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Globalisation and growth in Turkiye: Is there a verdict?

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Abstract

Purpose — Theoretically, the impact of globalisation is ambiguous, and the empirical evidence inconclusive. This study aims to conclusively determine the effects of the various dimensions of globalisation on Turkey's economic growth.

Method — The study employs the autoregressive distributed lag (ARDL) framework to estimate both short-run and long-run effects of globalisation. Globalisation is measured using the KOF Globalisation Index, disaggregated into de jure, de facto, economic, social, and political dimensions. Human capital is proxied by the Human Development Index (HDI), while physical capital is captured by gross fixed capital formation as a percentage of GDP.

Findings — The results based on the aggregate globalisation index reveal a positive and significant long-run effect of globalisation on Turkey's economic growth. However, neither short-run nor long-run effects are observed when aggregate de jure and de facto globalisation indices are used. Furthermore, economic and social globalisation exert a significant negative impact on GDP growth in the short run, though no long-run effects are detected.

Implications — The findings suggest that while globalisation can support long-term economic growth, its short-term effects—particularly through economic and social channels—may pose adjustment challenges that require appropriate policy responses.

Originality/value — This study contributes to the globalisation–growth literature by providing a comprehensive, disaggregated analysis of globalisation in Turkey using a long time series and the ARDL approach.

Keywords — Globalisation, ARDL, KOF Globalisation Index, Turkiye, Economic Growth

Introduction

The return of President Trump as the 47th President of the United States and the radical, seismic shifts in American foreign policy and bilateral relations have left capitals around the world guessing. President Trump's increasing protectionist rhetoric aligns with Milberg et al. (2024) contention that globalisation has been in decline since at least 2011. This de-globalisation is supposedly characterised by nationalism and protectionism, both of which are fueling a populist political revolution (Morelli & Peluso, 2025).

Despite talk of de-globalisation, Lincicome (2022) forcefully argues that the end of globalisation is not near, with trade in intermediate goods, IT, and service goods still accelerating. Admittedly, the global merchandise trade has been slowing. This, he argued, is a natural and expected evolution, as trade in goods is practically constrained by factors such as transportation costs, tastes,

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and technology. This has nudged globalisation to an evolutionary path, resulting in re-globalisation rather than de-globalisation (Lincicome, 2022). Nonetheless, there seems to be a waning interest in globalisation in the literature. A cursory look at Google N-grams data shows a recession in the popularity of the keywords "Globalisation" and "Globalisation", as depicted in Figure 1. Globalisation and its various versions were hot topics in the early 2000s through the 2010s. Since 2008, however, usage has fluctuated and is now in decline. This, perhaps, is due to the acceptance of globalisation as part of the economic and technological transformational process.

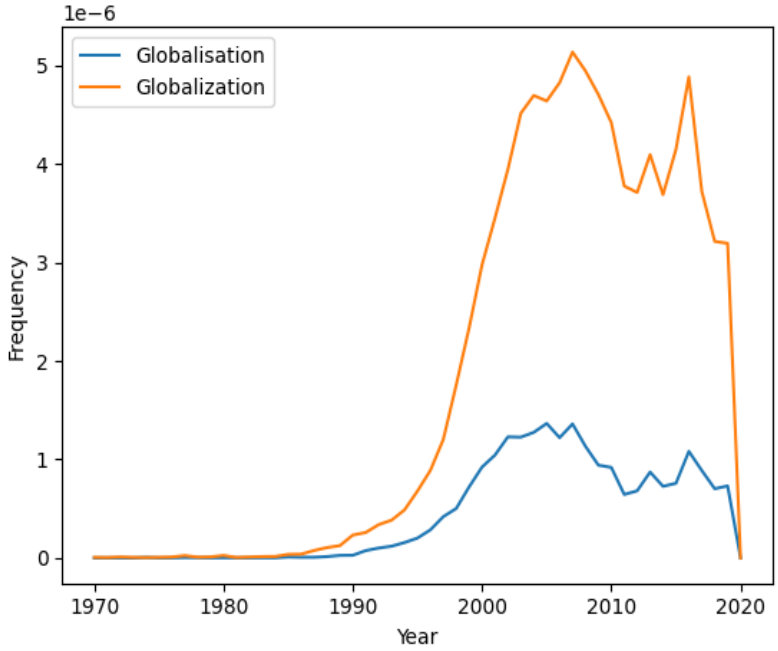

Figure 1. Google N-Gram of Globalisation and Globalisation
Source: Authors' using Data from Google N-grams

Thus, the era of globalisation, as it was known in the first decade of the 21st century, is over, with more questions than answers about its true impact on economies, politics, and society. While some see it as a phenomenon that brings incredible benefits, others criticise its impact on society's cultural and social structures. Economic globalisation is the most debated type, with its effect on economic growth still inconclusive.

The sceptics often trumpet the supposed impact of globalisation on inequalities and environmental pollution. For instance, Goldsmith (1997) makes a definitive claim that Climate change may be the most terrifying problem humanity faces, and economic globalisation accelerates it while, Yay et al. (2016) assert that there is a connection between income disparity and globalisation. The advocates of globalisation, however, see it as economically and, perhaps, socially benign, contending that global economic integration and financial liberalisation that accompany it provide significant benefits for developing countries. Bhagwati (2007), for example, refutes the argument of anti-globalisation advocates, claiming that globalisation, properly managed, can help combat many socio-economic challenges, including poverty.

Beyond the conceptual and moral/social arguments for and against globalisation, many authors have sought to quantitatively gauge the ramifications of globalisation on economies, with contradictory results. Villaverde and Maza (2011) found that globalisation generally promotes economic growth and equality with a semblance of globalisation convergence. Siddharthan (2004) is more cautious after reviewing several studies on the impact of economic globalisation on productivity in India. contending that there is evidence of MNEs having benefited from India's trade and financial liberalisation. Recently, Abubakar (2024) sought to determine the growth impact of globalisation as measured by the KOF Globalisation index in Ghana, Nigeria, Kenya, and South Africa, and concluded a negative but insignificant impact of globalisation on growth. Crafts (2004) stresses that institutional quality is critical in the nexus between globalisation and growth.

This contradictory evidence has also been found for Turkiye. For example, Ojaghlou and Tercan (2024) employed ARDL and DCC-GARCH frameworks, using exports, imports, primary income, remittances, and foreign direct investment as controls, and the KOF index as a gauge of globalisation. They concluded that globalisation has a long-term positive influence on economic growth. However, they did not explain the rationale for the choice of controls. Given that foreign direct investment, real trade flows, income transfers to foreign nationals, and portfolio investment are all used in the calculation of the KOF Economic Globalisation Index (Dreher, 2006), their choice of controls is likely to result in at least multicollinearity.

Çeştepe et al. (2023) also examine the impact of the various dimensions of globalisation on economic growth in Turkiye. Specifically, they used data spanning 1970 to 2018 in an ARDL bounds framework to explore the long- and short-term dynamics among per capita income growth, the KOF globalisation index and its subcomponents, inflation, and the external debt-to-national income ratio. They found that globalisation in the social, political, and economic spheres had a positive impact on per capita income. In contrast, overall globalisation had a negative and significant impact in the long term. In arriving at these conclusions, Çeştepe et al. (2023) modelled overall globalisation as determined by the sub-dimensions of globalisation with inflation and external debt to GDP as controls. The problem with this setup is that the political, social, and economic globalisation are combined to compute the overall globalisation index. As such, using the social, political, and economic globalisation indices, along with the overall globalisation index, as independent variables will result in multicollinearity and conflate the results.

Kılıçarslan and Dumrul (2018) examined the impact of globalisation, in its various forms (de jure and de facto) and types (social, economic, and political), on Turkish economic growth from 1980 to 2015. They found that political globalisation, whether de jure or de facto, decreases economic growth, whereas social globalisation, de facto, increases growth, whereas de jure is inimical to growth. Also, overall economic globalisation was found to have a positive impact on GDP growth, contradicting the findings of Çeştepe et al. (2023) , while the de facto and de jure economic globalisation implied a negative but insignificant impact on growth.

For their part, Bayar and Dabakoğlu (2023) aimed to ascertain if democracy mediates the connection between globalisation and economic growth and found globalisation to have a positive long-term impact on growth, with democratic institutions playing a crucial role. Using human capital and fixed capital formation as control variables, Koyuncu and Sarıtaş (2017) found that while globalisation had a negative, negligible short-term effect on growth in Turkiye, it had a favourable, considerable long-term benefit.

One of the most theoretical and methodologically rigorous studies on Turkiye's globalisation and growth nexus is Utkulu and Özdemir (2004). They underscore the inconclusiveness of endogenous growth models on the trade openness and growth nexus and highlight the inconclusiveness of theory on the direction of causality. They also note the superiority of country-level studies as opposed to cross-country studies, in line with Srinivasan and Bhagwati (2001). In their study, globalisation is measured as the sum of imports and exports as a proportion of GDP. They used real gross domestic investment as a stand-in for physical capital and secondary school enrollment as a stand-in for human capital as controls. They concluded that globalisation, as represented by trade openness, does have a positive impact on economic growth, subject to sound macroeconomic policies and strong investment in both physical and human capital.

Since Utkulu and Özdemir (2004), several globalisation indices have been proposed, one of which is the KOF index. Globalisation indices like the KOF index are more rigorous since they use not just the actual flows of trade but also trade and non-trade restrictions. Also, globalisation indices can capture aspects of globalisation beyond trade, such as financial, political, and social globalisation, which may indirectly affect growth. Utkulu and Özdemir (2004) also used secondary school enrolment as a proxy for human capital development. This, though tolerable, fails to capture the returns to education and the standard of living component of human capital as computed by the United Nations Development Program (UNDP) and even the returns to education as computed by Penn World Tables. Thus, although Utkulu and Özdemir (2004) made significant contributions to

conclusively determining the impact of globalisation (trade openness) on economic growth, their study was hindered by data availability problems, which are now surmountable.

The Turkish economy has experienced a series of bursts and recessions since 1970. Figure 2 maps out the oscillations in the GDP per capita of Turkiye from 1970 to 2019.

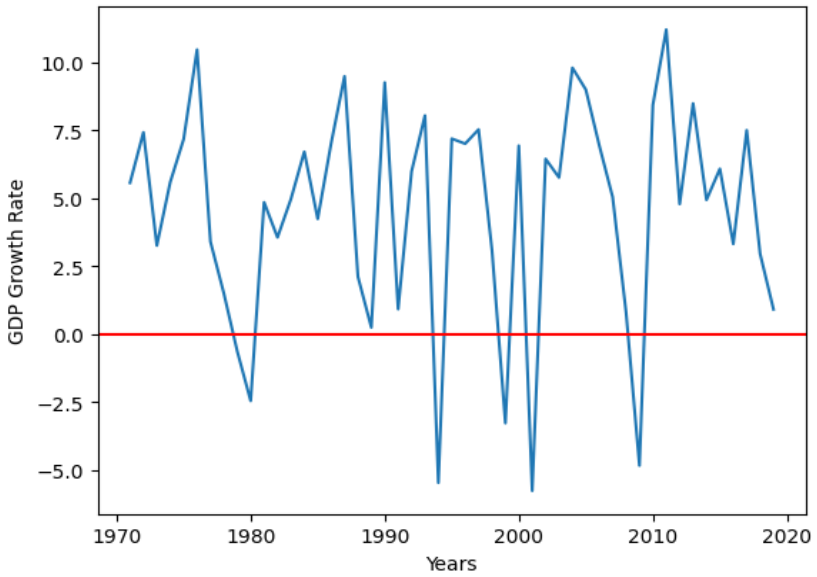

Figure 2. Real GDP Growth (at constant 2017 National Prices Growth)
Source: The authors' use of data from Feenstra et al. (2015)

In the late 1970s, Turkiye struggled to maintain solvency, fight inflation, and restore growth (Singer, 1981), narrowly avoiding recession. From 1978, however, the GDP per capita growth fell below zero, reaching a trough at -2.4% in 1980. The government implemented several measures as part of the 1980 recovery, one of which was to liberalise the economy and pursue an export-driven growth strategy (Ertuğrul & Selçuk, 2001). After the outward, export-led, and globalisation-aligned reforms, the country experienced repeated boom-bust cycles, culminating in the crisis in February 2001. This crisis was mainly precipitated by capital outflows stemming from liberalised capital markets under a crawling peg. The currency immediately fell by almost 30% against the dollar, inflation skyrocketed, government debt nearly doubled, and interest rates rose sharply after the peg was eventually lifted (Dufour & Orhangazi, 2009). This led to a contraction in GDP per capita of over 5.75%.

Dreher (2006) proposes a globalisation index that captures the social, political, and economic dimensions of globalisation. The economic globalisation, as proposed by Dreher (2006) has two types of de facto globalisation and de jure globalisation. The de facto economic globalisation captures actual flows of trade and finance, as well as the extent to which a country employs foreign capital and labour. De jure economic globalisation encompasses restrictions on trade through explicit and implicit import barriers, tariffs, taxes, and capital controls. The de facto and de jure economic globalisation indices are aggregated with equal weighting to obtain the economic globalisation index.

The number of embassies, involvement in UN Security Council missions, and membership in international organisations are weighted at 34%, 34%, and 32%, respectively, to determine the political globalisation index. The social globalisation index is measured using different measures of cultural proximity, information flows, and personal contact. The three dimensions are then aggregated to create the overall globalisation index. The original indices, as proposed by Dreher (2006) have since been disseminated by the KOF Swiss Economic Institute as the KOF Index of Globalisation.

The KOF index has gone through some revisions. One such revision is by Gygli et al. (2019), who distinguish between de jure and de facto globalisation, which is not limited to the economic dimension but has expanded to include de facto and de jure political and social

globalisation. Also, the aggregation is designed as a time-varying weighting of the various measures used to compute the indices. The appealing property of the KOF globalisation index is its comprehensiveness. Rather than focusing solely on trade and economics, the index also captures the subtler underlying forces of globalisation. The appetite for imports and exports is likely to be influenced by the extent of exposure to foreign social and political contacts. The trend of Türkiye's various globalisation measures from 1970 to 2021 is plotted in Figure 3. As depicted in the plot, Türkiye has seen a phenomenal increase in all dimensions of globalisation since 1980.

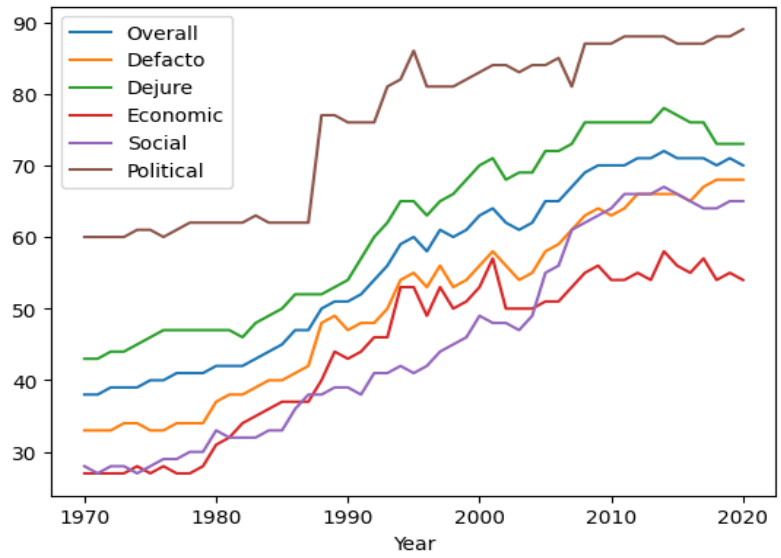

Figure 3. Turkish Globalisation Indices
Source: KOF Globalisation Index

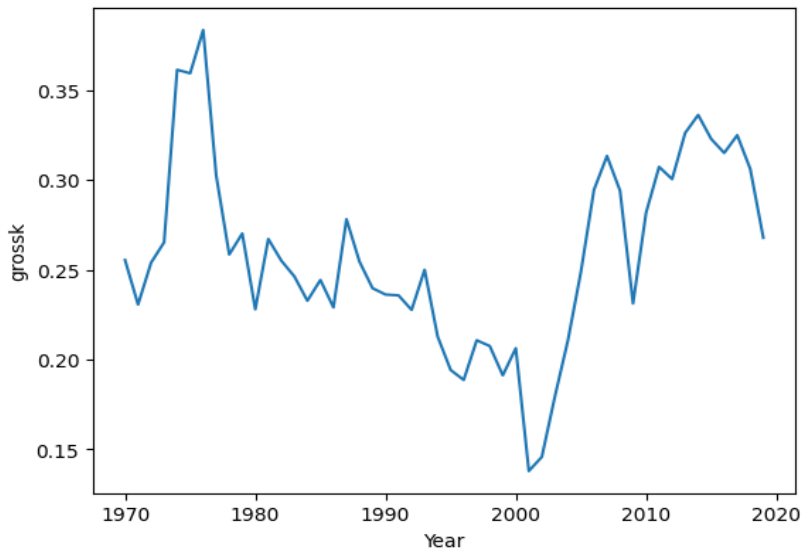

Figure 4. Share of Gross Capital Formation at Current PPPs(grossk)
Source: The authors' use of data from Feenstra et al. (2015).

Over 25% of gross capital formation, the share rose to a staggering 38% in 1976. It has since oscillated, falling to a minimum of 13.8% in 2001. It has since hovered above 21% since 2004.

As the literature indicates, there appears to be disagreement about the overall impact of globalisation on growth, both globally and for Türkiye, with some of the studies exhibiting fundamental deficiencies that this study seeks to address. For example, while Ojaghlou and Tercan (2024) and Bayar and Dabakoğlu (2023) contend that a positive long-term impact on growth, Çeştepe et al. (2023) document a significant negative long-term impact of globalisation on growth.

Our contribution is in three parts. With half a century of data, spanning the era of hyper-globalisation, we hope to provide a more comprehensive answer to the impact of globalisation on economic growth in Turkiye. By using a globalisation index that captures both the de facto and de jure openness, we hope to uncover any subtleties that might have been overlooked in the literature. Also, by employing the UNDP's exhaustive Human Capital Index (HCI), we hope to accurately capture the impact of human development on growth that could have been wrongly ascribed to globalisation. It is found that aggregate globalisation has a positive impact on long-term growth. However, the aggregate and sub-indices are found to have a negative and significant impact on short-term growth.

Methods

In this study, we use the functional form in equation 1 to model the relationship between growth and globalisation.

$$lngdp = f(gi, lhdi, lgrossk) \tag{1}$$

Where *lngdp* is the log of GDP, our proxy for economic growth (Feenstra et al., 2015). The *gi* is our globalisation measure, and the *lhdi* and *lgrossk* are the logs of the human development index and gross capital formation, our control variables, respectively.

We use Utkulu and Özdemir (2004) studies by examining how globalisation, as measured by the aggregate economic, political, and social globalisation indices of KOF, impacts growth. Moreover, we employ the aggregate globalisation index (kofg), the de facto (*dfag*) and de jure (*djag*) aggregate globalisation indices, and the economic (*egli*), social (*sgli*), and political (*pgli*) globalisation indices in the estimations. The recent study spans 1970 to 2019, thus covering half a century of data during the hyper-globalisation era of the 2000s and 2010s.

Since 1990, the United Nations Development Program has published the Human Development Index (HDI), which takes into account life expectancy, mean and projected years of schooling, gross national income (GNI), and health, knowledge, and standard of living. To extrapolate the HDI index from 1970 to 1989, we sourced life expectancy at birth and the Atlas method-computed GNI per capita as reported by the World Bank's World Development Indicators (World Bank, 2017). We then employed Bayesian Ridge Regression to train a predictive model used to extrapolate the HDI index for Turkiye.

We utilise the Autoregressive Distributed Lag (ARDL) model, which is especially appropriate for variables of mixed integration, after determining that one of our independent variables, the lhdi, is stationary (Pesaran et al., 2001). Potential long-term level correlations between the variables are tested using the limits testing approach (Pesaran et al., 2001). Specifically, the ARDL model represents the dependent variable as a combination of short-run and long-run impacts of the independent variables, where the short-run includes first-differenced nonstationary variables. In contrast, the long-run includes level nonstationary variables. The ARDL is as in equation (2).

$$lgdp_t = \varphi + \beta_1 lgdp_{t-1} + \beta_2 gi_{t-1} + \beta_3 lgrossk_{t-1} + \beta_4 lhdi_{t-1} + \sum_{i=1}^{p} \alpha_{i1} \Delta lgdp_{t-i} + \sum_{i=1}^{q_1} \alpha_1 \Delta gi_{t-i} + \sum_{i=1}^{q_2} \alpha_1 \Delta lgrossk_{t-i} + \sum_{i=1}^{q_3} \alpha_1 lhdi_{t-i} + \epsilon_t \tag{2}$$

Where p is the optimum lag selection of the dependent variable $lgdp$, q_1 is the optimum lag for the globalisation measure, q_2 is the optimum lag selected for $lgrossk$ and q_3 is the optimum lag selected for $lhdi$. In selecting the optimum lags, we use the Schwarz (1978) information criterion.

The bounds tests based on Pesaran et al. (2001) are then used to test for the existence of a long-run relationship. Specifically, it compares the ARDL model's F-statistics with the critical values reported in Pesaran et al. (2001). If the F-statistics exceed the upper boundaries of the critical values, the null hypothesis of no cointegration is rejected. Table 3 displays the outcomes of the Bounds test.

The ARDL error correction form for the long-run model is presented in Equation 3.

$$lgdp_t = (\rho + \beta_1 lgdp_t + \beta_2 gi_t + \beta_3 lgrossk_t + \beta_4 lhdi_t) + ECT_t \tag{3}$$

The short-run model is presented in Equation 4.

$$lgdp_t = \varphi + \sum_{i=1}^{p} \alpha_{i1} \Delta lgdp_{t-i} + \sum_{i=1}^{q_1} \alpha_1 \Delta gi_{t-i} + \sum_{i=1}^{q_2} \alpha_1 \Delta lgrossk_{t-i} + \sum_{i=1}^{q_3} \alpha_1 lhdi_{t-i} + \theta ECT_{t-1} + \epsilon_t \quad (4)$$

where θ, also known as the error correction term, denotes how quickly the system returns to equilibrium following a shock.

Results and Discussion

The descriptive statistics are presented in Table 1. For the period of the study, real GDP in constant 2017 dollars averaged 917 billion dollars, with a maximum of 2.2 trillion dollars. Within the period, globalisation, as measured by the KOF Globalisation Index (KOFGI), averaged 55.54. The years in which Turkiye scored the least in globalisation were 1970 and 1971, with a globalisation index score of 38. Since then, Turkiye has become more globalised, with its globalisation index peaking at 72% in 2014. Of all the dimensions of globalisation, Turkiye is more globalised politically, with its political globalisation averaging 77.82, with a maximum of 92.4 and a minimum of 59.41. This is higher than the average level of political globalisation in high-income countries. The Human Development Index (*HDI*) in Turkiye between 1970 and 2021 averaged 0.61 with a standard deviation of 0.14, while the share of gross capital formation (*grossk*) averaged 0.23 with a standard deviation of 0.05. For the estimations, all variables are transformed using the natural logarithm function.

Table 1. Descriptive statistics

	gdp	*Kofg*	*dfag*	*djag*	*egli*	*sgli*	*pgli*	*hdi*	*grossk*
Mean	9.17e+05	55.54	50.14	60.94	43.98	44.82	77.82	0.61	0.23
Standard deviation	5.72e+05	12.04	11.99	12.23	10.96	13.88	12.22	0.14	0.05
Min	2.61+05	37.89	32.97	42.80	26.71	27.48	59.41	0.35	0.14
Max	2.24e+06	71.89	68.38	77.54	57.74	66.67	92.40	0.84	0.38
Observation	50	50	50	50	50	50	50	50	50

Stationarity test

The stationarity test is one of the most important considerations in time series modelling. In this study, we use the Augmented Dickey-Fuller test of Dickey and Fuller (1981), and its variants. This is because the existence of a unit root invalidates mean reversion. Also, the presence or absence of unit roots can help determine the data-generating process of a series and whether the trend is deterministic or stochastic (Phillips & Perron, 1988). The ADF test corrects for autocorrelation by including the lagged terms of the series, while the Phillips-Perron test extends the ADF test by correcting for heteroscedasticity. The stationarity results are presented in Table 2.

Table 2. Unit Root Tests

Variable	ADF I(0) Intercept	ADF I(0) Trend	PP I(0) Intercept	PP I(0) Trend	ADF I(1) Intercept	ADF I(1) Trend	PP I(1) Intercept	PP I(1) Trend
Lgdp	-0.13	-2.71	-0.11	-2.83	-6.77***	-6.70***	-6.77***	-6.69***
Lgrossk	-2.16	-2.14	-2.15	-2.144	-6.88***	-6.79***	-6.88***	-6.79***
Lkofo	-1.27	-0.53	-1.29	-0.59	-6.60***	-6.75***	-6.60***	-6.75***
Ldfag	-0.77	-1.78	-0.77	-1.85	-6.69***	-5.44***	-6.76***	-6.73***
Ldiag	-1.55	-0.03	-1.44	-0.42	-5.25***	-5.44***	-5.24***	-5.43***
Legli	-1.57	-1.06	-1.49	-0.94	-7.71***	-5.45***	-7.71***	-7.88***
Lsgli	-0.67	-2.32	-0.50	-2.32	-5.98***	-5.93***	-5.97***	-5.931***
Lpgli	-1.06	-1.94	-1.14	-1.43	-2.51	-2.55	-7.86***	-7.91***
Lhdi	-5.77***	-2.59	-5.26***	-2.44	-4.45***	-6.23***	-4.61***	-6.36***

Notes: *,**and***represent significance at 1%, 5% and 1% levels, respectively

From Table 2, both tests fail to reject the null of a unit root at levels for all variables except the log of the human development index, which is found to be intercept-stationary. Taking the first difference, however, the null of a unit root is rejected at all levels of significance for all the variables

except for the *lpgli*. The ADF fails to reject the unit root for the lpgli even after the first differencing. As such, it was dropped as likely to be integrated of the second order.

As shown in Table 3, the estimated F-statistics exceed the upper bound for all models. This implies the existence of a long-run level relationship among our variables.

Table 3. Cointegration Tests

Model	Empirical model	Optimum lag	F-statistic	Lower bound	Upper bound
Model 1	$lngdp = f(lkofg, lhdi, lgrossk)$	1, 3,3,0	15.57***	3.65	4.66
Model 2	$lngdp = f(ldfag, lhdi, lgrossk)$	1,2,2,1	5.64***	3.65	4.66
Model 3	$lngdp = f(ldjag, lhdi, lgrossk)$	1,1,0,1	20.42***	3.65	4.66
Model 4	$lngdp = f(legli, lhdi, lgrossk)$	4,3,3,0	16.55***	3.65	4.66
Model 5	$lngdp = f(lsgli, lhdi, lgrossk)$	2,3,2,1	4.80***	3.65	4.66

Notes: *,**and***represent significance at 1%, 5% and 1% levels, respectively

Table 4. Long-Run Coefficients from the ARDL Models

	Model 1	Model 2	Model 3	Model 4	Model 5
C	12.77***	13.99***	12.33***	15.57***	13.61***
Lkofg	0.66**				
Ldfag		0.48			
Ldjag			0.81		
Legli				0.09	
Lsgli					0.47
Lhdi	1.79***	2.08**	1.78***	2.35***	2.03**
Lgrossk	0.53***	0.63***	0.59***	0.64***	0.40**

Notes: *,**and***represent significance at 1%, 5% and 1% levels, respectively

Table 5. Short Run Coefficients of the ARDL Models

	Model 1	Model 2	Model 3	Model 4	Model 5
$D(LGDP(-1))$				-0.09	0.17*
$D(LGDP(-2))$				-0.10	
$D(LGDP(-3))$				-0.18**	
$D(LKOFG)$	-0.70***				
$D(LKOFG(-1))$	-0.64***				
$D(LKOFG(-2))$	-0.66***				
$D(LDFAG)$		-0.16			
$D(LDFAG(-1))$		-0.23*			
$D(LDJAG)$			-0.32		
$D(LEGLI)$				-0.43***	
$D(LEGLI(-1))$				-0.28***	
$D(LEGLI(-2))$				-0.23***	
$D(LSGLI)$					0.05
$D(LSGLI(-1))$					-0.18
$D(LSGLI(-2))$					-0.39***
$D(LHDI)$	0.98**	1.19***		1.06**	1.52***
$D(LHDI(-1))$	-1.19**	-0.90**		-0.98**	-1.06***
$D(LHDI(-2))$	-0.69*			-0.68	
$D(LGROSSK)$		0.21***	0.23***		0.19***
$ECT(-1) *$	-0.36***	-0.12***	-0.12***	-0.31***	-0.15***
$R - square$	0.99	0.99	0.99	0.99	0.71
$BG\ Test$	0.32	1.44	0.42	0.06	1.09
$Breusch - Pagan$	1.02	0.67	1.33	1.27	1.19

Notes:*,**and***represent significance at 1%, 5% and 1% levels, respectively

Table 4 shows the long-run estimation results. The estimation results show that the human development index (*lhdi*) and gross capital formation (*lgrossk*) are statistically significant and economically meaningful in all models. However, the impact of globalisation on growth measures is only significant in Model 1, namely the aggregate globalisation index (*lkogf*). This finding implies that in the long-run estimation, only total globalisation significantly affects GDP growth, assuming all other factors remain constant. This finding is consistent with the findings of Bayar and Dabakoğlu (2023) and Koyuncu and Sarıtaş (2017), which document the positive long-run impact of globalisation on economic growth. The control variables, HDI, and gross capital formation are also found to have a consistent positive impact on economic growth. This is in line with the theory and evidence documented by Ulas and Keskin (2017) and Tunali and Boru (2019). The short-run model is presented in Equation 4. The results of Model 4 testing indicate a negative and significant short-run impact of economic globalisation on growth. Model 5, which examines the impact of social globalisation, documents a significant but negative impact of social globalisation on growth with a time lag.

Table 5 shows that aggregate globalisation is a disincentive to growth in the short run. The contemporaneous, first, and second lags of aggregate globalisation are found to be negative and statistically significant at the 1% level. The de facto globalisation index indicates a weak yet significant negative impact on growth, with an insignificant contemporaneous term, whereas the de jure index is negative but insignificant. The de jure index captures formal regulatory globalisation, which involves the removal of trade barriers and the establishment of diplomatic relations. In contrast, the de facto index measures the actual impact in terms of trade and openness. This indicates a gap between policy and practice in Turkey's engagement with globalisation. Essentially, the institutional infrastructure required to translate globalisation policies into impactful economic activity needs improvement.

This finding is consistent with the findings of Atiyas (2012), who noted a sectoral difference in Turkish deregulation, resulting in a divergence between de jure rules and de facto implementation. Ucer and Acemoglu (2015) also note that Turkiye has, at various points, adopted the formal architecture of an open, liberalised economy without delivering the institutions that enable firms to translate openness into investment and growth, especially after the collapse of EU accession talks. Also, it is noted in Acemoğlu and Üçer (2021) that Turkish is riddled with institutional frictions that prevent formal trade and investment liberalisation (de jure) from generating the required spillovers, while the de facto trade flows remain insufficient to drive sustained growth

These impacts could be seen as an adjustment phenomenon reflecting the structural vulnerabilities that make short-run openness costly. For example, Turkiye is considered to be considerably dependent on external sources of energy and intermediate goods, and it experiences a rise in the current account deficit during periods of high economic growth (Gür et al., 2019). This dependency means that deeper economic integration, by expanding trade and investment flows, initially increases import bills rather than spurring domestic productivity. Also, the welcoming of foreign capital during the liberalisation phase resulted in the overvaluation of the currency (Gür et al., 2019) and depressed output in the short run (Bilgili et al., 2024), even as globalisation deepens.

Several factors could explain the lagged negative effect of social globalisation on economic growth. First, with social globalisation comes cross-border awareness of foreign goods, foreign earnings, and living standards. Awareness of foreign goods could increase the preference for them and, with a year or two lag, imports, thereby widening the current account deficit and compressing output. Also, social globalisation also exposes the populace to the pay scales and living standards of other countries, which could lead to the classic phenomenon of "brain drain" while globalisation often leads to Cosmopolitization of society, with its negative impact on social trust (Seitova & Kovacs, 2025). This results in a degradation of informal coordination and trust networks that reduce transaction costs, before formal institutional substitutes are in place. Together, these channels could explain the short-run cost of social globalisation materialising, albeit with a delay. These findings possible to pass the verdict that globalisation, in its various forms, overall, de facto, economic and social, is inimical to growth in Turkey in the short run but has a positive impact in the long run with differing levels of significance.

On the control variables, the consistently positive and significant long-run coefficient on HDI across all models confirms that human capital is a robust enabler of growth in Türkiye, a finding aligned with the earlier work of Utkulu and Özdemir (2004) and consistent with the endogenous growth literature. As to whether human capital has a mediating role in transforming short-term globalisation costs into long-term gains, Prasad et al. (2003) contend that the effects of FDI, a key component of globalisation, on growth are dependent on human capital, with countries that meet a certain HDI threshold found to translate FDI into growth much more seamlessly. In the case of Turkiye, the HDI averaged 0.61 over the study period, rising to 0.84 by 2019. The UNDP classifies countries with HDI values above 0.80 as "very high", a threshold Türkiye began approaching only toward the end of the sample. This trajectory is consistent with the finding that globalisation's aggregate effect is positive only in the long run. As HDI has risen over time, Türkiye's capacity to absorb and capitalise on globalisation has progressively improved.

The Error Correction Term (ECT) for all the models is theoretically and statistically significant. For Model 1, the ECT is -0.36. This indicates that approximately 36% of any shock to the model is corrected within a year, and the economy returns to equilibrium within approximately 2.8 years. For Models 2 and 3, the adjustment is much slower, taking approximately 8.3 years. Model 4 implies approximately 3.2 years for full adjustment. These imply that the speed of adjustment varies across models but consistently confirm the existence of a stable long-run equilibrium relationship.

To check for the stability of the model coefficients, the classic CUSUM test by (Page, 1954) is used. Figure 5 presents the CUSUM plot for Model 1.

Figure 5. CUSUM Parameter Stability Tests

As depicted in Figure 5 Panel A, Model 1 is stable with the cumulative sum (CUSUM) of recursive residuals remaining within the 5% significance bounds throughout the entire sample period (1970–2019), confirming the structural stability of the estimated parameters. Similar stability is observed across Models 2 to 5 as depicted in Panels B to E.

Conclusion

The empirical analysis using the ARDL bounds approach finds that overall globalisation, as measured by the aggregate KOF globalisation index, is an incentive for long-run GDP growth. However, it is found to be a disincentive to short-run GDP growth in Türkiye. The other measures of globalisation, de facto, de jure, economic, and social globalisation, are found to have no significant impact on GDP growth in the long run. Their impact in the short run, however, is mixed. For example, while the de facto and de jure aggregate globalisation measures are insignificant, the economic and social globalisation is found to have a negative impact on GDP growth in the short run.

A central vulnerability exposed by the short-run results is Turkiye's susceptibility to hot-money flows and exchange-rate volatility. The IMF has recommended restricting foreign currency borrowing without natural hedges, and in the event of tail risks materialising, allowing an orderly depreciation of the exchange rate while letting automatic stabilisers play out IMF (2018). Another approach could be to extend and institutionalise the Reserve Option Mechanism, which has been shown to have a stabilising role on excessive exchange rate movements (Çelik & Oğuş Binatlı, 2022). This would constitute a market-friendly automatic buffer against the sudden stops that amplify the short-run costs of financial globalisation.

To ameliorate the short-term impact of social globalisation, a basic social safety net alongside investments in health and education will go a long way to spur high-quality and shared growth (Acemoğlu & Üçer, 2021). Lastly, undifferentiated, rapid deepening of economic and social globalisation should not be pursued without the domestic preconditions to absorb them. The disaggregated results offer a clear, if nuanced, strategic guide for Türkiye's globalisation policy. Not all dimensions of globalisation are equally growth-oriented, and policymakers should calibrate their engagement accordingly.

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Author contribution
All authors contributed to the conception and design of the study, data collection, analysis and interpretation of the results, and the writing of the manuscript. All authors read and approved the final version of the manuscript.

Use of AI tools declaration
Artificial intelligence tools were used to assist with language editing and to enhance the clarity and readability of the manuscript. The authors remain fully responsible for the content and conclusions of this study.

Conflict of interest
The authors declare that there are no competing interests related to this manuscript.

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