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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

THE ROLE OF POLITICAL AND INSTITUTIONAL FACTORS ON ECONOMIC FREEDOM: EMPIRICAL EVIDENCE FROM PMG ARDL MODEL ESTIMATION

SİYASİ VE KURUMSAL FAKTÖRLERİN EKONOMİK ÖZGÜRLÜK ÜZERİNDEKİ ROLÜ: PMG ARDL MODEL TAHMİNİNDEN AMPİRİK KANITLAR

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Abstract

This study focuses on investigating the political and institutional factors that impact economic freedom. The factors addressed for the study are those that have resulted in disputed outcomes in prior works—but have not been evaluated holistically. Using annual data collected from 2003 to 2017, a panel ARDL technique was performed for 17 nations to examine both the short-run and long-run impact of political and institutional factors. The results of the study suggest that government effectiveness and political stability have a favorable impact on economic freedom, but government size is not. Furthermore, the study shows that corruption has a detrimental impact on economic freedom. The most likely answer is that corruption is not grease for the economic system's wheels. Surprisingly, the findings suggest that democracy has a negative influence on economic freedom. Hence, as a policy implication, there is a necessity to improve institutions' effectiveness, reduce government size and provide political stability to construct economic freedom on economies.

Keywords: Economic Freedom, Corruption, Government Size, Political Stability, Democracy
Jel Classification: D70, D73, E14

Öz

Bu çalışma, ekonomik özgürlüğü etkileyen politik ve kurumsal faktörleri incelemeye odaklanmaktadır. Çalışma için ele alınan faktörler, önceki çalışmalarda tartışmalı sonuçlara yol açan ancak bütünsel olarak değerlendirilmeyen faktörlerdir. 2003'ten 2017'ye kadar toplanan yıllık verileri kullanarak, siyasi ve kurumsal faktörlerin hem kısa hem de uzun vadeli etkilerini incelemek için 17 ülke için bir panel ARDL tekniği uygulandı. Çalışmanın sonuçları, hükümet etkinliğinin ve siyasi istikrarın ekonomik özgürlük üzerinde olumlu bir etkisi olduğunu, ancak hükümet boyutunun olmadığını göstermektedir. Ayrıca, çalışma yolsuzluğun ekonomik özgürlük üzerinde zararlı bir etkisi olduğunu göstermektedir. En olası cevap, yolsuzluğun ekonomik sistemin çarkları için yağ olmadığıdır. Şaşırtıcı bir şekilde, bulgular

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demokrasinin ekonomik özgürlük üzerinde olumsuz bir etkisi olduğunu gösteriyor. Dolayısıyla, bir politika uygulaması olarak, ekonomiler üzerinde ekonomik özgürlük inşa etmek için kurumların etkinliğini artırma, hükümet boyutunu küçültme ve siyasi istikrarı sağlama zorunluluğu vardır.
Anahtar Kelimeler: Ekonomik Özgürlük, Yolsuzluk, Hükümet Büyüklüğü, Siyasi İstikrar, Demokrasi
Jel Sınıflandırması: D70, D73, E14

1. Introduction

Economic freedom is a key element to establishing a fair distribution of income, boosting foreign direct investment, and the creation of better social and environmental conditions for people (Bengoa and Sanchez-Robles, 2003; Stroup, 2007; Compton, Giedeman, and Hoover, 2014; Lipford and Yandle, 2015; Satrovic 2018; Pitlik and Rode, 2016; Graafland and Noorderhaven, 2020). Economic freedom has also been found to be important for reducing illegal economic activity and increasing tourism income. (Muslija et. al, 2019; Satrovic, 2019). A wide range of scientific research has demonstrated that economic freedom leads to GDP growth. (e.g.: Heckelman, 2000; Dutta and Williamson, 2016). As a result, it is critical to explore the elements influencing economic freedom. Surprisingly, the literature explores political and institutional elements that have sparked lengthy debate due to their contentious relationship. Several pieces of research have been conducted to investigate the origins of economic freedom in the context of economic crisis. (Luo, 2014; Bjørnskov, 2016). Numerous studies have been conducted to determine whether resource ownership and corruption harm economic freedom (Busse and Gröning, 2013; March, Lyford, and Powell, 2017). Some studies examine the relationship between institutional quality and economic freedoms (Kapás and Czeglédi, 2017).

Considering all the relevant literature, this study aims to contribute to the literature in various aspects. This study investigates institutional and political variables that have had controversial results in the literature were discussed together. We were particularly interested in the theoretical debate on the consequences of corruption and economic freedom. It is important to answer whether corruption is a factor that accelerates the wheels of the economy or is a significant obstacle. We also used a combination of ecopolitical and institutional factors to provide a holistic perspective. Secondly, the conducted methodology also had a role in its success. The majority of the work done requires data stationarity based on classic panel data techniques or causality investigations that lack parameter estimates. Therefore, it is not possible to determine any short-run and long-run coefficients of the subjected variables. In this respect, this study employs the panel ARDL technique—which has a prominent place in the literature (*Pesaran and Smith, 1995*). Hence, it is possible to examine the short-term and long-term effects of any subjected variable. As a result, this work can establish whether the variables affecting economic freedom are statistically significant in the short and long run utilizing data from 17 countries from 2003 to 2017. The rest of the work is as follows. The next section contains literature studies on our topic. In the third section, the dataset and the method are explained. In the fourth section, the results of the analysis are included, and 5 sections are the results.

2. Literature Review

This section examines the political, institutional, and economic factors that interact with economic freedoms. There is a controversial debate on the role of corruption in economic freedom. The widespread belief is that the increase in corruption harms economic freedom. The notion behind this belief is with economic freedom the markets are more tended to be competitive. Consequently, the companies cannot bear additional costs (i.e., bribing, etc.) that make their conditions uncompetitive. Stating that this widespread opinion is far from practical facts, Bliss and Tella (1997) drew attention to the parallel course of economic freedom and corruption. This is because the authors see bribery as an ingredient that lubricates the wheels of the economy. The debate about this issue gain momentum with the study confirmed a positive impact of corruption on economic freedom (Goel and Nelson, 2005). In a study that covers 100 countries, a positive relationship between economic freedom and corruption is revealed (Billger and Goel, 2009). The results of the study might imply that greater corruption might induce higher economic freedom especially for undemocratic nations (Billger and Goel, 2009). On the contrary, some studies have failed to show any positive association between corruption and economic freedom (Goldsmith 1999; Paldam, 2002; Shen and Williamson 2005; Yamarik and Redmon, 2017).

To discover the determinants behind economic freedom, some researchers have investigated the impact of democracy (Gelb, Melo, Denizer, and Tenev,1999; Rode and Gwartney 2012). Gelb et.al (1999) examine the impact of democracy on economic freedom. Gelb et al. (1999) find that there is a positive association between these variables. This view is supported by De Haan and Sturm (2003), who conclude that raising the democracy level leads to economic freedom increase. Contrary to previously mentioned studies, Lundström (2005) criticizes that economic freedom is a very aggregate index consisting of various components; therefore, these various components might be affected differently. In this vein, Lundström (2005) finds only some components of economic freedom strongly affected by democracy. Rode and Gwartney (2012) proclaim that democracy encourages a market economy system. However, Johnson and Lenartowicz (1998) stated that the socio-cultural structure of society is a more effective determinant of economic freedom rather than democracy. Potrafke (2010) believes the ideology of leading power on government is the fundamental determinant of economic freedom. In a study conducted in 100 countries, Krieger and Meierrieks (2016) find democratic institutions are not successful to achieve economic freedom. Authors attribute the probable leading factor causing this to be political capitalism — which is the mutual interest of political authority and economic authority.

Government size is usually discussed whether it is a prominent factor or not while determining economic freedom. As mentioned in the study of Graafland (2019), one of the four pillars of economic freedom was small government size. However, there are studies that certain countries pair a broad public sector with high taxes and a strong degree of economic freedom (Bergh and Erlingsson, 2009; Huskinson, and Lawson, 2014). Bergh (2020) try to explain this controversy by stating that there can be good big governments designing welfare state or inefficient ones. The first one is according to the standard neoclassical economy doctrine, a large public sector leads

to damage to the economy by creating market failure due to distortions and deterrent factors (Barr, 1992). Also, through the viewpoint of public choice, government policy failures mean the disadvantage of trying to correct market crashes in non-optimal ways (Tullock, 1967). That leads to countries with larger public sectors that are likely to experience greater political manipulation, profit-seeking officials, and corporate lobbying. There are not enough authors interested in the question of whether government efficiency and political stability affect economic freedom. The only study conducted by Jia and Zhou (2017) discovered for China that government efficiency is positively related to economic freedom.

3. Data and Methodology

3.1 Dataset

The data set used in this study spans 17 nations between 2003 and 2017. The selected countries are Austria, Iceland, Estonia, Greece, Hungary, Ireland, Portugal, Belgium, Denmark, Finland, France, Italy, Latvia, Luxemburg, Germany, Sweden, Turkey. We derived the Index of Economic Freedom from the Heritage Foundation and the government size data (% of GDP) from the World Bank (World Bank, 2020a). The data of government efficiency, political stability—and voice of accountability as a proxy for democracy— gathered from the World Governance Indicator dataset from the World Bank (World Bank, 2020b). Government effectiveness reflects the independence of institutions, service quality, and reliability. The political stability variable is intended to determine the irregularities in the society with terrorism or political elements. voice and accountability variables reflect competencies such as freedom of expression, the ability of society to question authority independently. Additionally, the Corruption Perception Index (CPI) is gathered to represent cross-country perceptions of government corruption from Transparency International (2020). This variable is determined in the range of 0 to 10 points and 10 points reflect excellent success against the corruption phenomenon.

3.2 Panel ARDL Approach

In consideration of the question of endogeneity Pesaran, Shin, and Smith (2001), Pesaran and Shin (1998) state that the ARDL co-integration procedure is a useful tool to employ—it offers short-term and long-term estimation. This procedure can be implemented independently from the integration level of independent variables. In this context, there are three different estimation techniques for diagnosing long and short-run estimation. The first mentioned procedure is dynamic fixed effects (DFE) involves non-homogeneity of the slope parameter, but *intercepts were permitted to differ across identities. The DFE procedure led to a simultaneous equation bias regarding the endogeneity among the disturbance term and the lagged value of the dependent variable (Pesaran and Smith, 1995; Baltagi, Grin, and Xiong; 2000).*

The second procedure introduced to literature is Mean Group (MG) is an estimation form to determine the bias due to different slopes in the dynamic structure of panel data. It gives the long-run parameter estimation for each identity by taking the mean of the long-run parameters. Consider typical following ARDL form Equation 1

$$Y_t = c_i + \eta_i Y_{i,t-1} + \beta_i X_{it} + \epsilon_{it} \quad (1)$$

each identity represented by underscore i = 1, 2,…,N. The coefficient Φ_i is in Equation 2 demonstrates the long-run coefficient

$$\Phi_i = \frac{\beta_i}{1-\eta_i} \quad (2)$$

which leads to the MG coefficient of estimation below Equation 3, and Equation 4

$$E(\Phi) = \sum_{i=1}^{N} \Phi_i \quad (3)$$

$$E(c) = \sum_{i=1}^{N} c_i \quad (4)$$

The aforementioned calculations illustrate the way of the calculation. It measures the average of the calculated coefficients for each identity which does not contain any limitations—that permit to differ both short-term and long-term b coefficients non-homogenously. *The second type of estimation procedure is the pooled mean group (PMG) estimators introduced in the literature (Pesaran et al., 1998). This procedure indicates the non-heterogeneity constraints on long-run parameters. Furthermore, PMG obtains the means of both error correction and short-term parameters of each identity*. In other words, this procedure permits intercepts, short-term parameters, and variances of disturbance term to vary between identities but restricts the long-term parameters to be identical. A researcher can decide between these three models by using the Hausman test—which provides the applier to distinguish whether the long-term parameters are determined to be heterogeneous or not. While long-term coefficients diagnosed are not heterogeneous, the null hypothesis rejected, the MG and DFE procedures are not reliable, but the PMG procedure provides consistent results estimators (Pesaran et al., 1999).

4. Results

4.1. Descriptive Statistics

This subsection provides general information about the dataset. Among the variables in this study, corruption (cpi), economic freedom (ecfre), and government size (gsiz) are used with natural logarithms. The other 3 variables were included in the analysis as political stability (pols), government effectiveness (geff), and democracy (demo) in levels, respectively. To show the

properties of the data, descriptive statistics is an influential component of research (Yıldız, 2020). As stated at the bottom of Table 1, not all variables were found to be normally distributed as a result of the Jarque Bera normality test.

Table 1: Descriptive Statistic

	cpi	ecfre	gsiz	pols	geff	demo
Mean	1.868029	4.233411	3.003834	0.755672	1.0039	1.184976
Median	1.94591	4.255613	2.99867	0.85967	1.009114	1.334962
Maximum	2.272126	4.41401	3.32988	1.688117	2.353998	1.800992
Minimum	1.131402	3.923952	2.48352	-2.00906	-0.32033	-0.70749
Std. Dev.	0.283537	0.096997	0.174057	0.610459	0.634674	0.445953
Skewness	-0.47434	-0.57972	-0.65644	-1.73628	0.010187	-1.83873
Kurtosis	2.088362	2.927278	3.278948	6.957951	2.091695	6.758734
Jarque-Bera	18.39278	14.3395	19.14081	294.5687	8.77022	293.7996
Probability	0.000101	0.00077	0.00007	0	0.012462	0
Sum	476.3473	1079.52	765.9776	192.6965	255.9946	302.1688
Sum Sq. Dev.	20.41994	2.389727	7.69516	94.65567	102.3139	50.514
Observations	255	255	255	255	255	255

4.2 Unit Root Test Results

The panel unit root investigations were implanted to check the stationarity of subjected data (Breitung, 2001; Im, Pesaran, & Shin 2003; Maddala & Wu, 1999; Choi, 2001). The variable of economic freedom was concluded to have a unit root as a result of all the tests. The government efficiency variable has been determined to be stationary by most of the tests applied. The corruption index was determined as a process in I (0) by Fisher ADF and IPS tests. The government efficiency was found to be stationary by the consensus of most of the conducted tests. As a result of the unit root tests applied for the democracy and political stability variable, the results show that this variable is I (0). Lastly, the tests applied to the variable of government size showed that the series is integrated into order one.

Table 2: The Results of Panel Unit Root Tests

Level		**IPS**						**Breitung**				
Variables	**ecfre**	**geff**	**cpi**	**demo**	**gsiz**	**pols**	**ecfre**	**geff**	**cpi**	**Demo**	**gsiz**	**pols**
τ_T	-0.3	-2*	-2*	0.1	-0.1	-0.6	0.68	0.1	-0.5	1.9*	-0.3	2.1
τ_μ	-0.8	-1*	-2**	-1.1*	-0.5	-1.1						
τ												
First Differences												

τ_T	-6*	-9*	-5*	-15*	-5*	-8*	-3*	-5*	-6*	-4*	-8*	-3*
τ_μ	-8*	-11*	-8*	-11*	-7*	-9*						
τ												
Level		**Fisher ADF**						**Fisher PP**				
Variables	**ecfre**	**geff**	**cpi**	**demo**	**gsiz**	**pols**	**ecfre**	**geff**	**cpi**	**demo**	**gvsi**	**pols**
τ_T	40	64*	57*	44***	37	42	32	72*	42	54**	34	42
τ_μ	43	48*	56*	71*	35	49*	42	46*	40	43	32	56*
τ	14	46*	25	54**	21	48*	14.2	70*	44	39	25	67*
First Differences												
τ_T	103*	141*	83.6*	178*	86*	126*	158*	178*	131*	202*	108*	170*
τ_μ	135*	176*	126*	177*	112*	146*	154*	207*	134*	213*	127*	188*
τ	212*	25*	204*	230*	200	242*	211*	258*	202*	260*	199*	256*

Note : *p < 0.10, **p < 0.05, ***p <0.01.

4.3 ARDL Estimation Results

This section reports the short-term and long-term effects of factors affecting the variable of economic freedom with ARDL estimators. Before estimation, optimal lag length has been identified according to Akaike Information Criteria (AIC). We are not interpreting the findings of MG and DFE due to the insignificance of the estimation parameters which is also confirmed by the Hausman test. Furthermore, because the short-term coefficients are statistically insignificant, only the long-term coefficients of PMG estimates will be interpreted. Apart from coefficients, the standard deviation of the coefficients is given in parenthesis.

Table 3 shows that rising CPI leads to a decline in economic freedom. This contradicts some of the earlier recent research. (Bliss and Di Tella,1997; Graeff and Mehlkop 2003; Billger and Goel, 2009). The probable explanation is due to the result of excessive regulations causing obstacles in the productive effort and not supporting rent-seeking behavior. This contrasts the view that corruption is the sand of the wheels of the economy (Paldam, 2002; Shen and Williamson 2005, Hall et al. 2020). It might imply that corruption practices seem beneficial mechanisms to circumvent bureaucratic obstacles. Secondly, the improvement in political stability leads to economic freedom being positive in the long run. Political stability is representing the state of being firm of the nations against unconstitutional and violent events. Thus, the presence of it leads to economic freedom to rise. Even though no research has been conducted to analyze this link, ul Haq (2020) highlights that political stability is a significant determinant in economic freedom. Turning now considering the effect of government efficiency on economic freedom, which demonstrates trust in the government's commitment and the quality of public services. It has been discovered that government efficiency has a significant and favorable impact on economic freedom. Democracy seems negatively effecting economic freedom which is in the

same direction as the study of İslam (2018). The probable explanation of this result is that the economic elite transforming its economic power into a de facto governmental authority to hold its commercial interests that these objectives run contrary to economic freedom and preserving profits of the elite. Gehring (2013) also states that there is no need for a link between democratic development and economic freedom because some countries have economic freedom, although they have not developed democratically (e.g., Singapore, China, United Arab Emirates, etc.). The negative relationship between government size and economic freedom is significantly positive. This might be explained through the viewpoint of public choice, government policy failures mean the disadvantage of trying to correct market crashes in non-optimal ways (Tullock, 1967; Berg 2020). That leads to countries with larger public sectors that are likely to experience greater political manipulation, profit-seeking officials, and corporate lobbying. The conclusion from this study is supporting the classical economic doctrine that the governments should not go beyond just covering security, education, justice, and health needs.

Table 3: ARDL Estimation Results

Dependent Variable: D(ECFRE)	**PMG**	**MG**	**DFE**
LONG RUN EQUATION			
CPI	-1.18	-2.92	2.13
	(0.15)	(5.43)	(1.00)
POLS	5.66	2.97	2.62
	(0.41)	(5.52)	(2.34)
GEFF	1.57	-1.23	5.53
	(0.51)	(14.6)	(2.75)
DEMO	-4.61	-5.55	-3.65
	(0.41)	(11.5)	(3.70)
GSIZ	-1.03	-0.33	0.10
	(0.06)	(0.85)	(0.33)
SHORT-RUN EQUATION			
COINTEQ01	-0.43	-0.30	-0.29
	(0.09)	(0.21)	(0.04)
D(CPI)	0.68	0.41	0.26
	(0.05)	(0.86)	(0.38)
D(POLS)	-1.29	1.28	0.65
	(1.49)	(4.74)	(0.82)
D(GEFF)	-0.69	1.26	0.62
	(1.07)	(3.78)	(0.94)
D(DEMO)	-0.08	2.12	-2.98
	(1.72)	(6.26)	(1.40)
D(GSIZ)	0.24	0.12	0.15
	(0.17)	(0.33)	(0.13)
C	43.83	10.76	14.47
	(9.66)	(23.83)	(3.81)

5. Conclusion

This study has used a panel ARDL procedure to check the political and institutional factors that affect economic freedom. Although the applied method includes 3 different approaches, the results of PMG techniques are relatively robust. Short-term coefficients are not statistically significant in the PMG application, while long-term coefficients are significant. One of the prominent conclusions that arose from the study is that economic freedom was positively affected by corruption in the long term. Although it seems like a surprise at first glance, there was such a controversial result in past studies. To prevent the economic freedom that comes with corruption, directors must decide to reduce the returns from corruption activities. The probable reason for this is the politicians and bureaucrats who have the understanding that there will be no acceleration in the investment if no rent is created for them. As it enhances economic freedom, it can increase inefficiencies in the distribution and usage of government funds provided by central institutions (De Angelis, De Blasio, and Rizzica, 2018). As De Angelis et al. (2018) mentioned that to increase the efficacy of the financing process of the municipalities, EC (European Commission) has developed an automated process to withhold funds to increase the reliability of the funding regulation, so that the Member Municipalities do not report on and approve their overall expenditure before the end of the programming cycle—which does better but still not deal enough with corruption. To prevent the problems caused by such risks, a seriously protected audit system should be established with legal regulations; undesirable factors that created consequences on local institutional quality should be prevented.

Other results obtained from this study show the positive impact of political stability and government effectiveness on economic freedom. These results are not against the previous works, which is a more economically free nation cannot establish disregarding these institutional factors. Additionally, the negative consequence of democracy on economic freedom might seem questionable but found in previous studies İslam (2018). As regarding the study of Lundström (2005), it is more satisfactory to diagnose the impact of democracy on each trivet of economic freedom. Lastly, our finding showing that government size is negatively affecting economic freedom is consistent with the bare bone of liberal economic doctrine.

In line with the results of this study, our recommendation to policymakers is as follows: Political stability should be achieved by providing legal and security measures in the establishment of economic freedom. The necessary supervisory elements must be established within the legal infrastructure to eliminate the positive effect of bribery. In addition, reducing the size of the government and maintaining policies in favor of the classical doctrine is important for economic freedoms. Thus, public resources will not be wasted, and the market economy will be supported. The researchers might also investigate the transmission mechanism of various shocks on economic freedom with structural vector autoregressive models (Yıldız et. al, 2021).

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