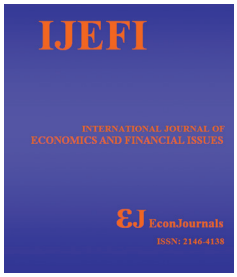

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The Impact of Globalization on Economic Growth: Empirical Evidence from the Turkey

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ABSTRACT

This article examines the impact of globalization on economic growth in Turkey covering the period from 1980 to 2015 using the globalization index and its components (economic, social and political globalization indices). For these sub-indices, the analyzes were repeated by making a distinction between "de facto" and "de jure." According to the KOF overall globalization index, the result of the Full Modified Ordinary Least Squares co-integration test showed that economic growth increase "economic" and "social" globalization in Turkey. When KOF de facto and KOF de jure are separated, the effect of economic globalization on economic growth is negative and statistically insignificant. According to KOF de facto globalization index, social globalization increases economic growth, while in an analysis using the KOF de jure globalization index, social globalization reduces economic growth. Besides, political globalization negatively affects economic growth for all KOF globalization indices that are included in the analysis.

Keywords: KOF Globalization Index, Globalization, Economic Growth
JEL Classification: C32, F02, F43

1. INTRODUCTION

In recent years, with the increase of transport, communication and technology links among countries, the mobility of finance and production factors among countries has also increased. This increase has caused globalization to accelerate. Globalization is usually referred to as the process of integration of goods and capital markets in world trade. Therefore, globalization that is triggered by progress in communication and technology can be defined as the integration process of world markets and civilizations. Globalization provides the process of establishing networks of connections among actors at intra- or multi-continental distances, mediated through a variety of flows including people, information and ideas, capital, and goods. Globalization, therefore, is a process that transcends national borders, combines national economies, cultures, technologies and governance, and produces the complex relationships of interdependence (Gygli et al., 2018). When defining globalization, not only economic activities, but also many important factors can be taken into consideration (Heshmati and Lee, 2010. p. 87). As globalization affects the social, political and economic structure of countries, globalization has three dimensions, economic, social and political.

The economic dimension of globalization leads to the development of a world market, where producers can compete, by ensuring the flow of capital, the development in communication and transportation. The political dimension of globalization; the organization formed by the groups formed as a result of the concentration of the coalition of forces formed in the political field, and their institutionalized reflection on authority and diplomacy. The socio-cultural dimension of globalization is the cultural reflection of those living in economic and political dimensions (Kaypak, 2011. p. 21).

Globalization has positive effects such as increase in national income, access to global capital, emergence of new business opportunities, increase in loans and investments, technology transfer, development of energy and communication sub-structures, improvement of labor quality and working conditions and dissemination of human rights. In addition, there are negative effects such as deterioration of stability of global capital markets, loss of cultural integrity, weakening of national economic autonomy, further impoverishment of countries lacking skills and capital, and failure of openness to be managed well by poor countries (Mutascu and Fleischer, 2011. p. 1691-1692).

Concerns about globalization have increased in recent years due to the effects of economic growth, poverty, inequality, regional differences, cultural domination, environmental or economic integration (Heshmati and Lee, 2010. p. 87). In this way, the effects of globalization have become one of the most controversial issues, as they have multifaceted implications.

Nevertheless, there is no consensus in the literature on the effects of globalization. Some of the studies in the literature suggest that globalization increases the economic growth by contributing to the expansion of foreign trade volume, the increase of investment and productivity and global competition power. Some argue that globalization has increased income inequality, led to some deterioration in environmental and social standards, increased the risk of economic crisis and thus affected the welfare of countries negatively.

In this study, the impact of globalization on economic growth will be examined for the 1980-2015 period using Johansen and Full Modified Ordinary Least Squares (FMOLS) cointegration methods in Turkey. In this context, it is aimed to reveal the effects of globalization on economic growth by using economic, social and political globalization indices which are subindexes of KOF overall, KOF de facto and KOF de jure globalization indexes.

The content of this paper is as follows. The theoretical framework for the impact of globalization on economic growth is briefly presented in Section 2. Applied literature is presented in Section 3. Data and methodology are included in Section 4. Empirical results are provided in Section 5. Finally, we summarize the conclusions in Section 6.

2. THEORETICAL FRAMEWORK

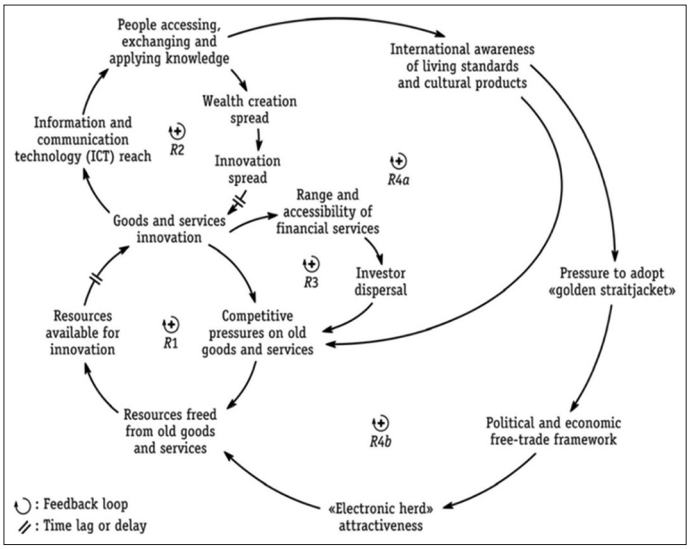
This section will provide conceptual information on the globalization cycle, the globalization economic growth relationship, and the KOF globalization index.

2.1. The Globalization Cycle

It can be said that the effects of globalization on growth has shown itself in the dimension of resource distribution (Yurttançıkmaz et al., 2014. p. 24). According to Lucas, globalization can increase resource distribution efficiency and growth by providing the maximum return on the world scale from every possible production factor through international factorial flows (Yay, 2009. p. 3). These effects can be explained by the globalization cycle given in Figure 1.

In the cycle of globalization, "innovations in goods and services" can be taken as a starting point. "Innovations in goods and services" affect both the old goods and services (R1), information and communication technologies (R2) and the proximity and accessibility of financial services (R3). "Innovations in goods and services" cause resources to become open to innovation by getting rid of old goods and services creating competitive pressures on old goods and services. Over time, these resources can lead to more goods and service innovation (R1). On the other hand, innovations in goods and services lead to increased

Figure 1: The globalization cycle



Source: Georgantzas et al. (2009. p. 4)

access to information and communication technologies. Thus, a large number of people are provided with access to information, exchange of information and use of information. In addition, innovations in goods and services can be used to create welfare and geographically spread innovation and over time lead to new innovations in goods and services. Finally, "innovations in goods and services" can increase both the scope and the accessibility of financial services (R3). The geographical spread of information means increasing international awareness of living standards and cultural products, creating competitive pressures on older goods and services (R4a). However, international standards of living and international awareness of cultural products can force nation states to "a golden straitjacket." Thus, it strengthens the established components of the political and economic free trade framework. This may increase "electronic market attractiveness." In this way, global investors provide financial resources to resources saved from old goods and services (R4b). (Georgantzas et al., 2009. p. 4; İncekara and Savrul, 2011. p. 6-7).

2.2. The Relationship between Globalization and Economic Growth

The rise in globalization trends in the world economy since the 1980s has led to different opinions in the related literature. Stiglitz (2002), who advocates that globalization (when not well managed) does not support economic growth and, conversely, for example negatively affects job creation, emphasizes that the increasingly deepening globalization environment is in favor of developed countries in underdeveloped countries, Bhagwati (2004) argues that the increase in globalization trends will positively affect competition and economic growth in the international context (Potrafke, 2015. p. 518; Yurttançıkmaz et al., 2014. p. 24).

So it can be said that the views of globalization on the effects of countries on economic growth are divided into two as positive and negative. According to the view that globalization will lead to positive effects on the countries, these effects are due to trade and openness. According to this view, globalization leads to a higher growth in developing countries by contributing to the

more efficient operation of domestic markets, the expansion of foreign trade volume, the increase of global competitive power, investments and productivity. It also causes income inequality and poverty levels to decrease. This view, also known as the Washington concensus, is supported by international organizations such as the World Bank (WB) and the International Monetary Fund (IMF) (Rao and Vadlamannati, 2011. p. 795).

Besides, the rapid technological change caused by globalization, the integration of world financial markets, the low processing and information costs helps to ensure productivity and investment growth, optimal resource allocation and full employment and thus increases the economic growth rates of the countries (İncekara and Savrul, 2011. p. 4). However, it is unclear whether countries will benefit equally from opportunities created by globalization (Gurgul and Lach, 2014. p. 99). Stiglitz (2002) notes that there may be problems such as some institutional difficulties, monopolistic tendencies, moral hazard and adverse selection that limit the spread of benefits from globalization (Baddeley, 2006. p. 393).

According to another view, globalization is a process that negatively affects the prosperity of countries. It argues that globalization increases income inequality, causes some deterioration in environmental and social standards, and increases the risk of the economic crisis, especially by the excessive volatility of capital movements making countries with weak financial institutions vulnerable to external shocks (Türedi, 2016. p. 692).

2.3. Measuring Globalization: The KOF Globalization Index

Since globalization is not easy to measure, the creation of a global index of globalization is an important step in the process of quantifying its sources and impacts. Various indices such as KFP, KOF, CSRG, MGI, NGI, G-Index are used to measure the effects of globalization in the literature. Among these indices, KOF Globalization Index is accepted as the best measure of globalization because of its level of trade and the measurement of all kinds of foreign capital and related restrictions, it measures the social and political dimension of globalization more extensively than other indices, it is calculated for many countries and for a longer period (Samimi et al., 2011. p. 5-8).

The KOF index of globalization was introduced in 2002 (Dreher, 2003) at the KOF Swiss Economic Institute and has been updated by Dreher et al. (2008) and Gygli et al. (2018). The KOF Globalization Index measures economic, social and political globalization for almost every country in the world since 1970. It became the most used globalization index in the literature. KOF globalization index consists of three sub-indices (economic, social and political globalization). Each year, these three dimensions measure countries' overall globalization levels, as well as economic, political and social globalization levels. The largest component is the social globalization sub-index, which is made up entirely of technology-related variables.

Some variables in the 2007 version of the KOF Globalization Index have been modified with the latest update. In the 2018 KOF Globalization Index, a clear distinction is made between the "de facto" and "de jure" criteria in all dimensions and sub dimensions of globalization.

This distinction allows to compare the different consequences of "de facto" and "de jure" globalization and the relationship between the two measures. Many new variables have been added to measure the characteristics of "de jure" globalization. "de facto" measures include variables that represent actual flows or activities, "de jure" measures contain variables representing policies, resources or institutions that activate or facilitate actual flows and activities. Both the 2007 and the 2018 KOF Globalization Index calculate the size of an country or an economy by dividing variables by GDP or population size. The total number of sub-variables increased from 23 to 42. It covers a large panel data set for the period 1970-2015 for more than 200 countries and regions (Gygli et al., 2018. p. 6).

There is no clear distinction between trade and financial globalization in the 2007 KOF globalization index. In addition to the distinction between globalization's "de facto" and "de jure" indices, the revision of the KOF Globalization Index includes the following components: It reveals the difference between trade and financial globalization within the economic dimension of globalization. Weights of underlying variables are allowed to change over time, and cultural globalization is defined more extensively (Gygli et al., 2018. p. 6-7).

As shown in Table 1, the differences between the values of the 2018 KOF globalization index and the values of the 2007 KOF globalization index are remarkable. For example, it is observed that the economic globalization and social globalization index values declined in 2018, while the political globalization value increased. This difference may be due to the change made in the calculation of the 2018 KOF globalization index.

In the KOF globalization index, the subindexes and indicators have different weights. All variables used in forming the KOF globalization index are converted to an index between 1 and 100. For a given variable, "100" is the largest value and "1" is the smallest value. The high values in the index indicate more globalization. The index data covers years 1970-2017 (KOF, 2017). The inverse of the Herfindahl-Hirschmann density index was included as an additional variable in the 2018 KOF Globalization Index (Gygli et al., 2018. p. 9).

3. APPLIED LITERATURE

There is no consensus on the effects of globalization on growth. Detailed empirical analyzes are needed to precisely assess the impact of globalization on growth. In order to measure the effects of globalization on economic growth in most of the studies in the literature, a specific criterion such as foreign trade, capital flows and openness is used as measures of globalization. In some of the studies, the KOF globalization index is used, which is a comprehensive set of globalization measures that allows many aspects of the globalization process to be analyzed. In this study, for the use of the KOF globalization index, Table 2 presents only studies that examine the effects of globalization on economic growth using this index.

Table 1: KOF index of globalization: 2007 and 2018

2007 KOF index of globalization		2018 KOF index of globalization			
Indices and variables	**Weights %**	**Globalization index de facto**	**Weights %**	**Globalization index de jure**	**Weights %**
Economic globalization	36	Economic globalization	33.3	Economic globalization	33.3
Actual flows	50	Trade globalization	50	trade globalization	50
Trade (% GDP)	21	Trade in goods	40.9	Trade regulations	32.5
Foreign direct investment, stocks (% GDP)	28	Trade in services	45	Trade taxes	34.5
Portfolio Investment (% GDP)	24	Trade partner diversification	14.1	Tariffs	33
Income payments to foreign nationals (% GDP)	27	Financial globalization	50	Financial globalization	50
Restrictions	50	Foreign direct investment	27.5	Investment restrictions	21.7
Hidden import barriers	22	Portfolio investment	13.3	Capital account openness 1	39.1
Mean tariff rate	28	International debt	27.2	Capital account openness 2	39.2
Taxes on international trade (% current revenue)	26	International reserves	2.4		
Capital account restrictions	24	International income payments	29.6		
Social globalization	37	Social globalization	33.3	Social globalization	33.3
Data on personal contact	33	Interpersonal globalization	33.3	Interpersonal globalization	33.3
Telephone traffic	25	International voice traffic	22.9	Telephone subscriptions	38.2
Transfers (% GDP)	2	Transfers	27.6	Freedom to visit	31.2
International tourism	26	International tourism	28.1	International airports	30.6
Foreign population (% total population)	21	Migration	21.4		
International letters (per capita)	25	Informational globalization	33.3	Informational globalization	33.3
Data on information flows	36	Patent applications	35.1	Television	25.2
Internet users (per 1000 people)	37	International students	31.2	Internet user	31.9
Television (per 1000 people)	39	High technology exports	33.7	Press freedom	13.2
Trade in newspapers (% GDP)	25			Internet bandwidth	29.7
Data on cultural proximity	32	Cultural globalization	33.3	Cultural Globalization	33.3
Number of McDonald's restaurants (per capita)	47	Trade in cultural goods	22.6	Gender parity	31.1
Number of Ikea (per capita)	47	Trademark applications	13.3	Expenditure on education	30.9
Trade in books (% GDP)	6	Trade in personal services	25.6	Civil freedom	38
IKEA stores		McDonald's restaurant	23.2		
		15.3			
Political globalization	27	Political globalization	33.3	Political globalization	33.3
Embassies in country	25	Embassies	35.7	International organizations	37
Membership in international organizations	27	UN peace keeping missions	27.3	Number of partners in investment treaties	30
Participation in U.N. security Council missions	22	International NGOs	37.0		
International treaties	26				

Resource: KOF, 2007 and KOF, 2018

When the applied literature in Table 2 is examined, different results are obtained regarding the effects of overall and sub-components of the KOF globalization index on economic growth. These differences may result from the selection of the KOF index (overall or economic, social and political), the countries involved and the time period considered. However, the method applied in a large majority of studies is a panel data approach where many countries are included in the analysis. In order to see the country-specific impact of globalization, there is a need for studies that use more time-series approaches.

4. DATA AND METHODOLOGY

This study, in which the effect of globalization on economic growth was investigated using the KOF globalization index, was based on annual data for the period 1980-2015 in Turkey. In the given frame, the effect of the subindexes of the "KOF overall" globalization index and the subindexes of the "KOF de facto" and "KOF de jure" globalization indices on economic growth was also analyzed and interpreted by comparing the analyzes made. The economic growth data were obtained from the World Bank (WDI) and the KOF Index data was obtained from the KOF Swiss Institute of Economics. In Table 3, variables, definitions and sources are shown.

The model based on the applied literature on economic growth and the KOF index is shown in Equation 1.

$$LGDP_t = \alpha_0+\alpha_1 LECO_t+\alpha_2 LSOC_t+\alpha_3 LPOL_t+\varepsilon_t \quad (2)$$

Where the dependent variable GDP, as a demonstration of economic growth, Gross Domestic Product; LECO, LSOC and LPOL are respectively the economic, social and political indices of the KOF overall globalization index, KOF de jure globalization

Table 2: The impact of globalization on economic growth: Studies using the KOF globalization index

Panel A: Influence on economic growth (real GDP per capita/Real GDP)						
Author (s)	**Period and countries**	**Method**	**Globalization**			
			Eco	**Soc**	**Pol**	**O.All**
Savrul and İncekara (2017)	1970-2015 ASEAN countries	Panel Data Analysis	+	+	ϕ /-	
Elsherif (2016)	2001-2014 GCC and non-GCC MENA countries	GMM Approach				-
Doğan and Can (2016)	1970-2012 South Korea	Engel-Granger cointegration test	+	+		+
Maqbool-ur-Rahman (2015)	1981-2011 3 South Asian countries (Pakistan, India and Bangladesh)	Johansen cointegration test Granger causality test				+
Ying et al. (2014)	1970-2008 ASEAN countries	Panel FMOLS	+	−	/-	
Gurgul and Lach (2014)	1990–2009 10 CEE Economies	Panel data analysis	+	+	ϕ	
Samimi and Jenatabadi (2014)	1980–2008 Selected OIC countries	Panel data analysis	+			
Chang et al. (2013)	1990-2009 5 South Caucasus countries	LSDVC approach	+	+	+	+
Leitao (2013)	1995-2011 Portuguese and selected European countries (EU-27)	GMM approach	+	+	+	
Rao and Vadlamannati (2011)	1970-2005 21 low income African countries	Panel data analysis		+/-	ϕ	+
Rao et al. (2011)	1974-2004 Singapore, Malaysia, Thailand, India, Philippines	Country specific time series Panel data methods				+
Chang et al. (2011)	1970-2006 G7 countries	Panel cointegration test with structural breaks		+	ϕ	+
Chang and Lee (2011)	1990-2006 10 former communist countries and 18 European OECD countries	Panel FMOLS Panel DOLS	+	+	+/-	+
Sakyi (2011)	1980-2005 31 Sub-Saharan African countries	Panel FMOLS	+			
Açıkgöz and Mert (2011)	1970-2008 Turkey	ARDL	+	+	ϕ	
Panel B: Influence on Economic Growth (growth rate of per capita GDP)						
Olimpia and Stela (2017)	1990-2013 Romania	OLS Granger causality test	+	−	+	+
Kılıç (2015)	1981-2011 74 developing countries	Panel data analysis	+	−	+	
Villaverde and Maza (2011)	1970-2005 101 countries	GMM approach	+	+	+	+
Chang and Lee (2010)	1970-2006 23 OECD Countries	Panel cointegration and panel causality test	+	+		+
Dreher (2006)	1970-2000 123 Countries	GMM Approach	+	+	+	+

+Positive effect; −negative effect; ϕ no significant effect. Eco, Economic Globalization; Soc, Social Globalization; Pol, Political Globalization; O. All, Overall globalization

index and KOF de facto globalization index; t, the time trend; ε, the white noise term. Also, logarithm of all variables used in the model is taken. The graphs for the series are shown in Figure 2.

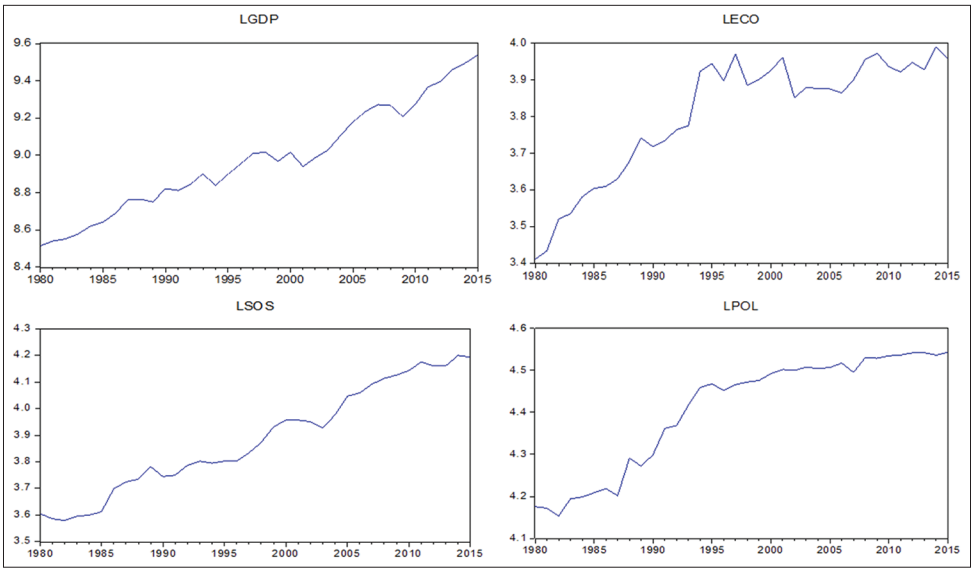
In Figure 2, it seems that the LPOL series does not exhibit a static situation but it contains trends. For this reason, both trend and intercept models will be preferred in the tests applied to analyze the relationship between globalization and economic growth. Also, depending on the time, it is observed that the globalization sub-indices, which is a indicator of globalization, increased together with the economic growth variable. This increases the likelihood of being a cointegration relationship between the series considered.

The econometric analysis applied in this study consists of three steps: First, the stationary of the variables used in the model will

Table 3: Data definitions and sources

Variable	Definition	Source
GDP	(log) Real GDP per capita (constant 2010 US$)	World Development Indicators
ECO	Economic integration index	KOF index of globalization (2018)
SOC	Social integration index	KOF index of globalization (2018)
POL	Political integration index	KOF index of globalization (2018)

Figure 2: The graphs for the series



be revealed by the unit root test in order to eliminate the possibility of spurious regression. Secondly, whether there is a long-run relationship between variables will be analyzed by Johansen (1988) and Johansen and Juselius (1990) cointegration test. Finally, after the existence of a long-term relationship between variables is revealed, long term coefficients of variables are estimated using the FMOLS cointegration test developed by Phillips and Hansen (1990) and these coefficients will be interpreted.

5. EMPIRICAL RESULTS

In order to analyze the relationship between globalization and economic growth in Turkey, firstly, it is examined whether the variables included in the model prediction using the Augmented Dickey Fuller (ADF) unit root test were stationary over time. The results of ADF unit root test are shown in Table 4.

As can be seen from Table 4, for the KOF overall, KOF de facto and KOF de jure globalization sub-indices and economic growth variable, the variables considered, at a level of 5% significance, in the trend and intercept model, are not stationary. In other words, the series contain the unit root. The series seem to be stationary, at first difference I(1), i.e., the series do not contain the unit root.

Secondly, cointegration test has been tried to put forward, whether there is a long-term relationship between the variables in the model. In this study, the Johansen cointegration test was applied because all variables considered were stationary at first difference. The estimation results of the Johansen cointegration test are summarized in Table 5.

Table 4: Unit root tests results

ADF Unit root test			
Variables	**Level**	**1st Different**	**Order of integration**
LGDP	−2.193495	−6.139204	I (1)
	(−3.544284)	(−3.548490)	
KOF overall index			
LECO	−2.125257	−7.438160	I (1)
	(−3.544284)	(−3.548490)	
LSOC	−3.440836	−5.188759	I (1)
	(−3.548490)	(−3.548490)	
LPOL	−0.905790	−7.751927	I (1)
	(−3.544284)	(−3.548490)	
KOF de facto index			
LECO	−3.110753	−6.937552	I (1)
	(−3.544284)	(−3.548490)	
LSOC	−3.611233*	−4.585705	I (1)
	(−3.544284)	(−3.548490)	
LPOL	−1.727293	−5.964828	I (1)
	(−3.544284)	(−3.548490)	
KOF de jure index			
LECO	−1.920455	−5.902764	I (1)
	(−3.544284)	(−3.548490)	
LSOC	−2.199511	−5.846461	I (1)
	(−3.544284)	(−3.544284)	
LPOL	−1.507354	−3.807062	I (1)
	(−3.544284)	(−3.562882)	

Note: * denotes that it is not stationary at the 1% significance level

As can be seen from Table 5, when the relations between LGDPs of KOF Overall, KOF de facto and KOF de jure globalization sub-indices are examined, it is seen that the statistical values of both

the trace test and the maximum eigenvalue test are greater than the critical values at the 5% significance level. This means that there is a long-run relationship between the LGDP and the "KOF Overall," "KOF de facto" and "KOF de jure" globalization sub-indices. The H_0 hypothesis indicating that there is no cointegration relation between variables, is rejected. In other words, there is at least one cointegrating vector among the series.

According to Johansen and Juselius (1990) and Juselius (1999), the Johansen cointegration test is based on dynamic interactions between variables, so the magnitudes of the parameters obtained from this approach cannot be interpreted. For this reason, after the existence of a long term relationship between variables, long term coefficients for the variables will be obtained using the FMOLS cointegration test. This test is valid under the assumption that all variables considered in the model are stationary in the first difference and that there is a cointegration relationship between the variables. In addition, this test gives better results for small samples and accounts for autocorrelation and internalization problems arising from the cointegration relationship between variables. This test produces strong estimates even in the presence of endogeneityand autocorrelation problems. In Table 6, FMOLS test results are given.

As can be seen from Table 6, estimated coefficients for the KOF overall index after FMOLS analysis are 0.48, 0.20 and −1.26 for economic, social and political globalization, respectively. The coefficients obtained are statistically significant at the 5% significance level. According to this, a 1% increase in LECO increases 0.48% in LGDP and a 1% increase in LSOC increases 0.20% in LGDP, and also a 1% increase in LPOL reduces LGDP by 1.26%.

Estimated coefficients for KOF de facto index are −0.024, 0.44 and −0.21 for economic, social and political globalization respectively. The coefficients obtained are statistically significant at the 5% significance level except economic globalization. Accordingly, a 1% increase in LSOC raises LGDP by 0.44% while a 1% increase in LPOL reduces LGDP by 0.21%.

Estimated coefficients for the KOF de jure index are −0.04, −0.28 and −0.47 for economic, social and political globalization, respectively. As in the KOF de facto index, other coefficients, except for the economic globalization coefficient, are statistically significant at the 5% significance level. Accordingly, a 1% increase in LSOC reduces 0.28% of LGDP and a 1% increase in LPOL reduces LGDP by 0.47%.

In Table 6, for the period considered for Turkey, KOF overall globalization index has a positive effect on economic growth, that is, globalization affects economic growth positively. This may be due to the fact that the index includes sub-components such as actual flows (trade, FDI, portfolio investment) and trade restrictions (hidden import barriers, taxes on international trade). When KOF De facto and KOF de jure are separated, the effect of economic globalization on economic growth is negative and statistically insignificant.

According to the KOF overall index, social globalization leads to economic growth. When KOF de jure and de facto are distinguished and the effect of social globalization on economic growth is analyzed, KOF de facto social globalization positively affects economic growth as KOF is overall index. This may be due to the fact that the index contains subcomponents of personal contacts, cultural proximity and information flows. Both the KOF overall and the KOF de facto social globalization indices have a positive effect on economic growth because the subcomponents of these indices are almost identical. However, the fact that the KOF de jure social globalization index has a negative influence on economic growth can be caused by the decrease in the number of subcomponents of this index. For example, sub-variables such as number of Ikea, Mc Donalds Restaurant are not included in de jure social globalization index.

The effect of political globalization on economic growth is negative for all KOF globalization indices, including the analysis. So, political globalization negatively affects economic growth in

Table 5: Johansen cointegration test results

Independent Variable: LGDP							
Hypothesized number of CE (s)	Eigenvalue	Trace test			Max-Eigenvalue test		
		Trace statistic	0.05 critical value	P	Max-Eigen statistic	0.05 Critical value	P
Dependent variable: KOF overall index							
r=0*	0.898760	139.4456	63.87610	0.0000	70.99796	32.11832	0.0000
r≤*	0.679808	68.44767	42.91525	0.0000	35.30390	25.82321	0.0021
r≤2*	0.507127	33.14377	25.87211	0.0052	21.93261	19.38704	0.0209
r≤3	0.303474	11.21116	12.51798	0.0818	11.21116	12.51798	0.0818
Dependent variable: KOF de facto index							
r=0*	0.798246	93.73377	63.87610	0.0000	49.62186	32.11832	0.0002*
r≤1*	0.544259	44.11191	42.91525	0.0378	24.36075	25.82321	0.0770
r≤2	0.364300	19.75116	25.87211	0.2388	14.04386	19.38704	0.2512
r≤3	0.168153	5.707296	12.51798	0.4983	5.707296	12.51798	0.4983
Dependent variable: KOF De jure index							
r=0*	0.835517	113.1918	63.87610	0.0000	55.95345	32.11832	0.0000
r≤1*	0.661850	57.23835	42.91525	0.0011	33.61226	25.82321	0.0038
r≤2	0.387224	23.62609	25.87211	0.0928	15.18245	19.38704	0.1839
r≤3	0.238432	8.443644	12.51798	0.2176	8.443644	12.51798	0.2176

*, The H_0 hypothesis is rejected at level 0.05

Table 6: FMOLS test results

Dependent variable: LGDP				
Variables	**Coefficient**	**Standard error**	**t-statistic**	**P**
Independent variable: (KOF O.All)				
LECO	0.482302	0.032284	14.93926	0.0000
LSOC	0.201948	0.052203	3.868550	0.0005
LPOL	−1.268475	0.051251	−24.75037	0.0000
C	11.35933	0.265787	42.73846	0.0000
@TREND	0.033256	0.001182	28.14440	0.0000
R^2	0.966073		Adj. R^2	0.961550
Independent variable: (KOF De Facto)				
LECO	−0.024796	0.032531	−0.762240	0.4519
LSOC	0.445079	0.078086	5.699857	0.0000
LPOL	−0.210407	0.065373	−3.218551	0.0031
C	7.839198	0.313683	24.99084	0.0000
@TREND	0.025559	0.001207	21.17382	0.0000
R^2	0.966941		Adj. R^2	0.962533
Independent variable: (KOF De Jure)				
LECO	−0.040048	0.032814	−1.220448	0.2318
LSOC	−0.283538	0.049631	−5.712896	0.0000
LPOL	−0.478080	0.039014	−12.25410	0.0000
C	11.65651	0.316230	36.86083	0.0000
@TREND	0.040617	0.001499	27.09631	0.0000
R^2	0.975106		Adj. R^2	0.971787

Turkey. This may be due to the scope of the obligations associated with international agreements and organizations.

6. CONCLUSION

Globalization is a complex process that transcends national borders, brings together national economies, cultures, technologies, and thus economic, social and political dimensions that increase interdependence among countries. In this study, these complex dimensions of globalization by taking one by one, the impact on their economic growth were studied in Turkey. KOF globalization index, updated by Gygli et al. (2018), was used as the measure of globalization in this study.

In addition, the impact of the KOF overall globalization index and economic, social and political indices, which are subindices of the globalization index, on economic growth has been analyzed. For these sub-indices, the analyzes were repeated by making a distinction between "de facto" and "de jure." The results obtained from the analysis are compared. According to the KOF overall globalization index, economic globalization and social globalization have a positive effect on economic growth. When KOF de facto and KOF de jure are separated, the effect of economic globalization on economic growth is negative and statistically insignificant. According to KOF de facto globalization index, social globalization increases economic growth, while in an analysis using the KOF de jure globalization index, social globalization reduces economic growth. Besides, political globalization negatively affects economic growth for all KOF globalization indices that are included in the analysis.

Governments can benefit more from economic globalization by increasing international trade and foreign investment, by reducing import barriers and by improving tax policies. However, they should adopt policies to reduce the negative impact of social and political globalization on economic growth. For future studies, the impact of globalization on other macroeconomic variables can be analyzed by separating "de facto" and "de jure" for KOF globalization indexes.

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