmayacaktır. Sıralı bağımlı değişkenli En Küçük Kareler (EKK) kullanımı, EKK regresyon varsayımlarını ihlal etmektedir. Dolayısıyla sıralı nitel tercih modelleri ile tahmin yapılması uygun görülmüştür. Çalışmada ekonomik, finansal, sosyal ve dış açıklık kalkınma göstergelerinin demokrasi üzerindeki etkisi araştırılmaktadır. Demokrasi endeksi bağımlı değişkendir ve en yüksek değeri 1, en düşük değeri 7'dir. Demokrasi endeksi düşük, orta ve yüksek demokrasi düzeyi olmak üzere üç kategoriye ayrılmıştır. Endeks düşük düzey demokrasiden yüksek düzey demokrasiye (1'den 3'e) doğru üç düzeyde gösterilmiştir. 1. düzey düşük düzey demokrasi, 2. düzey orta düzey demokrasi ve 3. düzey yüksek düzey demokrasidir. GSYH kişi başına GSYH, DCPB bankalar tarafından özel sektöre verilen krediler, DIN ithalat çeşitlendirme endeksi ve GINI Gini katsayısı bağımsız değişkenleridir. Çalışmada kullanılan demokrasi endeksi Freedom House, kişi başına GSYH ve bankalar tarafından özel sektöre verilen krediler Dünya Bankası, ithalat çeşitlendirme endeksi

United Nations Conference on Trade and Development ve Gini katsayısı The Standardized World Income Inequality Database (SWIID) veri tabanından alınmıştır.

### **Sonuç ve Değerlendirme**

Kişi başına GSYH değişkenine ait marjinal etki bu değişkenin demokrasi düzeyine ilişkin en yüksek kategorinin olasılığını 0,122 birim arttırmaktadır. Bankalar tarafından özel sektöre verilen krediler değişkenine ait marjinal etki bu değişkenin demokrasi düzeyine ilişkin en yüksek kategorinin olasılığını 0,004 birim azaltmaktadır. İthalat çeşitlenme endeksi değişkenine ait marjinal etki bu değişkenin demokrasi düzeyine ilişkin en yüksek kategorinin olasılığını 2,018 birim azaltmaktadır. Gelir eşitsizliği değişkenine ait marjinal etki bu değişkenin demokrasi düzeyine ilişkin en yüksek kategorinin olasılığını önce 24,602 birim azaltmakta daha sonra 32,173 birim arttırmaktadır. Sıralı probit model tahmin sonuçlarına göre, demokrasinin daha yüksek seviyelerinde kalkınmanın demokrasi üzerinde daha etkili olduğu söylenebilir. Demokrasinin orta ve düşük düzeylerinde iktisadi kalkınmanın demokrasiyi etkileme olasılığı düşük iken, yüksek demokrasi düzeyini etkileme olasılığı yüksektir. Diğer bir ifadeyle demokrasinin orta ve düşük düzeylerinde iktisadi kalkınmanın demokrasi üzerindeki etkisi yüksek demokrasi düzeyine göre daha düşüktür.

## **1. INTRODUCTION**

Formations of democracy go back to the 11th and 12th centuries B.C. The relationship between democracy and economic development is an indisputable fact. However, along with how to define democracy and / or development, the direction of the relationship between democracy and development is also a matter of debate.

In its simplest definition, democracy refers to the self-government of people. Every country has a different level of democracy, and the democracy levels of countries are determined by various indices. Indices that determine the level of democracy fall into two main categories: i) indices developed by authors; Arat Democracy Index, Banks Democracy Index, Bollen Liberal Democracy Index, Poe and Tate Democracy Index, Vanhannen Index. ii) Indices developed by international institutions and organizations such as Polity Index and Freedom House Index. The indices except the Polity Index and Freedom House Index are very old indices. The Freedom House Index which is well known and also the most commonly used index in all studies will be used in this study. The Freedom House democracy index ranks the level of democracy from 1 to 7, based on political rights and civil liberties, and classifies countries into “free”, “partly free” and “non-free societies”.

Economic development, in its simplest definition, is an increase in the welfare level of people. In terms of economic development, the development level of each country is different and the development levels of the countries can be measured in various ways. Economic development is basically measured by per capita income, purchasing power parity, physical quality of life index and human development index. Therefore, the basic condition of economic development is an increase in production / income. The best indicator of this is per capita income according to purchasing power parity.

Studies on democracy and economic development show that the relationship between them gives complex results. Even though there are more studies focusing on the tendency from democracy to economic development in the democracy-development literature, studies reconcile with the tendency from economic development to democracy. The relationship between democracy and economic development was first examined by Lipset (1959). Lipset examined the effect of economic development on democracy and concluded that the effect of economic development on democracy was positive. According to him, ‘the better the economic situation of a country, the higher the chances of maintaining democracy’. After Lipset, this relationship has been studied by many researchers. There are different contributions to the development-democracy literature.

It is expected to increase the level of democracy in an emerging economy in the democracy-development relationship literature. This study aims to analyze the impact of economic development on democracy in emerging economies. This study differs from other studies in the literature in many aspects

and offers modest contributions to the literature. First, it examines emerging market economies that were analyzed by only a few studies in the literature. The economic and social structure of emerging market economies is dynamic and its value in the world economy is quite high. The studies analyzing the impact of economic development on democracy in emerging market economies are limited in numbers. The study takes into consideration the current developments in the world economy, especially in the definitions of the variables and the variables used in this study were not included in the previous studies, which reveals the importance of the study. Second, we defined the development with four main factors: economic, social, financial and openness, on the macro level, in contrast to the standard development indicators such as income per capita, purchasing power parity, physical quality index of life and human development index. Instead of defining the openness variable as a ratio of foreign trade volume to GDP, we defined the openness variable as the diversification in foreign trade. Diversification in foreign trade is both an indicator of openness and development. Because the country's capacity to provide various goods and services that appeal to the tastes and preferences of the people is an indicator of the economic maturity / development of that country. Third, we looked for a solution to the problem of insignificant between the distribution of income used as an indicator of social development and the democracy indicator in the democracy-development literature. Fourth, the democracy variable used as a dependent variable in the analysis has a categorical and ordered quality. Ordered qualitative choice models were used to estimate the categorical and ordered variables. Therefore, we used the ordered qualitative choice model instead of the standard panel data model such as GMM (generalized method of moments) for estimating the level of democracy and we investigated whether it correlates with the literature.

The study consists of five sections. The remaining part after the introduction is as follows: Section 2 provides information regarding the literature, section 3 describes the data set and method, section 4 contains empirical analysis, section 5 presents the result of the study.

## **2. LITERATURE REVIEW**

There are many studies that analyze the relationship between democracy and economic development in the literature. In the literature, the direction of the relationship between democracy and development is a matter of debate. In other words, there are studies analyzing the effect of economic development on democracy, the effect of democracy on economic development, along with the studies on the mutual relationship between democracy and economic development. However, there are also studies which have found no relationship between democracy and economic development. Although the studies conducted indicate that the relationship is complex, there is a consensus that there is a relationship from economic development to democracy in the literature review. Because political scientists have been of the opinion that since Lipset, democracy can only occur in countries that have reached a certain level of economic development. However, when we look at the studies examining the relationship between democracy and economic development, it becomes obvious that there are more

studies examining the effect of democracy on economic development, which are also controversial. Besides, when we scrutinize the studies on democracy in the literature, it comes to the fore that there are more applied studies conducted on democracy and economic growth when compared to the applied studies on democracy and economic development. This situation might occur due to confusion in the definition of the concepts of development and growth or difficulties in determining economic development indicators.

We examined the democracy-development literature based on both the direction of the relationship between democracy and development and the analysis methods used chronologically. According to the direction of the relationship in question, we categorized the literature into four hypotheses and / or approaches. These are; (i) Lipset hypothesis, (ii) Inverse Lipset hypothesis, (iii) Feedback hypothesis, and (iv) Disconnection hypothesis. While the Lipset hypothesis, inverse Lipset hypothesis as well as feedback hypothesis indicate a relationship between democracy and economic development; the disconnection hypothesis states that there is no relation between them.

The first study on democracy and economic development belongs to Lipset and is known as the 'Lipset Hypothesis'. According to the hypothesis, the prerequisite for ensuring democracy is economic development. Lipset Hypothesis is also called as modernization theory. The modernization theory developed by Lipset (1959) states that democracy exists in developed countries, while it is unlikely to exist in poor countries. Lipset further expresses that factors such as property and wealth, a wide educated middle class, a cultural structure where primitive identities decline and the concepts including secularism gain strength as well as a decrease in radical tendencies in the lower classes are effective in economic development leading to democracy. The literature we categorized into four hypotheses is as follows:

Hypothesis 1) We have expressed the studies investigating the effect of economic development on democracy as the Lipset hypothesis. In most of the studies in the literature, economic development and growth affect democracy positively. Only a few studies indicate a negative impact of economic development and growth on democracy. Studies reaching the findings that economic development and growth positively affect democracy are Lipset, 1959; Arat, 1988; Bollen, 1979; Cutright, 1963; Barro, 1999; The study reaching the finding that they affect negatively is Kim, 1971. Lipset (1959) examined the relationship between democracy and economic development by benefiting from statistical analysis method with data belonging to the time period of the 1950s for 48 countries in his study. In the study, it comes to the fore that economic development is higher in unstable dictatorships than in stable ones in some countries, while it is higher in stable democracies than in unstable democracies. In his study, Cutright (1963) examined the relationship between democracy and economic development in the 1960 period by using correlation and cross section analysis. He used the political development index created by himself as a measure of democracy. He concludes that political development is highly related to

economic development. Kim (1971) tested the relationship between democracy and economic development in 46 countries in the 1968 period by using the cross section analysis. He used Neubauer's democratic development index as an indicator of democracy and concluded that socioeconomic factors (urbanization, industrialization, education, communication) were insufficient for political democracy. Bollen (1979) tested the relationship between economic development and democracy for the period 1960-1965 with the cross section analysis and obtained the result that economic development had a significant and positive effect on democracy. Arat (1988), in his study titled 'Democracy and Economic Development: Modernization Theory Revisited', scrutinized the relationship between democracy and economic development in 130 countries by using cross section, panel data and time series analysis method for the period 1948-1977. He found that economic development had a nonlinear positive effect on democracy. In his study, 'Determinants of Democracy', Barro (1999) tested the relationship between democracy and economic growth by using panel data analysis method. He used the variable of improvement of living standards as an indicator of economic growth. Improvement of living standards increases the level of democracy.

Hypothesis 2) We have expressed the studies analyzing the effect of democracy on economic development as an inverse Lipset hypothesis. When we delve into the studies, there are findings revealing that democracy might have both positive and negative impact on economic development and growth, which is uncertain. In addition, there are studies showing that the relationship between them is not linear. According to these studies the relationship is positive up to a certain level and reverses after a certain level. However, there are also studies testing indirect effects and the soundness of the relationship in the case that the direct effect cannot be detected. These studies are Gupta et al. 1998; Przeworski and Limongi, 1993; Helliwell, 1992; Gasiorowski, 2000; Kurzman et al., 2002; Barro, 1996; Feng, 1997; Quinn and Woolley, 2001). In the study in which the relationship between democracy and economic growth was analyzed by using the cross section analysis by Przeworski and Limongi (1993), political institutions are found to have no significance for growth. Gupta et al. (1998) analyzed the relationship between democracy and economic growth by using time series OLS regression and cross section analysis. Democracy has a significant impact on growth and facilitates growth. In his study, Helliwell (1992) examined the relationship between democracy and economic growth by using the cross section and the panel data analysis method. The effect of democracy on growth is negative. In the study conducted by Gasiorowski (2000), the relationship between democracy and economic growth was tested for 49 countries using data from the period 1968-1991 as well as the panel data fixed effects method. Inflation is higher and growth is slower in democratic countries when compared to less democratic countries. Kurzman et al. (2002) where they analyzed the relationship between democracy and economic growth using the cross section and the panel data fixed effects and random effects method for the period 1951-1980 in 106 countries, show that the effect of democracy on economic growth is uncertain. Barro (1996) conducted a research focusing on the relationship between democracy and economic growth with

the panel data analysis method. According to the results of the study where Freedom House and Bollen's democracy index was used, democracy positively affects economic growth to a certain level, nevertheless it has a negative effect after a certain level. Feng (1997) tested the relationship between democracy and economic growth by using the cross section analysis for 96 countries in the 1960-1980 period. In the study, it is obtained that the direct effect of democracy on growth is negative and its indirect effect is positive. Quinn and Woolley (2001) examined the relationship between democracy and economic growth by using the cross section analysis. According to the study, democracy has no direct effect on growth.

Hypothesis 3) We have expressed the studies examining the mutual relationship between democracy and economic development as a feedback hypothesis. Starting from the 1990s, the relationship between democracy and economic development has been carried out by some researchers as studies test the interrelation. However, there are very few studies in the literature that examine this type of relationship such as Heo and Tan, 2001; Vega-Gordillo and Alvarez-Arce, 2003; Jaunky, 2013. Heo and Tan (2001) tested the democracy and economic growth relationship with the time series analysis Granger causality method in the study using the Arat democracy index. It is concluded that there is no causal relationship in some countries, while there is bi-directional causality in others. However there are also countries having one-way causality from economic growth to democracy or from democracy to economic growth. Vega-Gordillo and Alvarez-Arce (2003) examined the relationship between democracy and economic growth with the panel data analysis generalized method of moments (GMM) and Granger causality method. In the study conducted in 45 countries for the period 1975-1995, they conclude that there is one-way causality from economic freedom to growth, bidirectional causality between economic freedom and political freedom as well as bidirectional and positive causality between political freedom and growth. Jaunky (2013) tested the relationship between democracy and economic growth with the data obtained from 1980-2005 period by utilizing the panel data analysis system GMM method. The study puts forward that there is one-way causality from economic development to democracy in the short term and a positive bidirectional causality in the long term.

Hypothesis 4) We have stated that there is no relation between democracy and economic development as the disconnection hypothesis. Empirical studies having found no relationship between the two variables in question are Dick, 1974; Landman, 1999; Acemoglu et al., 2008. Dick (1974) tested the democracy and economic development relationship using the statistical analysis method. It becomes obvious that there is no significant difference between the growth rates of authoritarian and democratic countries according to the study in which triple classification types of governance such as authoritative, semi-competitive and competitive were used as indicators of democracy. In his study 'Economic Development and Democracy: The View from Latin America', Landman (1999) examined the relationship between democracy and economic development for 17 countries with data from the 1972-1995 period and used the panel data analysis method. It is concluded that there is no positive relationship

between economic development and democracy. Acemoglu et al. (2008), in their study called 'Income and Democracy', analyzed the relationship between democracy and income with the data from the period 1960-2000 in 150 countries by using the panel data analysis system GMM method. They used the Freedom House, Polity IV and Bollen democracy index as indicators of democracy and conclude that the per capita income level has no effect on democracy.

When we examine the literature, we see that the studies exhibit common structural characteristics as follows: when evaluated within the scope of an econometric method, empirical studies previously based mostly on simple correlation analysis. Over the years studies started to include cross section and time series analysis, and then panel data analysis. In the beginning most researchers developed and used their own measure of democracy. However, in recent years democracy measures based on Freedom House and Polity databases, which have been created mostly by institutions recently, have been started to be used. On the other hand, the variables such as industrialization, education and urbanization were used as a measure of economic development. Per capita energy consumption and per capita income have started to be used in recent years. As a result of the literature we reviewed, we used the Freedom House democracy index, which has been used frequently in recent years. Unlike the development indicators in the literature, we used our development data (economic, financial, openness, social indicators) that take into account the current developments in the world economy. In addition, beyond the econometric methods having been used in the literature to date, we applied the panel ordered qualitative choice analysis (ordered probit model) method, which has been utilized by benefiting from the developments in the field of econometrics in recent years.

### **3. DATA AND METHODOLOGY**

The study analyzes the impact of economic development on democracy in accordance with Todaro and Smith (2012)'s definition of development. We moved from Todaro and Smith (2012)'s traditional definition of development. In Todaro and Smith (2012)'s traditional definition of development, economic development refers to changing political, social and institutional structure as well as economic growth. Based on the definition in question, we defined economic development from a macro perspective with four main factors: economic, social, financial and openness. In this context, the economic model we have established to analyze the impact of economic development indicators on the level of democracy is as follows:

$$DEM = f(GSYH, DCPB, DIN, GINI) \quad (1)$$

Here, DEM shows the level of democracy. GDP, DCPB, DIN and GINI are indicators of economic, financial, openness and social development, respectively. In this context, we aimed to investigate the impact of economic, financial, social and openness development indicators on democracy. We used the democracy index as a dependent variable and; per capita gross domestic

product, credit to private sector by banks, import diversification index as well as Gini coefficient variables as independent variables.

In the study, we used the data from 2001-2016 period in 24 emerging countries and investigated the effect of economic development on democracy by conducting ordered qualitative choice analysis (We revised 24 countries, taking into account the different countries listed by the International Monetary Fund (IMF) and Financial Times Stock Exchange (FTSE), which are also examples in the literature. We have reached the number 24, including the countries located in one of the two organizations and not in the other. Therefore, we chose 24 countries as ‘Emerging Markets’ considering the rankings of both institutions in order to obtain a wider country group). Emerging countries are countries with rapid development. While the emerging economies show development performance, their economic structure as well as their economic reforms need to be strengthened. In this sense, the emerging economies are needed to be examined in terms of their democracies.

The variables used in the research, the explanation of the variables and the resources obtained are presented in Table 1 below.

**Table 1.** Variables Used and Sources

Variable	Variable Type	Description	Source
DEM	Dependent variable	It is a measure of democracy and is based on the political rights index of Freedom House democracy index. It was scaled as three level categories as low, medium and high in panel ordered qualitative choice models.	Freedom House <a href="https://freedomhouse.org/">https://freedomhouse.org/</a>
LGSYH	Independent variable	It is the per capita gross domestic product according to the purchasing power parity whose logarithm is taken.	World Bank, World Development Indicator (WDI) <a href="https://databank.worldbank.org/data/">https://databank.worldbank.org/data/</a>
DCPB	Independent variable	Domestic credit to private sector by banks (% GDP)	World Bank, World Development Indicator (WDI) <a href="https://databank.worldbank.org/data/">https://databank.worldbank.org/data/</a>
DIN	Independent variable	It is the import diversification index. It takes values between 0 and 1. As it approaches 0, diversification increases and as it approaches 1 diversification decreases	UNCTADSTAT United Nations Conference on Trade and Development <a href="https://unctadstat.unctad.org/EN/">https://unctadstat.unctad.org/EN/</a>
GINI	Independent variable	It is the Gini coefficient. It takes values between 0 and 1. As it approaches 0, inequality decreases, as it approaches 1, inequality increases.	The Standardized World Income Inequality Database (SWIID) <a href="https://fsolt.org/swiid/">https://fsolt.org/swiid/</a>

DEM is a dependent variable and shows the level of democracy. The democracy index we used is based on the political rights index of Freedom House and its highest value is 1 and the lowest value is 7. We divided this index into three categories: low, medium and high democracy level. When categorizing, we first reversed the democracy index with the highest value being 7 and the lowest value being 1. Then we showed it at three levels, from low-level democracy to high-level democracy (1 to 3). Level 1 is low level democracy, level 2 is medium level democracy and level 3 is high level democracy. GDP refers to per capita GDP, DCPB refers to credit to private sector by banks, DIN refers to the import diversification index while GINI refers to the gini coefficient, which are all independent variables.

In the study, we used to order qualitative choice models as the econometric method. Because the democracy index based on the political rights we used as a dependent variable is a discrete variable that takes values between 1 and 7 integers, it would not be appropriate to estimate the regression model using the Ordinary Least Squares estimation method. The use of ordered dependent variable OLS violates the OLS regression assumptions. Therefore, we found it appropriate to make predictions with ordered qualitative choice models.

Democracy dependent variable has an ordered and categorical quality. Ordered logit / probit models were used to estimate categorical and ordered variables. In the democracy-development literature, the panel data analysis based on OLS is used much more. Since the democracy variable has an ordered and categorical quality, we have made ordered logit and probit model estimations that are more suitable for explaining the variable. Aiming to contribute to the literature with ordered logit and probit estimations based on the maximum likelihood, on the other hand, we tried to determine whether it supports the literature.

#### 4. RESULTS

Before starting the analysis, we looked at the descriptive statistics of the variables and the correlation of the independent variables with the democracy variable to be used to obtain a priori information.

**Table 2.** Descriptive Statistics of Variables

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
DEM	384	2.632	0.567	1	3
GSYH	384	13768.16	7161.526	2570.428	35020.41
DCPB	384	51.902	34.180	8.584	156.809
DIN	384	0.331	0.061	0.195	0.530
GINI	384	0.403	0.079	0.251	0.62

We divided the democracy index variable into three categories: low, medium and high level. While the lowest value of the variable of democracy is 1, the highest value is 3. While the countries with the lowest democracy level between these years are China and Thailand, the countries with the highest democracy are South Korea, Chile, Peru, Czech Republic, Poland, South Africa, Argentina and

Bulgaria. Since we divided the democracy index into three categories, as low, medium and high, we see that emerging market countries are on the way to be democratic when we look at average democracy. The highest value of per capita GDP that we used as a measure of economic development is \$ 35020.41, the lowest value is \$ 2570.428 and the average GDP is \$ 13768.1. The country with the lowest per capita GDP is India, the highest country is South Korea. The lowest value of the DCPB variable, which shows the credit to private sector by banks, was 8.584 and the highest value was 156.809 between 2001-2016 years. Romania has the lowest and China has the highest credit to private sector by banks. While the lowest value of the DIN variable, which shows diversification in foreign trade, is in Poland with 0.195, the highest value is in Pakistan with 0.530. The lowest value of the gini coefficient referring to income inequality is 0.251; its highest value is 0.620 and its average value is 0.403. The country with the lowest Gini coefficient is the Czech Republic, and the country with the highest is South Africa. The average coefficient of Gini of 0.403 found in emerging market economies shows that there is income inequality in these emerging markets.

**Table 3.** Correlation Coefficients Between Variables

Variable	Correlation Coefficient	P- value
GSYH	0.2473	0.0000
DCPB	-0.3486	0.0000
DIN	-0.3947	0.0000
GINI	0.0864	0.0910

In emerging market economies, there is a positive and 24% correlation between per capita GDP and the DEM variable. There is a negative and 34% and 39% correlation between DCPB, DIN and DEM respectively. There is also a positive and only 8% correlation between GINI and DEM. In addition, while correlation between the Gini coefficient and democracy is statistically insignificant at the level of 5%, correlation between the variables of GDP, DCPB, DIN and DEM is statistically significant.

We estimated both models to decide which ordered logit and ordered probit models, which are ordered qualitative choice models, to be used in our analysis. In Table 4, we see the results of the compared ordered logit and probit democracy models, which are ordered qualitative choice models.

**Table 4.** Comparison of Ordered Logit and Probit Democracy Models

Model	Ordered Logit Model	Ordered Probit Model
LGSYH	0.856***	0.441***
DCPB	-0.029***	-0.017***
DIN	-12.311***	-7.799***
GINI	3.104	1.772
McFadden R2	0.217	0.230
AIC (Akaike information criterion)	468.157	460.315
BIC (Bayes information criterion)	491.860	484.018
Log likelihood	-228.078	-224.157
LR statistics	126.068	133.910
Prob.(LR)	0.000	0.000
Number of Observations	384	384

Note: \*\*\*, \*\* and \* signs show statistical significance at 1%, 5% and 10% levels

While ordered logit and probit models are very similar to each other, there are various criteria regarding the preference of the models in the literature. Thus, it can be decided according to pseudo R2 with the information criteria (AIC and BIC) that emerge as a result of the analysis. If the information criteria in the ordered probit model are lower than the information criteria in the ordered logit model, and the pseudo R2 value in the ordered probit model is greater than the pseudo R2 value in the ordered logit model, the ordered probit model is preferred. In Table 4, the information criteria in the ordered probit model are lower than the ordered logit model and are greater in terms of pseudo R2 values. In that case, it would be appropriate to select the ordered probit model according to these criteria.

**Table 5.** Ordered Probit Model Estimation Results

Independent Variables	Coefficients	Standard Error	z-value	Marginal Effects
LGSYH	0.441**	0.195	2.26	0.148
DCPB	-0.017***	0.002	-7.73	-0.005
DIN	-7.799***	1.876	-4.16	-2.620
GINI	1.772	1.090	1.63	0.595
Number of Observations	384			
Prob> Chi-Square	0.0000			
Pseudo R2	0.2300			

Note: \*\*\*, \*\* and \* signs show statistical significance at 1%, 5% and 10% levels

In Table 5, we see the independent variables in the first column, the coefficients we obtained as a result of the ordered probit model in the second column, the standard errors of the coefficients in the third column, the z values of the coefficients in the fourth column and the marginal effects of independent variables on the dependent variable in the fifth column. Since probit models are not linear, we cannot directly interpret the coefficients we obtained as a result of the probit model prediction, but we can comment on the signs of the coefficients. For this reason, we calculated marginal effects in order to interpret the coefficients in probit models. After calculating the marginal effects, we can interpret each coefficient. We can look at the statistical significance of the coefficients according to the probability values of the z values. In other words, we examined the numerical effect of each independent variable on the level of democracy in the model. The marginal effect indicates the probability of change in the category of democracy level when independent variable increases a unit. We divided the levels of democracy into three categories as low level democracy, medium level democracy and high level democracy. We only showed the marginal effects on the highest level of democracy in the assessment.

According to the results of the panel ordered qualitative choice model (ordered probit model) that we estimate, all the independent variables (per capita GDP, credit to private sector by banks, import diversification) are statistically significant except for the Gini coefficient expressing income inequality. We found the per capita GDP at 5%, the credit to private sector by banks and the import diversification index at 1% level. It turns out that there is no relationship between income inequality and democracy, which is supported by Oniş (2019) and Scheve and Stasavage (2017) in the literature. In other words, it

is interpreted that there is no data supporting the ideas that income inequality is specific to non-democratic regimes or democracy brings a more equal distribution. However, it is not possible to conclude that income inequality is not affected by or affects political regimes such as democracy. We looked for a solution to this problem and re-predicted the model in quadratic form.

On the other hand, in terms of the coefficient signs of the variables, our expectation is positive for per capita GDP and credit to private sector by banks, and negative for the import diversification index and the Gini coefficient. In our study, the per capita GDP and the Gini coefficient are positively related to the level of democracy, and the credit to private sector by banks and the import diversification index are negatively related to the level of democracy. The coefficient sign of the per capita GDP and the import diversification index came out as we expected, the signs of the credit to private sector by banks and the Gini coefficient did not come out as we expected. In order to interpret the coefficients, marginal effects that we estimated show only the marginal effects of the dependent variable on the highest category of democracy. According to the marginal effect results we calculated; the marginal effect of the per capita GDP variable increases the probability of the highest category regarding the level of democracy of this variable by 0.148 units. The marginal effect of the credit to private sector by banks variable reduces the probability of the highest category regarding the level of democracy of this variable by 0.005 units. The marginal effect of the import diversification index variable reduces the probability of the highest category regarding the level of democracy of this variable by 2.620 units. To put it another way, diversification in imports is increasing, which also increases the level of democracy. Negative import diversification index means that countries with higher per capita income or countries with higher levels of development tend to have a more diversified import basket, which was reported by Jaimovich (2012) and Mejia et al. (2016) in the literature. On the other hand, the reason why the coefficient sign of the credit to private sector by banks did not come out as we expected might be because of, the fragility indicator, populism, political influence etc. It might also be because of the effect of the financial system not developed sufficiently in emerging market economies, the effect of the public on the financial markets through central banks and incentive policies, the effect of non-rational diverting credit to the sector and / or social classes (people) through public policies. In addition, the model is significant as a whole according to chi-square test statistics, in the ordered probit model which we estimated. In the ordered probit model, we check the suitability of the model with the 'Pseudo R2 value' test, which is also called as the goodness of fit test. Accordingly, 23% of the total change in the dependent variable can be explained by the independent variables.

In the probit model that we estimated, the relationship between income inequality and democracy was insignificant in the emerging market economies in parallel with the literature. In other words, income distribution does not affect the level of democracy. However, income distribution refers to improvements in education, health and cultural spheres and is the main indicator of social development in a society. Therefore, social development (improvement in income distribution) in

countries is expected to increase the level of democracy. In order to find a solution to the problem of unrelation between income distribution (Gini coefficient) - democracy level (Freedom House democracy index) in the literature, we re-estimated the model by adding the square of the Gini coefficient to the model. The results regarding the predicted model are given below.

**Table 6.** Quadratic Ordered Probit Model Estimation Results

Independent Variables	Coefficients	Standard Error	z-value	Marginal Effects
LGSYH	0.433**	0.200	2.16	0.122
DCPB	-0.016***	0.002	-6.99	-0.004
DIN	-7.120***	1.983	-3.59	-2.018
GINI	-86.787***	14.750	-5.88	-24.602
GINI2	113.496***	18.971	5.98	32.173
Number of Observations	384			
Prob> Chi-Square	0.0000			
Pseudo R2	0.3093			

Note: \*\*\*, \*\* and \* signs show statistical significance at 1%, 5% and 10% levels.

All independent variables are statistically significant and per capita GDP is at 5%, other variables are statistically significant at 1% level. In terms of the coefficient signs, per capita GDP and the square of the Gini coefficient are positively related to the level of democracy, and the credit to private sector by banks, the import diversification index and the Gini coefficient are negatively related to the level of democracy. In order to interpret the coefficients, the marginal effects in the estimation only show the marginal effects of the dependent variable on the highest category of democracy. Accordingly, the marginal effect of the per capita GDP variable increases the probability of the highest category regarding the level of democracy of this variable by 0.122 units. The marginal effect of the credit to private sector by banks variable reduces the probability of the highest category regarding the level of democracy of this variable by 0.004 units. The marginal effect of the import diversification index variable reduces the probability of the highest category regarding the level of democracy of this variable by 2,018 units. In other words, diversification in imports increases, and this in turn increases democracy. The marginal effect of the income inequality variable first reduces the probability of the highest category regarding the level of democracy of this variable by 24,602 units and then increases by 32,173 units. The Gini coefficient has become significant. There is an inverse relationship between the Gini coefficient and the Freedom House democracy variable as expected. As income inequality increases, the level of democracy decreases. A positive relationship was found between the square of the Gini coefficient and the level of democracy. Since the Gini coefficient value is between 0 and 1, it decreases as it is squared and refers to the improvement in income distribution. As a result, the level of democracy increases as the income distribution improves. Also, the model is significant as a whole according to the chi-square test statistics in the quadratic ordered probit model that we estimated. In terms of goodness of fit, 30% of the total change in the dependent variable can be explained by the independent variables and its explanatory power is higher than the non-quadratic model.

## **5. CONCLUSION**

In the study, we empirically researched the impact of development indicators, which we determined as an economic, social, financial and openness, on the level of democracy, by using the data of the 2001-2016 period of 24 emerging market economies. We used the GDP according to purchasing power parity as an indicator of economic development, Gini coefficient as a social development indicator, credit to private sector by banks as a financial development variable, and the import diversification index as an openness variable. As a dependent variable democracy index of the Freedom House based on political rights has an ordered and categorical character, we used the panel-ordered qualitative choice model to determine the impact of development indicators on the level of democracy.

According to the results of the analysis, other variables are statistically significant except for the Gini coefficient of the social development (income distribution) variable, which is one of the development indicators. While the sign of GDP and diversification index, which is one of the variables, is in the expected direction, the sign of the credit to private sector by banks which is the financial development indicator, does not occur in the way we expected. Accordingly, the per capita GDP variable increases the probability of the highest category regarding the level of democracy. The credit to private sector by banks and the import diversification index decrease the probability of the highest category related to the level of democracy.

To make the income distribution variable significant, we also estimated the quadratic model by adding the square of the Gini coefficient to the model as an explanatory variable. In the estimated quadratic model, the income distribution variable has become statistically significant and there has been no change in the expected signs of other variables (GDP, credit to private sector, and import diversification index) and no deterioration in their statistical significance. Thus, all variables become significant in the quadratic model. The sign of the Gini coefficient is also in the expected direction. As the income distribution improves, the level of democracy also increases. The quadratic model, which makes the income distribution variable significant, has higher explanatory power.

When we evaluate the results of the study as a whole; it can be said that development at higher levels of democracy is more effective on democracy according to the ordered probit model estimation results. While the probability of economic development affecting democracy at the middle and low levels of democracy is low, it is highly likely to affect the high level of democracy. To put it differently, the effect of economic development on democracy at the middle and low levels of democracy is lower than the level of high democracy.

The study reveals that supply will be more democratic and livable in general, especially in emerging economies in case of an increase in production and improvement in income distribution. Diversification in imports raises the standard of democracy in emerging market economies. Because the diversification in foreign trade results in the integration of the country with the foreign world. On the

one hand, new production and trade techniques lead to an increase in production as a result of integration with the outside world, but on the other hand, diversification enables the consumption of goods and services suitable for the tastes and preferences of the public. In addition, integration with the outside world leads the country to meet with new forms of economic, commercial and cultural organization, and the standard of democracy in the country rises.

On the other hand, there is an inverse relationship between credit to private sector and the level of democracy. This shows both that, public power exercised irrationally to direct funds to investments and that financial deepening is not sufficiently provided in emerging markets. On the one hand public tenders lead to financial deepening according to the observation of multi-partner companies and publicly capital traded companies in emerging markets, on the other hand, they cause an improvement in income distribution by spreading capital to the bottom. As a result of all this, the standard of democracy rises.

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