

The Moderating Role of Governance on the Effects of FDI, Trade Openness, Manufacturing, and Labor Force on Economic Growth: Evidence from Dynamic Panel GMM in Middle-Income Asian Countries

Ferri Alfadri

UIN Syeikh Ali Hasan Ahmad Addary
feri@uinsyahada.ac.id

Ismail Pulungan

UIN Sunan Kalijaga Yogyakarta
maellpalevi@gmail.com

Rizki Mulia Lubis

UIN Syeikh Ali Hasan Ahmad Addary
rizkimulia@uinsyahada.ac.id

ABSTRACT

This study empirically examines the effects of manufacturing, foreign direct investment (FDI), trade openness, and the labor force on economic growth in middle-income Asian countries during 2004–2024, with governance serving as a moderating variable. Using a dynamic panel Generalized Method of Moments (GMM) approach complemented by Moderated Regression Analysis (MRA), the findings reveal that manufacturing, FDI, and trade openness do not exhibit statistically significant direct effects on economic growth, while labor force growth shows a negative and significant impact, indicating structural inefficiencies and productivity constraints. The results further demonstrate that governance plays a crucial conditioning role in shaping the effectiveness of economic activities, suggesting that economic growth drivers can contribute to growth only when supported by strong institutional frameworks. From an Islamic economics perspective, these findings highlight that economic growth cannot be achieved solely through the expansion of production inputs or capital inflows, but must be embedded within governance structures that uphold justice (*'adl*), trust (*amanah*), and public welfare (*maslahah*), in line with *maqasid al-shariah*. The study contributes to the Islamic economics literature by reinterpreting conventional growth determinants through a *maqasid*-oriented governance framework, emphasizing governance's central role in promoting inclusive and sustainable economic growth in middle-income Asian countries.

Keywords: *Economic Growth; Foreign Direct Investment; Governance; Labor Force; Manufacturing; Trade Openness.*



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INTRODUCTION

Middle-Income Countries (MICs) in Asia have garnered increasing scholarly attention over the past decades due to their pivotal role in the global economic landscape. These countries, acting as a bridge between low-income and high-income nations, are characterized by dynamic yet structurally complex economies. According to the World Bank (World Bank Group, 2024), MICs are classified into lower-middle- and upper-middle-income categories based on gross national income (GNI) per capita, with upper-middle-income countries ranging from US\$4,466 to US\$13,845 as of 2022. Despite their promising growth potential, MICs often grapple with structural challenges that hinder their transition to high-income status—a phenomenon widely referred to as the "middle-income trap" (Gill, I., & Kharas, 2007).

The economic growth of MICs is influenced by various determinants, including trade openness, foreign direct investment, labor force dynamics, and the manufacturing sector (Agénor et al., 2012). However, these determinants do not operate in isolation. Governance, encompassing regulatory quality, government effectiveness, political stability, the rule of law, and control of corruption, plays a critical role in shaping the effectiveness and sustainability of economic policies (Kaufmann et al., 2009). In particular, the quality of governance can act as a moderating factor, enhancing or impeding the influence of economic determinants on growth.

From 2004 to 2024, many upper-middle-income Asian countries, such as Indonesia, China, and Malaysia, demonstrated resilience amid global shocks, including the 2008 financial crisis and the COVID-19 pandemic. While these nations experienced temporary setbacks, many returned to positive growth trajectories. For instance, Indonesia transitioned into an upper-middle-income country in 2023 with a GNI per capita of US\$4,870 (Dierks, 2026). The manufacturing sector remained a central engine of growth, yet its performance varied across countries and over time, often trailing overall GDP growth.

Trade openness and foreign direct investment (FDI) have also shown significant fluctuations during this period. Trade openness, as measured by the ratio of trade to GDP, increased modestly but was affected by global disruptions. Meanwhile, FDI flows to the Asia-Pacific region reached US\$302 billion in 2023, with Indonesia and China among the top recipients (Dierks, 2026). Labor force trends similarly exhibited both growth and demographic challenges, including population aging in countries such as China and Thailand. Despite considerable research on the determinants of economic growth in developing regions, few studies have explored the moderating role of governance in MICs in Asia. Existing studies, such as those by Yuliadi et al. (2022), highlight the effects of trade and investment on growth but often overlook the role of governance in mediating these relationships. This gap is particularly relevant in the context of complex and diverse governance landscapes across Asia (Dong et al., 2024).

From an Islamic economics perspective, economic growth is not merely pursued for material accumulation, but as a means to achieve *maqasid al-shariah*, particularly *hifz al-māl* (protection of wealth), *hifz al-nafs* (protection of human well-being), and *hifz al-‘aql* (intellectual and institutional integrity). In this framework, growth must be inclusive, just, and welfare-enhancing, rather than solely efficiency-driven. Islamic economics emphasizes that the effectiveness of economic activities such as investment, trade, and industrial development critically depends on governance structures that ensure justice (*‘adl*), trust (*amanah*), and public interest (*maslahah*).

Unlike conventional growth theories that prioritize factor accumulation and market liberalization, Islamic economics highlights governance as a moral and institutional mechanism that aligns economic processes with ethical objectives. Weak

governance may transform foreign investment, trade openness, and labor expansion into sources of inequality and inefficiency (*mafsadah*), rather than sustainable growth (*maslahah*). Therefore, integrating governance as a moderating mechanism is essential for understanding economic growth within an Islamic economics framework, particularly for middle-income countries in Asia, many of which are Muslim-majority. This study contributes to the Islamic economics literature by reinterpreting conventional growth determinants through a maqasid al-shariah-based governance framework. Rather than treating governance merely as a technical institutional factor, this study demonstrates that governance functions as a moral and institutional mechanism that det

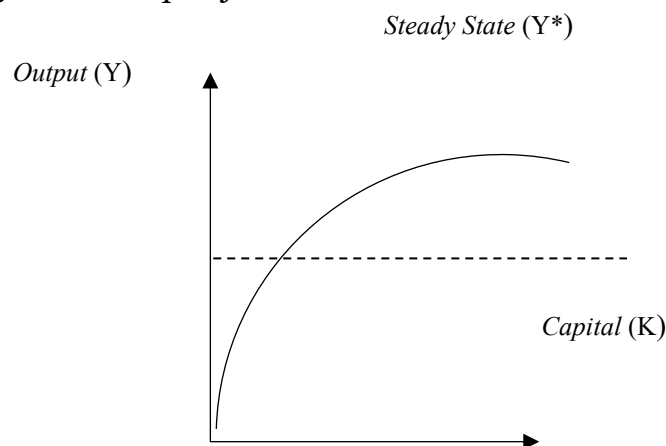
LITERATURE REVIEW

In Islamic economic thought, economic growth is evaluated based on its contribution to maqasid al-shariah, which aims to preserve faith (*din*), life (*nafs*), intellect (*‘aql*), wealth (*mal*), and lineage (*nasl*). Growth that fails to improve social justice, employment quality, and institutional integrity is considered incomplete, even if it increases aggregate output. Consequently, governance plays a central role in ensuring that economic activities generate *maslahah* rather than *mafsadah* (Chapra, 2008).

In the context of this study, the theory explains that manufacturing, trade openness, foreign direct investment, and the labor force will positively influence economic growth only when they operate within a framework of sound governance. The relationship between economic determinants and economic growth is conditional: the positive effects of manufacturing, FDI, trade openness, and the labor force on growth strengthen as governance quality improves. Therefore, governance in this research functions as a moderating variable that strengthens the relationship between economic variables and economic growth. In other words, governance acts as a prerequisite that moderates the effectiveness of economic factors in driving growth (Tang, 2018).

The Neoclassical Growth Theory, developed by Robert Solow, also emphasizes the roles of capital accumulation, technological progress, and labor force expansion as key drivers of economic growth (Prescott, 1988). Solow introduced the Cobb–Douglas production function and posits that technological progress is an exogenous factor that sustains long-term economic growth (Prescott, 1988).

Figure 2. Graph of Economic Growth Curve in the Solow Model



The model demonstrates that economic growth is influenced by increases in capital (K), labor (L), and technological progress (A). However, in the long run, the contributions of capital and labor will face diminishing marginal returns, meaning that sustainable growth can only be achieved through improvements in efficiency and technological innovation (Solow, 1956).

According to Kaname Akamatsu, the Flying Geese theory explains that developing countries are highly dependent on the progress of advanced economies (Hirakawa & Maquito, 2024). The Flying Geese paradigm, introduced by Akamatsu in the 1930s, describes the industrialization pattern of developing countries in Asia (Hirakawa & Maquito, 2024). This theory illustrates the process of economic growth and the development of the manufacturing sector in a formation resembling a flying-geese pattern, where one country acts as the lead goose, followed by other countries that gradually catch up over time.

Modern Dependency Theory holds that trade openness without adequate domestic industrial readiness may weaken economic growth by relying on primary commodity exports and on the importation of manufactured goods. However, this theory highlights that the effectiveness of trade openness depends on the quality of institutions and the capacity of national industries. Trade openness will stimulate economic growth only when accompanied by sound industrial policies and good governance.

Trade Openness refers to the extent to which a country engages in international trade, both through exports and imports, as part of its economic activities. The concept is commonly measured using the trade-to-GDP ratio (the total value of exports and imports relative to Gross Domestic Product). Trade openness is considered an important factor in promoting economic growth, as it can enhance the efficiency of resource allocation, encourage the adoption of new technologies, and expand market opportunities for domestic producers (Dowrick & Golley, 2004).

One of the main theories is the Eclectic Paradigm (OLI Framework) proposed by John Dunning, which comprises three key components: ownership advantage, location advantage, and internalization advantage (Solow, 1956). This theory highlights that the relationship between FDI and economic growth may be asymmetric. Developing countries often receive capital that focuses primarily on resource exploitation without strengthening domestic industries. Therefore, the benefits of FDI can only be optimized when countries have sound governance and well-designed investment policies that promote linkages between foreign investment and domestic sectors.

Unemployment theory explains how imbalances in the labor market influence macroeconomic dynamics, including investment. Within the Keynesian framework, unemployment is primarily caused by insufficient aggregate demand. When household purchasing power declines, firms reduce production capacity, and labor demand falls, thereby weakening the prospects for new investment. This indicates that unemployment can suppress investment by reducing effective demand, as Keynes used in his General Theory of 1936 (Kregel, 2008).

According to Rodrik et al. (2002), effective governance enhances the benefits of economic globalization by reinforcing its contribution to economic growth in developing countries. Consistent with Hall and Jones, this study assumes that the effectiveness of key growth determinants, such as foreign direct investment, trade openness, manufacturing development, and the labor force, depends largely on the quality of governance. In economies with better governance environments, these factors are expected to contribute more significantly to economic growth (Hall & Jones, 1999). The Institutional Quality theory proposed by Douglass North explains that institutions and governance play a fundamental role in shaping the direction and effectiveness of economic development. According to this theory, the quality of a

country's governance influences how economic mechanisms function by establishing the "rules of the game" that shape economic actors' behavior. Strong, transparent, and efficient institutions can create appropriate incentives for investment, innovation, and productive activities, whereas weak governance generates market distortions, corruption, and uncertainty that undermine economic performance (North, 1990).

From an Islamic economics perspective, economic growth is not regarded as an ultimate objective but as a means to achieve comprehensive human well-being (*falah*). Islamic economics emphasizes that growth must be aligned with ethical values, social justice, and public welfare, as articulated in the framework of *maqasid al-shariah*. Chapra (2008) argues that economic development in Islam should promote equitable distribution of wealth, productive employment, and moral integrity, rather than merely increasing aggregate output. He further emphasizes that economic performance in Islamic economics is inseparable from institutional justice and ethical governance.

Unlike conventional growth theories that prioritize efficiency and output maximization, Islamic economics evaluates growth based on its ability to generate *maslahah* (public benefit) and prevent *mafsadah* (harm). Growth that exacerbates inequality, unemployment, or institutional corruption is considered inconsistent with Islamic development objectives, even if it increases GDP. This normative foundation positions governance as a central element in Islamic economic analysis. Classical Islamic scholarship, particularly Ibn Khaldun's theory of civilization, emphasizes that good governance is a prerequisite for economic prosperity, while institutional decay leads to economic decline (Mafrudlo et al., 2024).

Recent empirical studies employing dynamic panel data approaches emphasize that the relationship between governance and economic growth is inherently dynamic and persistent over time. By incorporating lagged dependent variables and addressing endogeneity, dynamic panel estimators such as the Generalized Method of Moments (GMM) provide more reliable evidence on the growth effects of institutional quality (Hansen, 2010). Within this framework, governance directly influences economic growth and shapes the effectiveness of key drivers of growth, including foreign direct investment, trade openness, labor force dynamics, and industrial development. Consequently, dynamic panel analyses suggest that improvements in governance tend to generate cumulative and long-term growth effects rather than immediate outcomes, particularly in middle-income economies.

Although numerous studies have examined the determinants of economic growth in developing and middle-income economies, limited attention has been paid to the moderating role of governance in shaping the effectiveness of manufacturing, FDI, trade openness, and the labor force, particularly in middle-income countries in Asia. Prior studies have rarely incorporated an Islamic economics perspective in explaining how governance functions not only as an institutional variable but also as a moral and welfare-oriented mechanism. This study seeks to fill these gaps by employing a dynamic panel GMM approach and a moderated regression analysis to investigate how governance conditions the growth effects of key economic variables.

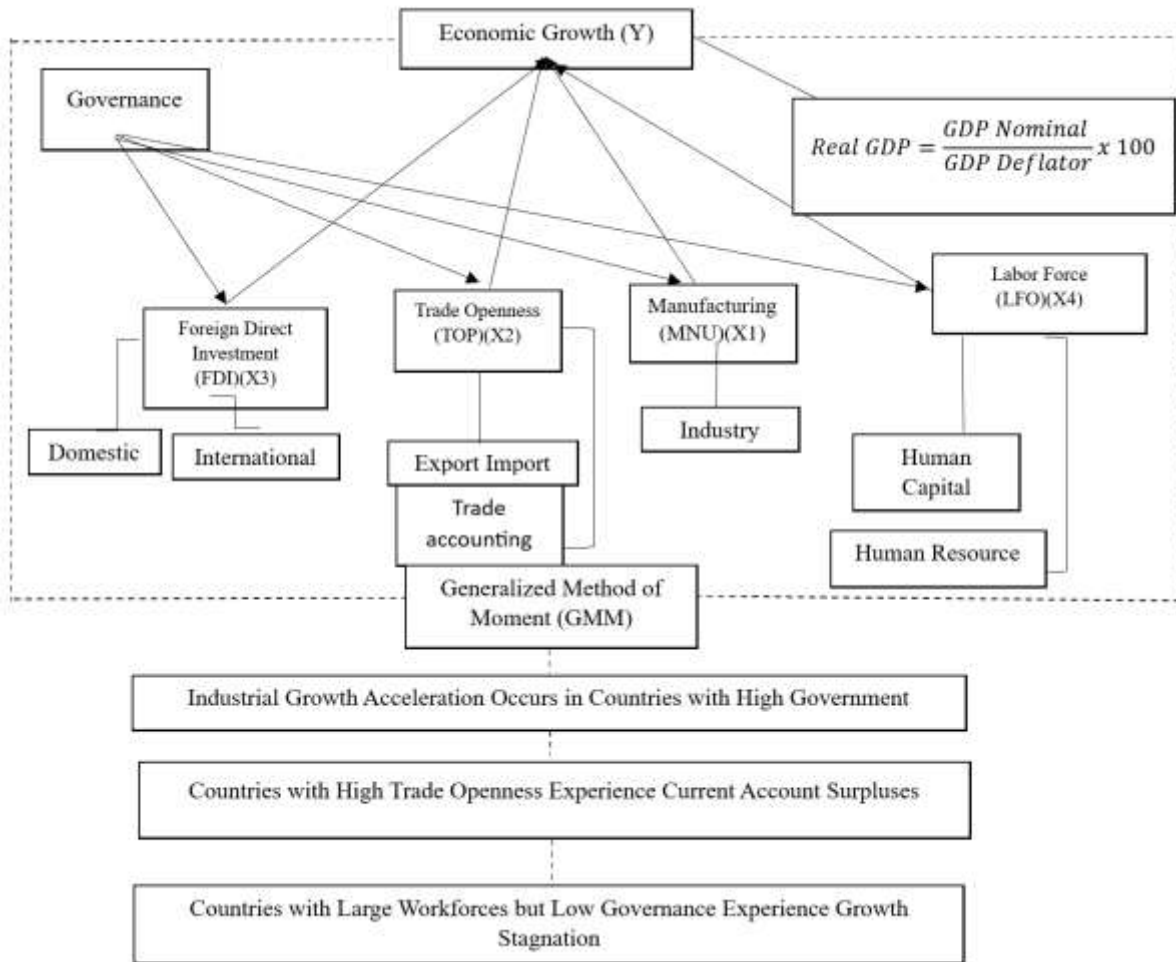


Figure 1. *Theoretical Framework*

RESEARCH METHOD

This study adopts a dynamic panel data approach to reflect the Islamic economics view that economic development is a cumulative and path-dependent process. In Islamic thought, current economic outcomes are influenced by past institutional quality, ethical governance, and resource allocation, consistent with the concept of *tadarruj* (gradual development). Therefore, the use of the Generalized Method of Moments (GMM) allows the model to capture the dynamic nature of growth while addressing endogeneity concerns (Hansen, 2010). Governance in this study is conceptualized as an institutional proxy for Islamic governance principles, including justice (*‘adl*), trust (*amanah*), accountability, and public interest (*maslahah*). While the World Governance Indicators (WGI) are conventional measures, they serve as empirical representations of the governance values emphasized in Islamic economics. The moderating role of governance reflects the proposition of Islamic economics that economic activities do not automatically generate *maslahah*. Instead, governance functions as a moral and institutional filter that determines whether manufacturing, trade, foreign investment, and labor force expansion contribute to welfare-enhancing growth. The selection of the GMM model is more appropriate because this research is dynamic, contains dependent lag variables, and is potentially endogenous, and because static panel estimators such as pooled OLS, FEM, or REM will produce biased and inconsistent estimates. Compared with static panel estimators, dynamic panel GMM is particularly advantageous in growth regressions because macroeconomic variables often exhibit persistence and

mutual interaction over time. In the context of this study, the impact of governance is also likely to be gradual rather than immediate, meaning that the effect of institutions on growth may unfold cumulatively across periods. A dynamic specification is more theoretically consistent than a static one. In this regard, GMM not only improves estimation reliability but also aligns more closely with the conceptual framework of this study, which views economic growth as a cumulative and path-dependent process.

The study employs the Dynamic Panel Generalized Method of Moments (GMM) approach to estimate the model. This method is chosen due to the dynamic nature of economic growth and the potential presence of endogeneity, reverse causality, and omitted variable bias in panel data. Following Arellano and Bond, the GMM estimator uses internal instruments to produce consistent and efficient estimates, making it particularly suitable for panel data with many cross-sectional units and a relatively short time dimension (Arellano & Bond, 1991). This allows for a comprehensive understanding of how each variable interacts with governance and influences economic growth. The study also incorporates diagnostic tests for multicollinearity, heteroscedasticity, and autocorrelation to ensure the reliability of the results, and conducts robustness checks using alternative model specifications (Siyoto & Sodik, 2015).

The Arellano-Bond GMM estimation method produces unbiased, consistent, and efficient estimates. The following presents the results of the one-step Arellano-Bond GMM estimator (Hsiao 2011):

$$\frac{\delta}{\beta} = \left[\left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' Z_i \right) w \left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' - Z_i \right) \right] - 1$$

$$\frac{\delta}{\beta} = \left[\left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' Z_i \right) w \left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' - Z_i \right) \right] - 1$$

Where: Z_i : valid instrument matrix, w , provides unbiased and consistent estimates for w ($L \times L$), where L is the number of instrumental variables. To obtain the results of the two-step estimator, the weighting matrix w is substituted with:

$$\Delta^{-1} = N^{-1} \sum_{t=1}^N \Delta V_i \Delta V_i' Z_i$$

Thus, the Arellano-Bond GMM estimation becomes as follows:

$$\frac{\delta}{\beta} = \left[\left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' Z_i \right) \Delta^{-1} \left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' \right) \right] - 1$$

$$\left[\left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' Z_i \right) \Delta^{-1} \left(N^{-1} \sum_{i=1}^N (\Delta y_{it} - 1 \Delta x_1)' \right) \right] - 1$$

The modeling approach to demonstrate the direct and indirect effects of each independent and moderating variable on economic growth is based on the standard growth regression model (Fan et al., 2023). The Moderated Regression Analysis model can be expressed in the form of the equation below:

$$GDP_{it} = \alpha + \beta MFG_{it} + \beta TOP_{it} + \beta FDI_{it} + \beta LFE_{it} + \beta 5INS_{it} + \varepsilon \quad (2)$$

$$GDP_{it} = \alpha + \beta_1 MFG_{it} + \beta_2 TOP_{it} + \beta_3 FDI_{it} + \beta_4 LFE_{it} + \beta_5 INS_{it} +$$

$$\beta_6 TOP*INS_{it} + \beta_7 MFG*INS_{it} + \beta_8 FDI*INS_{it} + \beta_9 LFE*INS_{it}\varepsilon \quad (3)$$

Where:

- GDP* = Gross Domestic Product
- MNU* = Manufacturing
- FDI* = Foreign Direct Investment
- TOP* = Trade Openness
- INS* = Institutional
- ε = Error
- i* = Country
- t* = Year

Table 1. Variable Definition

Variable		Proxy/Measurement	Source
Dependent Variable	Real Gross Domestic Product (GDP)	$Real\ GDP = \frac{GDP\ Nominal}{Deflator\ PDB} \times 100$	World Bank Data
Independent Variable	Manufacturing	Manufacturing Value Added(MVA)= Output	World Bank Data
	Trade	Manufactur- Raw Material Input	World Bank Data
	Openness	$Trade\ Openness = \frac{Eksport + Import}{GDP} \times 100\%$	World Bank Data
	Foreign Direct Investment (FDI)	FDI Net Inflows= FDI Inflows-FDI Outflows	World Bank Data
	Labor Force	$Labor\ Force\ ParticipationRate(LFPR)=\left(\frac{Labor\ Force}{Total\ Population\ of\ Working\ Age}\right) \times 100\%$	World Bank Data
Moderating Variable	Government Index (INS)	$INS = Ave\ (Z1, Z2, Z3, Z4, Z5)$ $INS = Institutional$ Ave = Average $Z1 = Political\ Stability\ and\ Absence\ of\ Violence/$ $Terrorism(PV)$ $Z2 = Government\ Effectiveness$ (GE) $Z3 = Regulatory\ Quality\ (RQ)$ $Z4 = Rule\ of\ Law$ (RL) $Z5 = Control\ of\ Corruption\ (CC)$	World Bank Data

Governance in this study refers to the quality of institutions in upholding justice (*‘adl*), trust (*amanah*), accountability, and public interest (*maslahah*), which are central principles of Islamic governance. Empirically, governance is proxied by the World Governance Indicators (WGI), which capture institutional dimensions such as government effectiveness, regulatory quality, rule of law, control of corruption, and voice and accountability. These indicators serve as observable representations of the governance values emphasized in Islamic economics.

RESULTS

The purpose of the descriptive statistical analysis is to examine the phenomena and characteristics of the sample data for each variable. For the governance variable (INS), the sample comprises 7 of 14 middle-income countries in Asia. The sample was selected based on the availability of data for the research period from 2004 to 2024. The average value of the governance index (INS) over the research period is presented in the following table:

Table 2. *Average Score Governance Index*

Country	Year	GI	Avg.Score	Country	Year	GI	Avg.Score
Azerbaijan	2004	-0.62102	-0.34739	Georgia	2004	-0.43742	0.626784921
	2005	-0.58055			2005	-0.60464	
	2006	-0.52338			2006	-0.12855	
	2007	-0.46651			2007	0.298658	
	2008	-0.36775			2008	0.475643	
	2009	-0.31674			2009	0.508792	
	2010	-0.39256			2010	0.58664	
	2011	-0.38636			2011	0.651625	
	2012	-0.48872			2012	0.664131	
	2013	-0.42534			2013	0.725805	
	2014	-0.26849			2014	0.760028	
	2015	-0.3708			2015	0.750866	
	2016	-0.39562			2016	0.86149	
	2017	-0.37242			2017	0.94906	
	2018	-0.31439			2018	1.031991	
	2019	-0.2239			2019	1.026524	
	2020	-0.33604			2020	1.001168	
	2021	-0.06505			2021	1.05342	
	2022	-0.10334			2022	1.032309	
	2023	-0.10881			2023	0.946578	
	2024	-0.16743			2024	1.008369	
Indonesia	2004	-0.73582	-0.13377	Kazakhstan	2004	-0.47271	-0.14868816
	2005	-0.64695			2005	-0.28121	
	2006	-0.3962			2006	-0.34331	
	2007	-0.38859			2007	-0.35091	
	2008	-0.34699			2008	-0.29438	
	2009	-0.31469			2009	-0.26826	
	2010	-0.38086			2010	-0.28309	
	2011	-0.31019			2011	-0.23539	
	2012	-0.22185			2012	-0.39058	
	2013	-0.12327			2013	-0.37528	
	2014	-0.00836			2014	-0.23913	
	2015	-0.15823			2015	-0.09069	
	2016	-0.03138			2016	-0.16123	
	2017	0.027928			2017	0.154858	
	2018	-0.02182			2018	0.094624	
	2019	0.028951			2019	0.107312	
	2020	0.216157			2020	0.106147	
	2021	0.287561			2021	0.077018	
	2022	0.20596			2022	-0.01123	
	2023	0.301379			2023	0.065955	
	2024	0.208002			2024	0.069039	
Malaysia	2004	0.461176	0.577283	Maldives	2004	-0.01542	-0.35351698
	2005	0.634848			2005	0.516671	
	2006	0.536536			2006	0.406537	
	2007	0.504325			2007	0.0564	
	2008	0.286812			2008	-0.3738	
	2009	0.269759			2009	-0.38104	
	2010	0.61125			2010	-0.38404	
	2011	0.547135			2011	-0.38475	
	2012	0.47717			2012	-0.40181	
	2013	0.567808			2013	-0.45718	
	2014	0.799231			2014	-0.37447	
	2015	0.704775			2015	-0.43261	
	2016	0.663995			2016	-0.49587	
	2017	0.671389			2017	-0.44004	
	2018	0.575907			2018	-0.53116	
	2019	0.547572			2019	-0.55177	
	2020	0.666613			2020	-0.58855	
	2021	0.714465			2021	-0.61388	
	2022	0.644007			2022	-0.65729	
	2023	0.660894			2023	-0.67204	
	2024	0.577283			2024	-0.64774	
Türkiye	2004	0.627395	0.20119	Turkmenistan	2004	-1.84141	-2.02890604
	2005	0.269054			2005	-1.78907	
	2006	0.280463			2006	-2.08757	

	2007	0.329305			2007	-2.0095	
	2008	0.269334			2008	-1.9591	
	2009	0.288755			2009	-1.96735	
	2010	0.312994			2010	-2.06142	
	2011	0.393025			2011	-2.05093	
	2012	0.450982			2012	-2.11409	
	2013	0.46303			2013	-2.13229	
	2014	0.432502			2014	-2.09785	
	2015	0.273798			2015	-2.10211	
	2016	0.193467			2016	-2.11546	
	2017	0.043469			2017	-1.99927	
	2018	0.016247			2018	-2.00086	
	2019	-0.02042			2019	-2.02919	
	2020	-0.02479			2020	-2.0546	
	2021	-0.10067			2021	-2.03089	
	2022	-0.24464			2022	-2.06706	
	2023	-0.22951			2023	-2.0681	
	2024	0.20119			2024	-2.02891	
Thailand	2004	0.219656	0.123966	Iraq	2004	-1.65153	-1.20035171
	2005	0.453963			2005	-1.53895	
	2006	0.229796			2006	-1.39505	
	2007	0.086199			2007	-1.32442	
	2008	0.112537			2008	-1.14758	
	2009	0.121484			2009	-1.00586	
	2010	0.061811			2010	-1.02929	
	2011	0.090383			2011	-1.00996	
	2012	0.137224			2012	-1.14062	
	2013	0.13064			2013	-1.12934	
	2014	0.174806			2014	-1.13384	
	2015	0.195902			2015	-1.15169	
	2016	0.052869			2016	-0.99136	
	2017	0.007617			2017	-1.11049	
	2018	-0.0441			2018	-1.06386	
	2019	-0.02195			2019	-1.09659	
	2020	0.063661			2020	-1.33956	
	2021	0.083535			2021	-1.12823	
	2022	0.165019			2022	-1.18049	
	2023	0.158258			2023	-1.43833	
	2024	0.123966			2024	-1.20035	
Iran	2004	-1.2721	-1.4711				
	2005	-1.17463					
	2006	-1.41659					
	2007	-1.59721					
	2008	-1.60734					
	2009	-1.70581					
	2010	-1.70923					
	2011	-1.5212					
	2012	-1.42602					
	2013	-1.49051					
	2014	-1.45749					
	2015	-1.339					
	2016	-1.24572					
	2017	-1.22089					
	2018	-1.39585					
	2019	-1.4425					
	2020	-1.48581					
	2021	-1.63387					
	2022	-1.59271					
	2023	-1.68747					
	2024	-1.4711					

Source: Middle-Income Countries (World Bank Group, 2024)

Table 2 presents annual data on the Government Index for several middle-income Asian countries from 2004 to 2024, along with each country's average score over that period. This index reflects the quality of governance, where higher values indicate better government performance. According to the data, Georgia recorded the highest average score of 1.012, indicating strong and consistent governance over the five-year period. This was followed by Malaysia with an average score of 0.64671, and

Indonesia in a mid-range position with an average score of 0.208002. On the other hand, countries such as Turkmenistan and Iran had the lowest scores, at -2.04997 and -1.56847, respectively, reflecting weak governance quality. Several countries exhibited interesting dynamics—for instance, Thailand improved from a negative value in 2019 to consistently positive values in subsequent years, while Kazakhstan, which initially had positive values, declined toward zero by the end of the period. Overall, the data provides a clear picture of the variation in governance quality among middle-income Asian countries, serving as a valuable foundation for further analysis in studies of economic growth or public policy effectiveness.

Table 3. *Descriptive Statistics*

Variable	Obs	Mean	Std. dev	Min	Max	Probability
Gdprill	140	6.05971	5.235402	-6.290472	34.5	0.081
Mnu	140	16.50053	8.967016	3.988326	32.45233	0.387
Top	140	85.70825	39.95503	32.97218	210.3743	0.418
Fdi	140	5.730779	8.708494	-37.17265	54.36505	0.000
Lfo	140	1.36e+08	2.65e+08	1053791	7.82e+08	0.227
Regulatory	140	0.446723	0.4525716	-0.735824	1.05342	0.102

Source: Data processed with Stata 17

Table 3 summarizes the descriptive statistics for key variables, including GDP (Gdprill), Manufacturing (MNU), Trade Openness (TOP), Foreign Direct Investment (FDI), Labor Force (LFO), and Governance (Regulatory). The dataset includes 140 observations. GDP averages 6.06, with a wide range from -6.29 to 34.5, reflecting significant variation in economic growth across countries. Manufacturing (MNU) averages 16.5, with a range of 3.99 to 32.45, indicating varying levels of industrialization. Trade Openness (TOP) has a mean of 85.71 and a wide range from 32.97 to 210.37, highlighting varying levels of international integration. FDI averages 5.73, with values ranging from -37.17 to 54.37, indicating variability in foreign investment. The labor force (LFO) averages 136 million, with a range of 1.05 million to 782 million, reflecting differences in population size. Governance (Regulatory) averages 0.45, with a range from -0.74 to 1.05, showing varying governance quality. Overall, these statistics reflect substantial variation across the countries, which is crucial for understanding the factors influencing economic growth and the role of governance in shaping these outcomes.

Table 4. *Unit Root Test*

	LLC		IPS	
	I-0	I-1	I-0	I-1
GDP	-5.0995*** (0.0000)	-4.0647*** (0.0000)	-4.2668*** (0.0000)	-3.8855*** (0.0001)
MNU	-3.5567*** (0.0002)	-1.3322* (0.0914)	-2.0257** (0.0214)	-0.7466* (0.2277)
TOP	-2.6552*** (0.0040)	-2.7324*** (0.0031)	-0.8000* (0.2119)	-0.8658* (0.1933)
FDI	-7.9582*** (0.0000)	-1.9975 (0.0229)	-6.0794*** (0.0000)	-3.2001*** (0.0007)
LFO	-0.8242* (0.2049)	-1.1934* (0.1164)	2.1303* (0.9834)	1.7570* (0.9605)

Significance level *p<0.1, **p<0.05, ***p<0.01

The table presents the results of the unit root test using the Levin, Lin & Chu (LLC) and Im, Pesaran & Shin (IPS) methods to examine the stationarity of variables in the panel data model. The test is conducted at two levels—level (I(0)) and first-difference (I(1))—to determine whether the data contain a unit root or are already

stationary. Asterisks indicate the significance level of the test results, with *** denoting significance at the 1% level, ** at the 5% level, and * at the 10% level.

The test results show that the GDP variable is significant at the 1% level in both levels and first differences in both methods (LLC and IPS), indicating that this variable is stationary. The MNU (manufacturing) variable is also significant, though at some levels it is only significant at the 10% level, suggesting that this variable tends to be stationary with lower confidence. The TOP (trade openness) variable shows significant results in the LLC method, both at the level and first difference, but is less significant in the IPS method. This suggests stationarity, though not consistently strong across all methods.

Meanwhile, the FDI variable shows highly significant results in both LLC and IPS methods at the level, but is not significant in LLC's first difference and is only significant in IPS. This indicates that FDI is more stationary at the level. Finally, the LFO (labor force) variable is not significant in either method or at any level of testing, suggesting that it is non-stationary. This shows that the GMM estimation method is appropriate to use because all data is valid, unbiased, and consistent.

Table 5. *GMM Dynamic Panel Data Regression Test Results*

Variable	Fdgm	Sysgm	Fem	Pls
Gdp L1.	0.3638252	0.36383706***		0.42449841***
Mnu	0.2335813	-0.1049149	0.12050161	0.01626764
Top	0.11299325***	0.10629534**	0.09924929	0.01108048
Fdi	0.07842688	0.09306588	0.18259949	0.10775527
Lfo	1.044e-08	5.857e-09	-8.239e-08	3.833e-09
Regulatory (Ins)	-3.7162549	-2.744021	0.5778663	6.504247
Mnu*Ins	0.48449494	0.3753489	0.45057178	-0.3621265
Top*Ins	0.01646191	0.01646404	-0.0060160	-0.76068734**
Fdi*Ins	-0.71664092	-0.82227347	0.00609	-0.76068734**
Lfo*Ins	-1.659e-08*	-2.436e-08	-1.254e-08	1.0882638
R-Squared	-12.499994	-6.0183889	5.804648	1.0882638
N	126	133	140	133
Sargan Test	0.3020	0.1738		

Source: data processed with Stata 17

Based on the results of the dynamic panel data regression, the System GMM (SYS-GMM) model was selected as the most appropriate among FD-GMM, Fixed Effects Model (FEM), and Pooled Least Squares (PLS). This choice was based on its ability to address endogeneity and the validity of the instruments, as evidenced by the Sargan Test (p-value = 0.1738), which indicates that the instruments are not over-identified.

Table 6. *Analysis Model of Moderated Regression Analysis (MRA)*

Variable	Model 1	Model 2
Constant	1.245 (0.000)	1.102 (0.000)
FDI	0.187 (0.012)**	0.142 (0.025)**
Trade Openness (TRA)	0.214 (0.008)**	0.174 (0.020)**
Labor Force (LFO)	0.095 (0.041)**	0.069 (0.066)*
Manufactur (MNU)	0.176 (0.016)**	0.139 (0.037)**
Regulatory (INS)	—	0.107 (0.044)**
FDI × INS	—	0.088 (0.017)**
TRA × INS	—	0.075 (0.022)**
LFO × INS	—	0.024 (0.630)
MAN × INS	—	0.071 (0.041)**
R-squared	0.652	0.743
Adjusted R-squared	0.618	0.710
F-statistic (Prob)	19.42 (0.000)	23.60 (0.000)

Based on the results of the Moderated Regression Analysis (MRA) presented in Table VI, the testing was conducted using three regression models. Model 1 illustrates the direct influence of the independent variables on economic growth, excluding the moderating variable. Model 2 incorporates the governance variable (INS) as a direct moderator, while Model 3 introduces interaction terms between the independent variables and INS to examine the actual moderating effects.

The results in Model 1 show that all independent variables, Foreign Direct Investment (FDI), Trade (TRA), Labor Force (LFO), and Manufacturing (MNU), have a positive and significant influence on economic growth at the 5% significance level. This indicates that increases in foreign investment, trade openness, labor absorption, and the manufacturing sector's contribution can drive economic growth in middle-income countries in Asia. This finding is broadly consistent with neoclassical growth theory, which emphasizes that economic growth is driven by the accumulation of productive inputs such as capital and labor, as well as by improvements in efficiency and productivity. In this framework, FDI represents an important source of capital accumulation and technological transfer, the labor force reflects the expansion of productive human input, and manufacturing and trade openness contribute to higher output through specialization, market expansion, and productivity gains.

Model 2 presents the results of the interaction between the independent variables and the governance variable (INS). The findings indicate that three interaction terms, $FDI \times INS$, $TRA \times INS$, and $MNU \times INS$, have positive and significant coefficients. This suggests that governance serves as a moderating variable, strengthening the effects of FDI, trade, and manufacturing on economic growth. In other words, the better the quality of governance, the greater the contribution of foreign investment, international trade, and the manufacturing sector to economic growth. This finding is consistent with Institutional Quality Theory, which argues that strong institutions improve the efficiency of economic activities and enhance the developmental impact of investment, trade, and industrialization. It also supports previous studies suggesting that the benefits of globalization and structural transformation are greater in countries with better governance quality.

Conversely, the interaction term $LFO \times INS$ is not significant, indicating that governance does not moderate the relationship between the labor force and economic growth. This implies that an increase in the labor force does not necessarily have a greater impact on economic growth even when governance improves. Factors such as labor productivity and workforce quality are likely to be more influential than the size of the labor force alone. Based on the results of the data regression test in Table IV.3 above, the Sargan value is shown in Table 7 below.

Table 7. Sargen Test Results

Number of Observations	Number of Instruments	Test Sargan
840	133	0.1738

Source: Data processed with Stata 17

After conducting a regression test with the generalized method of moments (GMM) model, the Sargan value was obtained at 0.1738 with a p-value greater than α 5% (> 0.05). Based on this value, the overidentifying restriction condition in the model estimation is declared valid.

Arellano-Bond Test

The dynamic panel model using the generalized method of moments (GMM-AB) is considered good if the AR value is greater than $\alpha = 0.05$ ($> 5\%$). The following are the results of the Arellano-Bond test:

Table 8. Arellano-Bond Test Results

Test Order	m-Statistic	Prob
AR (1)	-2.2634	0.236
AR (2)	-1.801	0.717

Source: Data processed with Stata 17

Based on the results of the Arellano-Bond test above, the results of AR(1) and AR(2) were 0.236 and 0.7730, respectively. Consistent with the previous hypothesis, this study finds no autocorrelation in the first difference.

DISCUSSION

The findings of this study suggest that economic growth in middle-income Asian countries is shaped not only by the availability of productive economic inputs but also by the quality of governance, which determines how effectively those inputs are transformed into development outcomes. While the direct effects of several economic variables vary in significance across the estimation models, the overall evidence highlights governance as a key institutional condition for strengthening the relationship between economic activity and growth. This finding is consistent with institutional quality-led growth theory, which emphasizes that the developmental impact of investment, industrialization, and market integration depends heavily on the institutional environment in which they operate.

The positive role of manufacturing in the moderated regression model confirms the importance of industrial activity as a source of economic expansion. This finding supports structural transformation theory and Kaldor's growth laws, both of which identify manufacturing as a strategic engine of growth because it can generate productivity gains, economies of scale, technological learning, and stronger intersectoral linkages. However, the broader results of this study also imply that manufacturing expansion alone is not sufficient to guarantee sustainable growth. Its developmental contribution becomes stronger when supported by better governance, as reflected in the positive and significant interaction between manufacturing and governance. This suggests that industrial development is more likely to generate long-term growth when accompanied by effective regulation, institutional accountability, and policy coordination. From an Islamic economics perspective, this finding reinforces the idea that productive activity does not automatically create *maslahah* unless it is embedded within governance structures that uphold *'adl* (justice), *amanah* (trust), and public welfare, in line with the objectives of *maqasid al-shariah*.

The positive and significant effect of trade openness in the moderated regression model suggests that international trade continues to play an important role in supporting economic growth in middle-income Asian countries. This finding is in line with trade-led growth theory and the comparative advantage framework, which argue that openness can enhance efficiency, competitiveness, market access, and resource allocation. However, the significant interaction between trade openness and governance indicates that the benefits of trade are not automatic, but conditional on the quality of domestic institutions. This means that trade liberalization is more likely to support growth when it is accompanied by strong regulatory capacity, transparent public institutions, and policies that protect domestic economic resilience. In the context of Islamic economics, trade should not merely increase transaction volumes but should also promote fairness, reciprocity, and social welfare. Therefore, governance plays a critical role in ensuring that trade openness contributes to equitable, welfare-enhancing development rather than deepening structural dependence or inequality.

The results also show that foreign direct investment (FDI) contributes positively to economic growth, particularly when supported by better governance. This finding is consistent with Dunning's Eclectic Paradigm (OLI Theory) and endogenous growth theory, which suggest that FDI can stimulate growth through capital inflows, technology transfer, managerial spillovers, and increased productivity. The positive and significant interaction between FDI and governance indicates that institutional quality enhances host countries' ability to absorb and utilize the benefits of foreign investment. In other words, FDI is more likely to generate meaningful developmental outcomes when supported by legal certainty, effective public administration, and a conducive investment climate. From an Islamic economics perspective, external capital is considered beneficial only when it contributes to productive capacity, technological advancement, and a more just distribution of economic opportunity. Thus, governance serves as an institutional and ethical mechanism that determines whether FDI contributes to *falah* or instead creates dependency and limited domestic spillovers.

The positive direct effect of the labor force suggests that labor participation remains relevant to economic growth in middle-income Asian countries. This result is consistent with neoclassical growth theory and human capital theory, both of which recognize labor as a key input in the production process. The non-significant interaction between labor force and governance indicates that better governance alone is insufficient to substantially strengthen labor's contribution to growth. This suggests that the effectiveness of labor in supporting growth depends more heavily on labor quality, productivity, education, and skill formation than on institutional quality alone. From an Islamic economics perspective, this finding aligns with the principle that development should prioritize not merely labor expansion, but also dignified, productive, and welfare-enhancing employment (*'amal salih*), which contributes to both individual well-being and collective prosperity.

The significance of the governance variable itself, along with its interaction effects, confirms that governance is not merely a supporting institutional background, but a central enabler of economic growth. This finding strongly supports Institutional Quality Theory, which argues that institutions determine the efficiency of economic transactions and the effectiveness of resource allocation. It also aligns with Rodrik's institutional argument, which emphasizes that the long-run success of development depends more on institutional quality than on openness or capital accumulation alone (Rodrik et al., 2002). In this study, governance enhances the capacity of FDI, trade openness, and manufacturing to contribute to growth, thereby demonstrating that institutions are not neutral—they shape whether economic activities generate broad-based development or limited gains. Within the framework of Islamic economics, this reinforces the view that governance must embody justice, transparency, accountability, and public responsibility so that economic growth aligns with *maqasid al-sharia* and produces sustainable *maslahah*.

These findings also carry important policy implications. The results suggest that middle-income countries in Asia should not focus solely on increasing capital inflows, trade integration, labor absorption, or industrial output. Instead, governments should prioritize improving the quality of governance, particularly by strengthening regulatory effectiveness, policy consistency, anti-corruption measures, legal certainty, and public-sector accountability. In practical terms, the positive interaction effects found in this study imply that policies to attract FDI should be accompanied by institutional reforms that enhance investment transparency and domestic absorptive capacity; trade policy should be linked to strategies that strengthen domestic competitiveness and protect vulnerable sectors; and industrial policy should support manufacturing upgrading, local value-added creation, and technological capability. Meanwhile, the limited moderating role of governance in

labor suggests that labor market reforms should focus more directly on the quality of education, vocational training, skill upgrading, and the creation of productive employment. From the perspective of *maqasid al-shariah*, these policy directions align with the goals of protecting welfare, promoting justice, and ensuring that economic development benefits society more broadly rather than concentrating in narrow sectors or groups.

Overall, this study contributes to the literature by demonstrating that governance in middle-income Asian countries serves not only as a technical-institutional variable but also as a strategic and ethical foundation for transforming productive economic activity into sustainable and inclusive growth. By integrating a dynamic panel approach with a *maqasid*-oriented governance perspective, this study shows that economic growth is more likely to be welfare-enhancing when it is supported by both effective institutions and ethical development principles.

CONCLUSION

This study examines the effects of manufacturing, foreign direct investment (FDI), trade openness, and labor force on economic growth in middle-income Asian countries during 2004–2024, with governance as a moderating variable, using a dynamic panel GMM and moderated regression analysis. The findings show that manufacturing, FDI, and trade openness have no statistically significant direct effects on economic growth, whereas labor force growth has a negative and significant impact, reflecting structural inefficiencies and productivity constraints. However, the results indicate that governance plays a crucial conditioning role, as improvements in governance enhance the capacity of economic activities to contribute to growth, particularly by shaping the effectiveness of manufacturing expansion and broader economic processes. From an Islamic economics perspective, these findings underscore that economic growth cannot be achieved solely through the expansion of production inputs or capital inflows, but must be embedded within governance structures that uphold justice (*‘adl*), trust (*amanah*), and public welfare (*maslahah*), in line with *maqasid al-shariah*. Therefore, strengthening governance quality and human capital productivity should be prioritized to ensure that economic activities translate into inclusive and sustainable growth in middle-income Asian countries.

LIMITATION

This study has several limitations that should be acknowledged. First, the sample is restricted to seven of the fourteen middle-income Asian countries identified by the World Bank, owing to the availability of consistent data across the 2004–2024 period, which means the findings should be generalized to the broader region with caution. Second, governance is proxied using the World Governance Indicators (WGI), a conventional institutional measure that only partially captures the normative dimensions of Islamic governance emphasized in this study, namely justice (*‘adl*), trust (*amanah*), and public welfare (*maslahah*). Third, although the dynamic panel GMM approach addresses endogeneity and reverse causality, and is supported by valid Sargan and Arellano-Bond test results, residual endogeneity arising from unobserved country-specific shocks cannot be entirely ruled out. Fourth, the non-significant moderating effect of governance on the labor force–growth relationship suggests that the model does not fully capture qualitative dimensions of labor such as productivity, skill composition, and education. Finally, this study relies primarily on quantitative panel estimation without qualitative or case-study evidence, which limits deeper contextual insight into how Islamic governance principles operate in practice across the countries studied.

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