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Impact of liberalization and globalization on economic growth: Empirical evidence from Türkiye

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Abstract. Globalization, as the process of integration of the world economy, increases international trade, capital movements, and technology transfer. This study examines the relationship between globalization and economic growth in the 1974-2022 period in Türkiye. In this study, the ARDL Bound method was used for cointegration analysis and the DCC-EGARCH model was used to capture time-varying relationships. The results of the ARDL-Bound model show a positive and long-term correlation between globalization and economic growth in Türkiye. According to the results of the DCC model, there has been a generally positive relationship between economic growth and the globalization index since 1984. Türkiye's economy has generally been positively influenced by economic liberalization processes and globalization. However, the export-oriented growth strategy seems to have lost its effect after 2005. Moreover, the globalization benefits of foreign direct investment were only evident between 2000 and 2009, after which the positive relationship decreased. In the interest of attracting FDI and promoting sustainable economic growth, Türkiye should review its investment-friendly policies and develop strategies aimed at long-term benefits.

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1. INTRODUCTION

Globalization is the process of increasing interaction and integration between countries, regions, and people in economic, social, cultural, political, and ecological terms. Various factors shape globalization, such as technological innovation, trade liberalization, foreign direct investment, migration, communication, and cultural exchange. According to Wolf (2005), the main motivation for this process, along with technological changes in communication and transportation, is that economic activity is driven by the market rather than the state. Wolf explains that for two centuries this process has been driven by the expansion of capitalism, as Marx and Engels noted in 1848, and a universal interdependence in production and consumption created by the exploitation of the world market by the bourgeoisie.

Wolf (2005) divides the proponents of globalization into two groups. The first group are the proponents of economic liberalization policies (those who support fiscal austerity, privatization and market liberalization, the so-called three pillars of the Washington Consensus). The second group are those who follow the ideas of Giddens (1999), namely those who celebrate the creative possibilities of globalization and the "rise of the new individualism" and argue that a form of "governance" is emerging in which the state will be weakened and national governments will be forced to cooperate with regions, non-governmental organizations, and multinational corporations. According to Giddens (1999), the processes of globalization and liberalization not only mean economic transformation, but also bring about social and cultural change. Giddens argues that this process leads to a reshaping of the individual and society through changes in time and space. He introduces the concept of "new individualism" and explains that globalization brings the individual into interaction with a larger world than ever before. This allows individuals to redefine their local identities and build relationships on a global scale. In an environment where the role of the state is diminished, Giddens argues that individuals gain greater autonomy and can move more freely between communities. (Giddens, 1999) argues that the power of the nation state has diminished in the wake of globalization and has been replaced by a more complex model of governance. Cooperation between national governments, regions, non-governmental organizations and multinational corporations creates a form of "governance" in social and economic affairs. This replaces the old role of the state and leads to a broader, multi-layered governance structure.

Globalization can have both positive and negative impacts on different development dimensions such as growth, poverty, inequality, democracy, environment and culture (Stavytskyy et al., 2019; Volle, 2023). Globalization refers to the interdependence between countries arising from merging various fields of the economy. International trade has gained importance as a factor that encourages economic relation growth between countries that are now closely connected to each other (Surugiu & Surugiu, 2015). In other words, globalization is a term that refers to increasing economic relations and connections around the world. Globalization has emerged as a result of factors such as technological advances, an increase in international trade with the development of communication and transportation, an acceleration of capital flows, and an increase in cultural interaction. However, economic globalization is a phenomenon that has emerged because of international capital flows, cross-border flows of goods and services, the reduction of tariffs and trade barriers, migration, and the spread of technology and information across borders. Economic globalization includes the free movement of international capital and goods/services across borders, the reduction of tariffs and trade barriers, migration, and the spread of technology/knowledge across borders. This process is also the source of many debates and conflicts because, similar to sources of economic power, it can cause competition and conflicts between different interests (Samimi & Jenatabadi, 2014).

The process of globalization has impacts on economies, welfare, development of societies, political systems, environment and cultures around the world. Economic globalization describes the increasing interdependence of world economies as a result of cross-border trade in goods and services, international capital flows, and the wide and rapid diffusion of technology. This is an inevitable trend for world economic development in the era of the millennium, reflecting the continuous expansion and mutual integration of market boundaries. The rapid increase in the importance of information and marketization are the two main drivers of economic globalization. Economic growth is generally defined as an increase in the production of economic goods and services from one period to the next. Economic growth is usually calculated as the goods and services produced within a country's borders, gross domestic product (GDP), or the goods and services produced by that country's citizens, gross national product (GNP). It can be measured in both nominal and real terms (Demir et al., 2020).

Mckinnon emphasis that financial liberalization would promote economic growth by enhancing the efficiency and productivity of the financial sector. (Mckinnon, 1989) claimed that financial repression, which involved government controls over interest rates and credit allocation, distorted the incentives for saving and investing. (Mckinnon, 1989) advocated for freeing the financial markets from state interference and allowing the interest rates to reflect the scarcity of capital that this would increase the profitability of the financial intermediaries and stimulate the accumulation of savings. More savings would lead to more investment and better allocation of resources. On the other word, (Mckinnon, 1989) believe that financial liberalization would improve the quality and diversity of financial services and instruments, and foster innovation and competition in the financial sector.

According to (Shaw, 1973), financial deepening in economic development means an increase in financial assets relative to non-financial assets. This can be achieved by liberalizing financial markets and removing government controls on interest rates and credit allocation. (Shaw, 1973) argued that financial liberalization would positively impact economic growth by increasing returns on savings, attracting more domestic and foreign capital, expanding the size and scope of the financial system, and creating more opportunities for financial intermediation and innovation.

The globalization process increases the growth potential of a country. The efficient use of production factors, the increase of investments, the promotion of entrepreneurship and technological advances support the economic growth of a country. Globalization can have positive impacts on growth in three main channels. First, globalization increases trade between countries. More trade means more production of goods and services. Countries can target a wider market through trade and sell the goods and services they produce around the world. This in turn promotes economic growth (Frankel, 2000), (Broda et al., 2006). Second, globalization increases foreign investment through liberalization of capital movements. Foreign investments strengthen the economic infrastructure of countries, create new job opportunities and encourage technology transfer. This supports economic growth (Borensztein et al., 1998),(OECD, 2002), (Stulz, 2009). Third, globalization accelerates the spread of technological advances. Technology transfer and knowledge sharing enable countries to adopt more efficient production methods. Technological advances increase productivity and trigger economic growth (Panayotou, 2000). In contrast, some of the researchers argued that globalization has a detrimental effect on growth in countries with weak institutions and political instability, and in countries that focus on ineffective activities in the globalization process. For instance, (Gourdon et al., 2006) stress that trade liberalization increases inequality in poor countries with a high share of the workforce with very low levels of education. (Stiglitz, 2004) argues that capital market liberalization can led developing countries to market failures, information asymmetry, contagion effects and speculative attacks. In this process, rapid capital movements and fluctuations can affect the stability of local economies. Moreover, the greater knowledge of foreign investors and the contagious impact of the global financial crisis may put local investors at a disadvantage and lead to financial instability. (Stiglitz, 2004) noted that "Capital Market liberalization has no often led to increased economic instability not to economic growth". According to (Samimi & Jenatabadi, 2014) study, there is weak evidence to support the idea of positive relationship between openness and growth. And, (Cristescu, 2009) believes that financial liberalization may have negative effects and that financial liberalization has played an important role in the emergence of banking and currency crises by increasing macroeconomic volatility against external shocks. The link between financial fragility and economic growth can be attributed to capital market liberalization. (Gupta & Yuan, 2009) stress that liberalization has a more homogeneous growth effect when carried out together with reforms that increase competition. In order for countries to profit from globalization, they need to obtain the proper level of income. Economic globalization fosters growth both directly and indirectly through complementing changes (Samimi & Jenatabadi, 2014). It may be difficult for low-income countries to take full advantage of the globalization process and trigger growth. Income level is an important factor affecting the economic structures and competitiveness of countries. While (Krugman et al., 1993) Krugman have a more comprehensive view. Krugman's main argument is that international financial integration is not the main driver of economic development, and its benefits are often exaggerated or misunderstood. Krugman questions the view that financial integration leads to faster growth, better risk-sharing, and more efficient capital allocation. Furthermore, Krugman criticizes this view, claiming that the empirical evidence supporting this view is affected by methodological problems and selection bias. Krugman also argues that the main benefits of financial integration relate to the transfer of technology and ideas rather than the transfer of capital or risk. It also acknowledges that financial integration may have some positive impacts on macroeconomic stability and policy discipline, but warns that these effects are not automatic or guaranteed. Krugman concludes that financial integration, rather than a magic solution for development, should play a complementary role along with other policies that promote growth and prosperity.

In additional, (Dreher, 2006), (Khoroshun et al., 2023) and (Ehigiamusoe, 2023) stress that globalization has positive effect on economic growth. While this has not same effect to countries. (Swadźba, 2020) emphasized that the impact of globalization on economic growth may vary depending on the development level of individual countries.

Along with globalization, trade liberalization has also been associated with economic growth. (Siddika & Ahmad, 2022; Mahmutovic & Alhamoudi, 2024). showed that multilateral trade liberalization has a positive impact on different income groups. Additionally (Bergh & Karlsson, 2010) highlighted a positive causal effect of economic openness on growth. However, (Abbas, 2014) found that trade liberalization negatively affects economic growth in general. These contrasting findings suggest that the impact of trade liberalization on economic growth may vary in different contexts.

Additionally, the impact of financial liberalization on economic growth was also examined. explored (Tang et al., 2018) found that financial liberalization has a positive impact on economic growth. Overall, the synthesis of these references shows that economic globalization, trade liberalization, and financial liberalization can have significant impacts on economic growth. However, the nature of these impacts may vary depending on context, level of development and other factors.

2. ECONOMIC LIBERALISM AND GLOBALIZATION IN TÜRKIYE

According to (Fawcett, 2018) liberalism is "a search for an ethically acceptable order of human progress among civic equals without recourse to undue power" and successes and failures of liberalism through the lives and ideas of influential thinkers and politicians, such as John Stuart Mill, John Maynard Keynes, Franklin D. Roosevelt, Isaiah Berlin, Ronald Reagan and Angela Merkel. While Economic liberalization encompasses processes, including government policies, that promote free trade, deregulation, elimination of subsidies, price controls and rationing systems, and, often, the downsizing or privatization of public services (Woodward, 1992), the core idea of the economic liberalism is (laissez-faire) which is based on elimination of government's policy-making activities (Hong, 1999). Economic liberalization and as a general principle emerged by the ideas of Adam Smith. Smith was the first to systematically formulate and politically support the demand for the abolition of all economic restrictions . (Laissez faire, laissez aller, laissez passer) is a French term meaning "let do, let go, let pass" and its refer to the theory or system of government that upholds the autonomous character of the economic order, believing that government should intervene as little as possible in the direction of economic affairs.

Economic liberalization has been central to adjustment policies introduced in developing countries since the late 1970s, mostly in the context of the conditions for lending set by international financial institutions (United Nations, 2009). While economic liberalization varies in degree and pace across different countries and regions, depending on their historical, political, social and economic contexts. Some examples of countries that have undergone economic liberalization are China, India, Chile, South Korea, Poland, Mexico, Türkiye, etc.

Liberalism, especially economic liberalism and globalization have close relationship to each other. According to (World Bank Policy Research Report, 2002) opening up economies to the global economy has been essential in enabling many developing countries to develop competitive advantages in the manufacture of certain products that this process defined as “new globalizers" by World Bank. According to (IMF Staff, 2001), in the last decade, no country that has been closed to the rest of the world has managed to achieve significant increases in the living standards of its people. However, trade opening (such as allowing foreign direct investment) has had a significant impact on East Asia's economic success. This is also a common point in the context between liberalism and globalization. Please change the structure of this paragraph but keep the meaning intact.

Türkiye switched to a free market economy on January 24, 1980. Süleyman Demirel asked the Undersecretary of the State Planning Organization (SPO) Turgut Özal to take over the management of the economy and organize the economy. In this period, economic reforms and liberalization policies began to be implemented. An economy model based on free market principles has been adopted since the mid-1980s. Türkiye's transition to a market economy included a series of reforms such as privatizations, liberalization of foreign trade, adoption of export-led economic growth policies, and liberalization of the financial sector. In this process, the role of the state in the economy was reduced and the importance of the private sector and competition was emphasized.

In Türkiye, the liberalization process was carried out through two basic methods. Trade liberalization is related to the liberalization and reduction of customs barriers in Türkiye's foreign trade policies. Steps such as export incentives, removal of import restrictions and reduction of customs duties were taken in this process. Another channel, financial liberalization, is related to Türkiye's goal of liberalizing its financial system and strengthening market mechanisms. Important steps such as the liberalization of the exchange rate regime and interest rates, the development of the capital market and the reforms in the banking sector were taken in this process. These two methods have allowed Türkiye to make progress on the path of economic liberalization. (TCMB, 2002).

2.1. Trade and Financial Liberalization

Trade Liberalization Process in Türkiye can be classified in three plans (TCMB, 2002) and (Örnek & Elveren, 2010). First, in the 1970s, a series of export incentive plans were introduced under the name of Export Incentives and Subsidies, such as concessional loans, tax rebates and foreign exchange allocations. Secondly, what was called the Import Liberalization and Protection Structure was implemented in the 1980s. In this process, quantity restrictions were lifted and import tariff levels were lowered. During this period, Türkiye was classified by the World Bank as an intensive regulator in 1991. The third plan includes the establishment of the EU and it’s the Customs Union. Türkiye, based on the Ankara Agreement signed in 1963 on January 1, 1996 joined the Customs Union with the EU. Thanks to this union, Türkiye, the EU and all taxes and financial obligations applied to EFTA countries have removed and export and import duties of Türkiye were affected.

The financial liberalization process in Türkiye took place with a series of economic, legal and institutional reforms initiated in the early 1980s. The following important steps were taken in this process (TCMB, 2002):

A. Change in Exchange Rate Regime: The beginning of market-oriented policies in the financial liberalization process was the transformation of the exchange rate regime. Flexible exchange rate policy has been adopted since the 1980s.
B. Liberalization of Interest Rates: With real interest rates turning negative, deposit and lending interest rate ceilings were lifted in 1980. This step help attracting savings to the financial system and encouraging competition among financial institutions.
C. Reforms and Regulations Regarding the Banking Sector: Legal reforms were carried out in the 1980s to encourage competition in the banking sector and to increase the soundness of the financial system.
D. Capital Markets Law and Establishment of the Capital Markets Board: In 1982, the Capital Markets Board was established as a regulatory and supervisory authority with the Capital Markets Law. This institution was tasked with regulating the functioning and conditions mechanism of the capital market.
E. Initiation of State Securities Auctions: In 1985, the practice of state securities auctions was introduced. This step enabled fiscal deficits to be financed by the market mechanism rather than directly by the Central Bank.
F. Market Opening Reforms in the Central Bank: In 1986, the Istanbul Stock Exchange became operational, and changes were made in the monetary policy implementation. The new monetary policy regime aimed for the Central Bank to control the total reserves of the banking system to control the money supply.
G. Liberalization of Capital Accounts: With the economic and financial reform process that started in 1980, liberalization of capital accounts was carried out and completed in 1989.

While these steps constituted the basic elements of the financial liberalization process in Türkiye, this process continued in the following years and various arrangements were made to make financial markets more competitive, transparent, and efficient. However, the transition to a full market economy took time and some difficulties were encountered. Türkiye's full transition to a structure that can be described as a market economy has taken many years, and improvement efforts are still ongoing in some areas.

Globalization and liberalization are two interconnected processes that have affected Türkiye's economic, social and political development in recent years. As noted, globalization refers to the increasing integration and interdependence of the world economy, liberalization refers to the removal of barriers to trade, investment, and movement of people and information. In this context, some of the main aspects of liberalization and globalization in Türkiye are as follows:

- Türkiye has become an active participant in the global trading system by becoming a member of the World Trade Organization (WTO) in 1995 and has signed free trade agreements with many countries and regions. Türkiye's exports and imports increased significantly, reaching $350 billion1

[1] https://data.worldbank.org/indicator/NE.EXP.GNFS.CD?locations=TR (accessed Jan 08, 2024)

(current US$), - Türkiye and $386.3 billion2 (current US$), respectively, in 2022. Türkiye's main trading partners are the European Union, China, Russia and the United States3.

- Türkiye has attracted significant foreign direct investment (FDI), especially from Europe and the Middle East, due to its strategic location, large domestic market and qualified workforce. Türkiye's Foreign direct investment, net inflows reached 13.9 (current US$) billion constituting 1.4% of the Gross Domestic Product in 2022.

Globalization and liberalization have brought both opportunities and challenges for Türkiye. On the one hand, it has contributed to Türkiye's economic growth, diversification and integration, as well as cultural and social exchange and cooperation with other countries and regions. On the other hand, it has exposed Türkiye to external shocks such as the Covid-19 pandemic, 2023 earthquakes, geopolitical tensions with Russia and the USA, and internal problems such as inequality, unemployment, inflation and political instability. Türkiye's future perspective will depend on how well it can balance the benefits and risks of globalization and liberalization and how effectively it can implement reforms and policies that increase its competitiveness, resilience and inclusiveness.

3. MODEL SPECIFICATION, DATA, AND METHODOLOGY:

This study examines the relationship between globalization and economic growth through the example of Türkiye. For this purpose, based on the relevant literature, two main models and sub-models were set. In the first stage, economic growth as the dependent variable and KOF as the independent variable were designed and analyzed using the ARDL (Automatic Regression Distributed Lags) bound model. The "KOF Globalization Index" prepared by the KOF Swiss Economic Institute will be used as the data set for these analyses. KOF index measures globalization with its economic, social and political dimensions. In the next stage, time-varying models using the DCC (Conditional Dynamic Correlation) method developed by (Engle, 2002a) are used to measuring of the correlation between selected variable. In addition, variables such as GDP growth rate (g), Exports of goods and services (EX), Imports of goods, services, and primary income (IM), personal remittances and foreign direct investments will also be used. For this purpose, World Development Indicators, which are annual secondary data for the period 1974-2022 provided by the World Bank, were used. Economic growth was represented by the GDP growth rate (g). In this study, foreign remittances are shown with the natural logarithm of remittances (LREM); Personal remittances consist of employee wages and personal transfers. Personal transfers include cash or in-kind current transfers made by resident households to or from non-resident households. Therefore, personal transfers include all current transfers between resident and non-resident individuals. Workers' compensation, on the other hand, refers to the income of limited, seasonal, and other short-term workers employed in a non-resident economy and individuals employed by non-resident organizations. The data reflect the sum of these two components defined in the sixth edition of the International Monetary Fund's Balance of Payments Handbook. All data are expressed in current US dollars. Foreign direct investment refers to the direct investment capital flows in the reported economy. Equity consists of the sum of earnings reinvestment and other capital items. Direct investment is a type of cross-border investment in which a person resident in one economy has control or significant influence over the management of a business located in another economy. Owning 10 percent

[2] https://data.worldbank.org/indicator/NE.IMP.GNFS.CD?locations=TR (accessed Jan 08, 2024)
[3] https://wits.worldbank.org/CountrySnapshot/en/TUR (accessed Jan 08, 2024)

or more of voting common stock is a criterion used to determine the existence of a direct investment relationship. All data are expressed in current US dollars. Table 1 represents the variables and its sources.

Table 1

Variables

variable	Data sources	Acronym
Economic Growth	World Bank	G
Globalisation Index	KOF Swiss Economic Institute	KOF
Imports of goods, services	World Bank	IM
Export of goods, services	World Bank	EX
Foreign Direct Investment	World Bank	FDI
Personal remittances	World Bank	REM

Source: *own compilation*

As mentioned earlier, the ARDL bound test is used for estimating long run relationship between economic growth and globalization. ARDL bound model developed by (Pesaran et al., 2001a) is one of the popular cointegration methods used to evaluate the long-term relationships between non-stationary series. This model is based on the regression coefficients of non-stationary series and offers the opportunity to analyse both short-term and long-term effects simultaneously.

The DCC method was used to analyze the relationship between other variables such as economic growth, globalization, foreign direct investment (FDI), remittances (currency transfers) and trade over time. Time-varying models are generally used for situations where the parameters change over time and/or the variance of the error terms changes over time. Such models consider series fit trend modelling, structural breaks, seasonality, or other time-dependent features. The DCC method takes into account the changing relationships over time, enabling us to more clearly analyze the dynamics between globalization and economic growth, foreign direct investment, remittances and trade.

DCC model developed by the (Engle, 2002b) for multivariate time series and is used to predict volatility and correlation structure, especially in time series. The DCC model has several advantages. First, the DCC model dynamically models the volatility and correlation structure between series. That is, it has the ability to adapt to changing conditions by flexibly capturing varying levels of correlation over time. Second, the DCC model more accurately predicts the correlation structure between time series using the volatility information of the series. This allows us to understand more clearly how changes in the volatility of one series can affect its relationship to other series. Finally, the DCC model can be applied and yield effective results in multivariate time series.

This is ideal for modelling the correlation of multiple series in financial markets. In this context, this model is a method used to estimate the dynamic correlation between series.

Based on (Engle, 2002c), DCC for two variable is taken as follows:

$$\rho_{12,t} = \frac{(1-\alpha-\beta)\overline{q_{12}} + \alpha u_{1,t-1}u_{2,t-1} + \beta q_{12,t-1}}{\sqrt{(1-\alpha-\beta)\overline{q_{11}} + \alpha u_{1,t-1}^2 + \beta q_{11,t-1}}(1-\alpha-\beta)\overline{q_{22}} + \alpha u_{2,t-1}^2 + \beta q_{22,t-1}}$$

where;

$$R_t = diag$$

and

$$Q_t = (1-\alpha-\beta)\overline{Q} + \alpha u_{t-1}u'_{t-1} + \beta Q_{t-1}$$

According to (Engle & Sheppard, 2001), if we have positive definite Q_t , it implies R_t to have positive sign and $\overline{Q}$ is an $N \times N$ unconditional variance matrix of u_t. ρ values represent correlation coefficients, while α and β coefficients represent variance model parameters and $\alpha \geq 0$and$\beta \geq 0$and $\alpha + \beta < 1$

For Cointegration analyses we set a baseline model as follows:

$$g = f(KOF) \quad \text{(Eq1)}$$

In (Eq1)model, growth (g) is expressed as a function of the KOF (globalization index).

3.1. Unit root test:

The unit root test is a statistical test used to determine the stationarity property of the time series. This test is used to evaluate whether the series has a non-stationary component. This test is a condition associated with the partial degrees of freedom of a variable in the time series. The presence of a unit root indicates that the series is not stationary, that is, it has a certain trend or trend over time. If the series is stationary, it means that the changes over time can be explained by random events and there are no trends or structural breaks. In this study, Augmented Dickey-Fuller (ADF) test developed by (Dickey & Fuller, 1979) and Phillips–Perron test developed by (Phillips & Perron, 1988) have been used. The results is summarised in table 2.

Table 2

Unit Root Test Results

Variables	**ADF**	**PP**
g	-4.469***	-4.465***
KOF	-1.48	-1.36
ΔKOF	-9.24***	-9.75***
IM	-1.11	-1.22
ΔIM	-7.30***	-7.38***
EX	-1.62	-1.70
ΔEX	-7.27***	-6.74***
FDI	-1.14	-0.86
ΔFDI	-9.82***	-10.07***
REM	-2.02	-1.30
ΔREM	-5.29***	-5.27***

Note: .***,**,* Significance at the %1, %5 and %10 levels, respectively. ADF and PP test represent the Augmented Dickey and Fuller test and Phillips–Perron test of stationarity, respectively. Natural logarithm of the series is used.

Source: *own compilation*

According to the unit root test results in Table 2, six time series were examined. Growth (g) series exhibited the property of stationarity (I(0)) as a result of unit root test at level (level). All other series, on the other hand, were subjected to unit root test after first difference process and stationarity property (I(1)) was determined. These results show that the growth series does not have a certain trend or trend over time and shows a stationary feature. The other series became stationary after the first difference, meaning that changes over time can be explained by random events and there are no trends or structural breaks.

ARDL bound test and DCC-EGARCH models

The most appropriate test method for the first model test was determined as ARDL (Auto Regressive Distributed Lag) bound test. ARDL bounds test is a method used to analyze the long-term relationship between non-stationary series. Hence, the first model test, which included I(0) and I(1), will apply the ARDL bounds test developed by (Pesaran et al., 2001a) and time-varying analysis will be performed by taking the first difference of the other five series that are not stationary for the DCC model. This approach will enable us to examine the relationship between series from both a long-term and time-varying perspective.

The ARDL model for first model (eq1) can be written as follows:

$$\Delta g_t = \alpha_0 + \sum_{q=1}^{p1} \alpha_{1q} \Delta g_{t-q} + \sum_{q=0}^{p2} \alpha_{2q} \Delta KOF_{t-q} + \beta_1 lng_{t-1} + \beta_2 KOF_{t-1} + \varepsilon_t (Eq2)$$

The null hypothesis is a statement about the coefficients of the ARDL model and usually assumes the values of the parameters to be zero. The null hypothesis for the given ARDL model is as follows:

$$H_0: \alpha_1 = \alpha_2 = 0 \text{ and } \beta_1 = \beta_2 = 0$$

Based on (Shin & Pesaran, 1999) and (Pesaran et al., 2001b), the null hypothesis in the ARDL Test is that there is no cointegration between the variables of interest. In other words, the long-run relationship among the variables does not exist. The test aims to determine whether the coefficients of the lagged differences in the model are jointly equal to zero, indicating no cointegration. If the null hypothesis is rejected, it suggests that there is a long-run relationship between the variables, and cointegration exists. The results of the ARDL bounds test is summarised at Table 3:

Table 3

long run coefficient of ARDL bound Model ((Eq1)):

models	**Coefficients**
constant	3.24
Log(KOF)	0.300
ECT	-0.97***[4]
F-statistic (long-run)	13.60*** Upper bound of 1%= 5.58
Prob. χ^2_{resid}	Prob $0.69 > 0.05$
Prob. χ^2_{ARCH}	Prob $0.49 > 0.05$
CUSUM	Fully stable
CUSUMSQ	Fully stable
Results	Cointegrated

Note: *** shows significance at the %1.
Source: *own compilation*

According to results of Table 3, the error correlation term was found to be -0.97 and it was statistically significant. The dependent variable is economic growth, and the independent variable is the globalization index. The long-term coefficient of KOF is calculated as positive, and its value is 0.30. The long-term F-statistic was found to be 13.60 and was greater than the upper bound of the 1% level. Cumulative sum test

4 $EC = G - (0.3001 \times log(KOF) + 3.2417)$

(CUSUM) and cumulative sum of squares (CUSUMSQ) are completely stable. There is no autocorrelation or heteroskedasticity problem. The conclusion that there is no autocorrelation or heteroscedasticity problem was drawn based on the results of the probability tests for ${\chi^2}_{resid}$ and ${\chi^2}_{ARCH}$. The probabilities associated with these tests were found to be greater than the significance level (0.05), indicating that there is no significant evidence to reject the null hypothesis of no autocorrelation or heteroscedasticity. Therefore, we inferred that there is no autocorrelation or heteroscedasticity problem in our model. The results show that the variables are cointegrated and there is a positive and long-term relationship between globalization and economic growth in Türkiye. The table 4 show Conditional Dynamic Correlation (DCC) model results.

Table 4

Coefficients of DCC

Variables	**Coefficient**
ρ_{21}	-0.052
ρ_{31}	0.058
ρ_{41}	0.201
ρ_{51}	-0.267
ρ_{61}	0.059
ρ_{32}	0.180
ρ_{42}	0.145
ρ_{52}	0.027
ρ_{62}	0.128
ρ_{43}	0.548
ρ_{53}	0.020
ρ_{63}	0.380
ρ_{54}	0.0128
ρ_{64}	0.571
ρ_{65}	0.210
α	0.018*
β	0.918***

1: G (Growth)
2: DLKOF (Globalization index ($kof - kof_{-1}$))
3: DLREM (remittances))
4: DLIM (Import (IM$-\Im_{-1}$))
5: DLFDI (Foreign Direct investment))
6: DLEX (Export (EX$-EX_{-1}$)

Source: *own compilation*

Based on results of DCC model, α and β (parameters of the DCC model) are not negative, and their sum is less than one (α + β < 1). The conditions specified for the predicted parameters α and β guarantee the conditional correlation matrix. This indicates that an increase in the conditional correlation can be expected in the post-shock period in the series. The beta parameter (β) in the DCC model also expresses the effect of the conditional correlation of the previous period on the conditional correlation of the current period. Graph 1, shows results of Dynamic Conditional Correlation (DCC).

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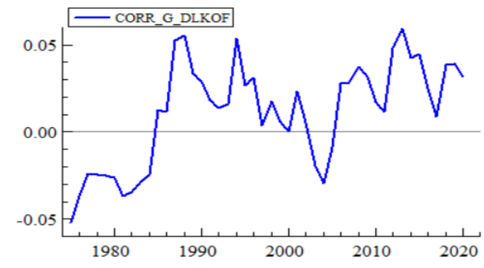
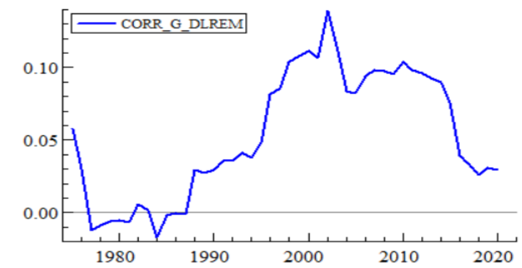
<tr><td>
</td><td>
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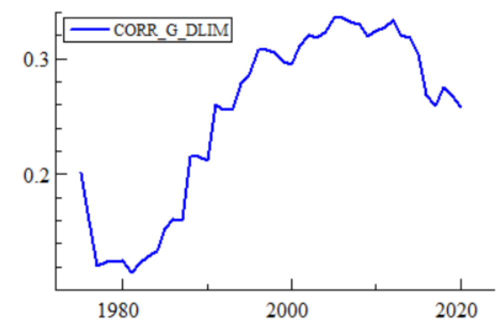
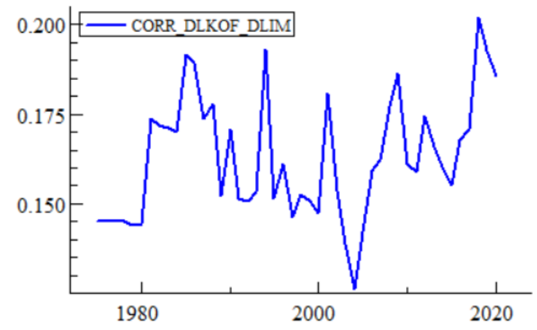
<tr><td>
</td><td>
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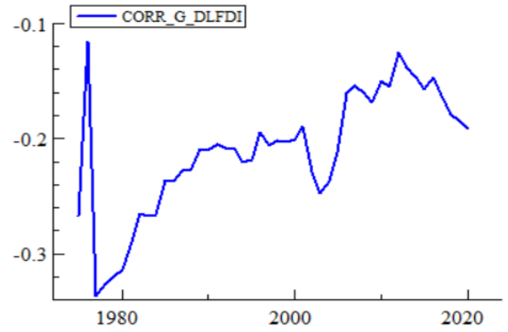
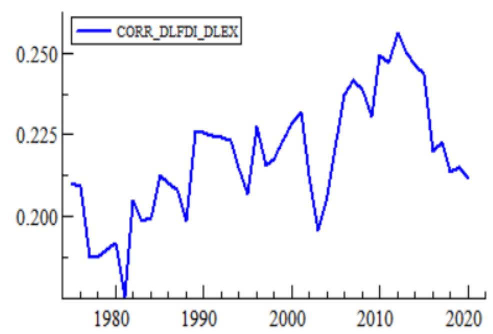
<tr><td>
</td><td>
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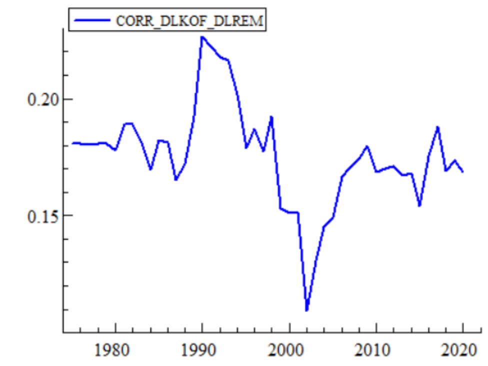
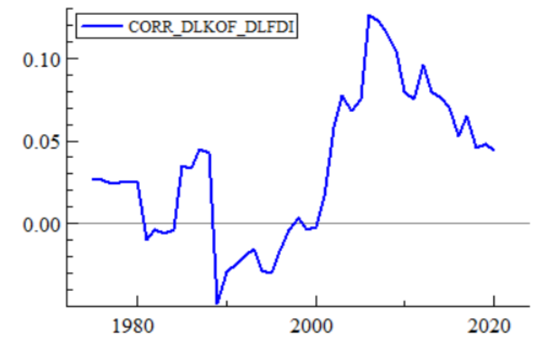
<tr><td>DCC- EGARCH Between KOF and REM</td><td>DCC- EGARCH between KOF and FDI</td></tr>
<tr><td>
</td><td>
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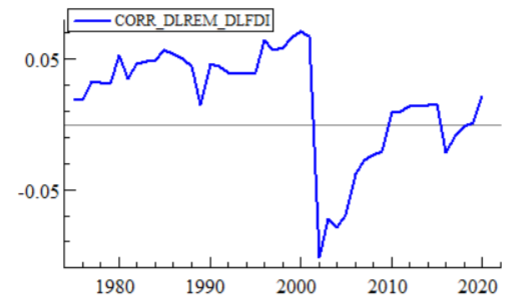
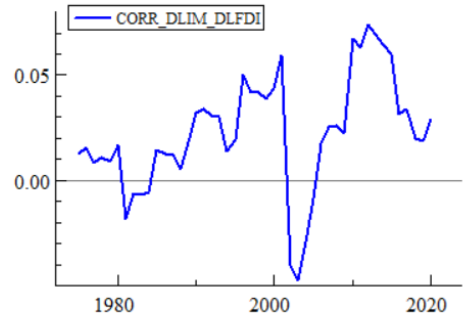
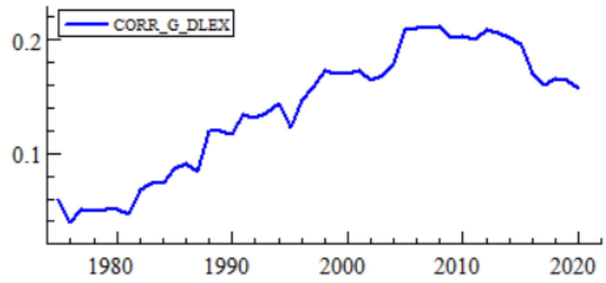
<tr><td>DCC- EGARCH between Remittance and FDI</td><td>DCC- EGARCH between Trade and FDI</td></tr>
</table>

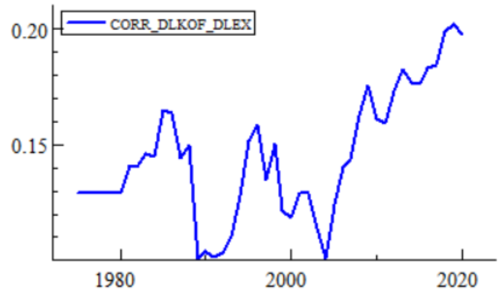




DCC-EGARCH between Growth and Export

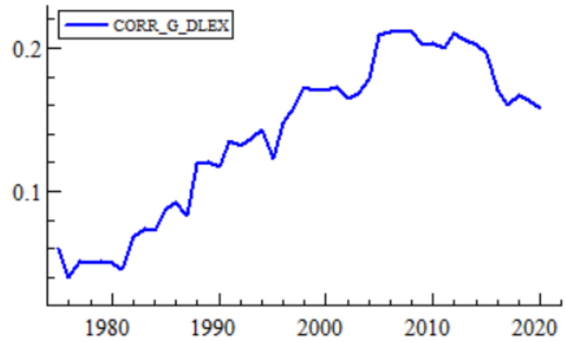
DCC-EGARCH between KOF and Export

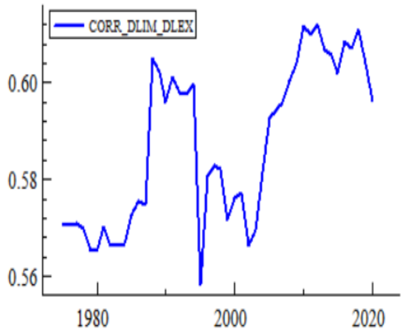




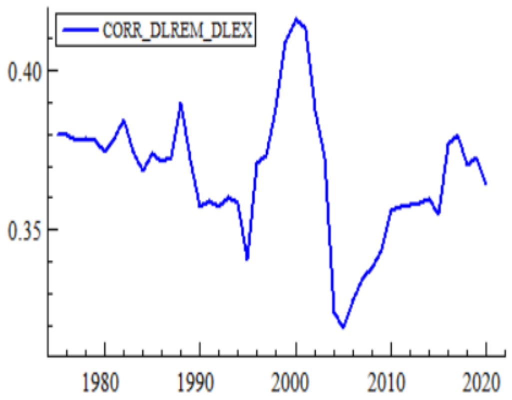
DCC-EGARCH between Growth and Export

DCC-EGARCH between Import and Export





DCC-EGARCH between Remittance and Export



Graph 1. Results of Dynamic Conditional Correlation (DCC)

Source: *own compilation*

Graph 1 shows the dynamic conditional correlation between variables. The effect of the economic reforms made in the 1980s in Türkiye is clearly visible. After this date, it is understood that almost all variables have a positive effect on the Turkish economy through financial liberalization and liberalization in trade.

Dynamic conditional correlation (DCC) between growth and globalization index started to take a positive value after 1984. Although it was negative for a short period between 2002-2004, it remained in a positive in general. The relationship between foreign direct investment and the globalization index was temporarily positive in 1983, but took a negative value between 1984 and 1999. However, it became positive again after 2000. The 2001-2002 reforms positively affected foreign direct investments more effectively. Although this positive effect started to decrease after 2009, it has been determined that there is still a positive effect, and it is observed that this positive effect reflects positively on growth.

While remittance (money transfers) showed a positive relationship before the 1980s, it was positively affected by the 1980s reforms, but declined to its lowest level in 2001. This positive effect increased again after the 2002 reforms. The interaction between globalization and exports was temporarily positively affected by the 1980s reforms. Moreover, after the 2002 reforms, it was more positively affected. However, the same was not true for imports. The interaction between globalization and imports has always been positive and has not been consistently affected by the reforms and globalization.

Although the export-based economic growth policy was seen after the 1980s, it only lasted until 2004. After 2004, positive interaction started to decrease. It is observed that Türkiye has not been very successful in export-led growth. These findings show that Türkiye's integration into the global economy has a significant impact on foreign investment and is directly related to economic growth. Türkiye's increase in international trade and its role in the globalization process increase the interest of foreign investors in the country. However, the weakening of the positive relationship seen in recent years can be attributed to the impact of global and local economic conditions (Starostina et al., 2022; Delibašić, 2022). At this point, more in-depth analysis and examination of economic factors are required.

4. CONCLUSION

Economic liberalization is one of the most important factors in reaping the potential benefits of globalization. Globalization is the process of increasing integration of the world economy and increasing factors such as international trade, capital movements and technology transfer. Economic liberalization, on the other hand, means the removal of trade barriers, the introduction of economic policies based on free market principles, and the implementation of policy reforms that allow the free flow of foreign capital. Economic liberalization in Türkiye is a process that began in the 1980s and is still ongoing. In this process, the Turkish economy has pursued policies based on free market principles and implemented various reforms.

This study examines the extent to which Türkiye has benefited from the advantages of globalization and whether the steps it has taken towards economic liberalization have been correct. Türkiye's participation in the globalization process and the implementation of liberal economic policies are evaluated within a framework that addresses issues such as competitiveness in international trade, attraction of foreign capital and economic growth.

For this purpose, we used the ARDL-Bound method for the cointegration analyzes and the DCC-EGARCH model was used for annual data from 1974 to 2022 to capture the time-varying relationship. The results of ARDL bound analysis show that there is a positive and long-term relationship between globalization and economic growth in Türkiye. According to the DCC model, there is a generally positive relationship between economic growth and the globalization index even after 1984. The results show that

Türkiye has generally benefited from the advantages of globalization to a certain extent. In addition, Türkiye's liberalization policies and export-oriented growth strategy have shown positive effects since the 1980s. However, especially after 2005, these policies seem to have failed and the positive relationship between growth and exports has been decreasing every year. The benefits of foreign direct investment through globalization were only particularly pronounced between 2000 and 2009. Especially after 2009, the positive relationship is declining. Some important reforms and policy reviews need to be considered in order for Türkiye to benefit more from globalization and for economic liberalization to be in line with the principle of sustainability. The results of this study show that Türkiye is generally positively affected by the processes of globalization and economic liberalization. However, some important points need to be emphasized and some suggestions made for future policy measures. The study shows that Türkiye has benefited from foreign direct investment in a certain period, but this advantage has diminished over time. In order to attract FDI and promote sustainable economic growth, Türkiye should review its pro-investment policies and develop strategies aimed at achieving long-term benefits. The export-oriented growth strategy seems to have lost its effect after 2005. Türkiye should diversify its export markets, focus on new sectors and support sustainable export growth by focusing on competitive advantages. The study shows that globalization and liberalization influence Türkiye's domestic problems, especially factors such as inequality and unemployment. Türkiye should design its economic policies to support sustainable growth and social equality, focus on employment-creating sectors and implement structural reforms in the field of education. Technological Innovation: Globalization and liberalization accelerate technological innovation. Türkiye should strengthen its technological infrastructure, encourage R&D investments and carry out policy reforms to adapt to new technologies.

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