

IMPACT OF ECONOMIC FREEDOM AND CORRUPTION ON ECONOMIC GROWTH IN MENA REGION: A COMPOSED AND DECOMPOSED ANALYSIS

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Abstract

Economic freedom (EF) is crucial for economic growth, allowing individuals and businesses to operate without excessive government intrusion. Foreign direct investment (FDI) and control of corruption are also vital determinants of growth. However, the relationship between these factors is complex and influenced by additional factors such as capital formation and the labor force. This study examines the impact of these variables on economic growth in seventeen Middle East and North Africa (MENA) countries from 2002 to 2021 using the Feasible Generalized Least Squares (FGLS) model. The findings reveal that EF, both as an overall measure and through its subcomponents, has a positive impact on economic growth. Specifically, most subcomponents of EF significantly contribute to growth. Additionally, control of corruption is positively associated with economic growth. These relationships, however, are nuanced and influenced by other factors. Policymakers in MENA countries should prioritize policies that promote EF, as it has been proven to be a driving force for economic growth. Measures such as reducing government intervention, lowering taxes, improving property rights, and combating corruption should be implemented to foster higher economic growth and prosperity in the region.

Keywords: Economic growth, economic freedom index, control of corruption, composed and decomposed analysis.

1. Introduction

The absence of economic growth in numerous nations has always been and continues to be one of the main problems. Economists and social scientists have long grappled with understanding the causes behind the disparity in economic growth rates between nations and detecting the reasons that drive such growth. Institutions and cultural norms are frequently cited as potential

explanations for why some nations experience economic prosperity while others do not (Landes, 1998). The importance of economic freedom (EF) and its relationship, if any, to economic growth is an important question in this context. Following the demise of socialism and previous state-led development models, proponents of liberalism contend that quicker and more sustainable economic growth would occur in nations that uphold or foster EF. However, some contend that strategic governmental intervention might promote economic expansion. Proponents further argue that EF is essential for fostering economic growth because it allows people and businesses to operate with less interference and control from the government, which increases production and efficiency. This leads to better allocation of resources, enabling people to reach their maximum economic potential. The average GDP per capita of nations with higher degrees of EF is six times higher than that of those with lower levels (Heritage Foundation, 2021) strengthening the argument the institutions that promote EF are essential for generating an environment that cherishes economic growth and prosperity.

The pursuit of EF is seen as indispensable to achieving societal self-worth, national autonomy, and individual freedom. EF gives a stable and consistent mindset of being focused in the direction to achieve financial success & progress. In short, freedom provides a choice to the individual and community for how they go on this journey of success/betterment (Vanssay et al., 1994). The positive and significant value of economic growth to EF suggests that higher levels of EF are generally observed in countries experiencing faster rates of economic growth. In addition, EF is also a powerful means to help reduce poverty. Evidence also supports this theory; countries with high levels of EF generally have very low poverty rates and a minimal income gap based on research conducted by the Fraser Institute. Nations such as these tend to be exceptional in terms of their abilities for economic growth. (Gwartney et al., 2020). Countries that prioritize EF often enjoy a higher standard of living. The concept encompasses several fundamental principles, including the rule of law, property rights, and free commerce, and EF plays an essential role in promoting autonomy of decision-making, which provides fertile conditions for innovation and entrepreneurial activity yielding high productivity. Low taxes (Gwartney et al., 2020). Nations prioritizing economic freedom generally experience higher living standards, but excessive government interference might impede economic development (Hayek, 2020). Several significant studies have established EF aiding economic prosperity by fostering innovation, investment, and entrepreneurship, which all contribute to economic growth (Scully & Slottje, 1991; Nelson & Singh, 1998; Dreher et al., 2013).

A major impediment to economic progress, corruption erodes the rule of law, diminishes the effectiveness of public services, and distorts economic incentives (Mauro, 1995; Tanzi, 1998). The association between EF, economic growth, and the control of corruption, however, is a complex process that can be affected by a range of other factors. Variables such as human capital and trade openness may also play significant roles in shaping economic development (Hermes & Lensink, 2003; Li & Reuveny, 2003; Tamazian et al., 2009). EF and control of corruption are critical factors in economic growth that have consistently drawn the interest of researchers and policymakers. To fully grasp the relationship between EF, economic growth, and corruption, it is important to analyze both the aggregated and disaggregated impacts of EF. The aggregated effect refers to the overall impacts of EF, while the disaggregated effects examine the influence of its components (Dreher et al., 2015).

This study examines the effects of economic freedom (EF) and its various components on economic growth. It also explores the role of factors such as labor force (LF), total natural resource

rents (TNR), gross capital formation (GCF), foreign direct investment (FDI), control of corruption (COC), and driving economic prosperity. TNR, in particular, can contribute to economic growth by generating government revenue and promoting investment in infrastructure and productive sectors (van der Ploeg, 2011). This variable is especially important in this study, as many MNA countries are abundant in natural resources. Proper control of corruption encourages investment, enhances efficiency, and stimulates economic growth (wei, 2000). As expanded and more dynamic LF boosts economic growth by enhancing productivity and output (Lucas, 1988). GCF is critical for economic growth because it raises capital stock, extends manufacturing capacity, and boosts productivity (Solow, 1956). FDI promotes economic growth by boosting capital stock through the use of foreign resources, technology, and skills, resulting in increased output and employment (Blomstrom et al., 1996). These variables are shown to influence economic growth in various studies. Particularly intriguing is the intricate interplay between EF, anti-corruption measures, and economic development in the MENA region. As mentioned earlier we have included natural resource rents as an additional explanatory variable in our study. This variable is expected to play an important role in influencing economic growth in these economies. The significant effects of EF's sub-components, such as property rights, judicial efficacy, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, and financial freedom, are the study's main goal. The study adds to the body of literature by assessing the relationship between economic growth, EF, and corruption to control using a composed and deconstructed approach, employing data from seventeen MENA nations between 2002 and 2021. The study explores the linkage between economic growth and EF by utilizing the Economic Freedom Index provided by the Heritage Foundation. Alongside offering policy recommendations to regional leaders for sustainable economic growth and development, the study endeavors to provide a comprehensive assessment of the interconnection between economic growth, EF, and the control of corruption in the MENA region.

2. Literature Review

In the recent past, there has been a growing academic interest in the linkage between EF and other facets of economic and social growth. This literature overview compiles and synthesizes the results of various research that look at how economic liberty affects economic growth, and sustainable development in various situations are compiled and synthesized. These studies employ diverse data sources and analytical techniques, and they span several nations and regions. Collectively, these research findings contribute to a more nuanced understanding of a more sophisticated connection between EF and many facets of development.

Sayari et al., (2018) explored the association between the EF, FDI, and GDP components in thirty European nations. Pedroni and KAO panel co-integration techniques were used to examine the long-run connections using yearly data. The research discovers a substantial long-term link between the factors. EFI is favorably impacted by the service and industrial value-added components but negatively impacted by the agricultural value-added component. Contrary to earlier research, a slightly significant and adverse connection between EFI and FDI was found in the random effects model. Islam (2018) investigated the effects of income disparity on EF by using a panel dataset from Credit Suisse that included 46 nations from 2000 to 2014. The study used the summary index and sub-indices from the Fraser Institute to quantify EF, and top wealth shares to measure wealth disparity. According to the study, growing income disparity has detrimental repercussions on EF, including weaker property rights protection, trade restrictions, unstable currencies, and unfavorable regulatory environments. Additionally, the study discovered that less-

democratic nations are more severely affected by wealth disparity. Even when alternate metrics, endogeneity, and model parameters were taken into account, the results held, with trade union density acting as an instrumental variable for wealth disparity.

Kamarudin et al., (2021) investigated how the dimensions of EF, particularly the rule of law and government size, impact the financial and social proficiency of microfinance institutions (MFIs) in four selected Asian countries from 2011 to 2019. The findings show that MFIs prioritize revenue generation for sustainability and better financial inclusion rather than just poverty alleviation. The consequences of the panel regression analysis reveal that property rights, government spending, and tax burden have a negative relationship with the social efficiency of MFIs, while government integrity has a positive relationship. However, these variables exhibit a consistently negative but insignificant relationship with the financial proficiency of MFIs.

Graafland & Compen (2015) found a correlation between EF and life happiness. Furthermore, it has not been investigated in prior studies if other mediators, such as income per capita, have an impact on this association. To close these gaps, the researchers examined data from 120 nations and discovered a negative correlation between modest government size and life satisfaction and a positive correlation between the fortes of the legal system. The association between the effectiveness of the legal system and life happiness is moderated by the income per capita. The importance of these unintended consequences varies depending on the sort of EF indicators utilized, but trust mediates the link between the effectiveness of the legal system and the size of the government and life satisfaction. The metrics of EF have no considerable direct influence on life pleasure. Governments have been implementing measures to draw in FDI because FDI inflows and economic growth are positively correlated (Ghazalian & Amponsem 2019). Drawing on data from the Fraser Institute and the Heritage Foundation, this study examines the link between EF, its sub-components such as quality institutions, and FDI inflows. The findings show that EF positively impacts FDI, with the rule of law, market openness, and a less restrictive regulatory environment having strong effects. The research highlights that EF's impacts on FDI inflows vary according to economic characteristics and regional factors, suggesting that government should adopt their policies to enhance FDI attraction.

Haseeb et al., (2019) argued the relationship between financial advancement, market freedom, political stability, and economic growth with CO2 emissions in ASEAN countries. Using the Johansen co-integration method and data from World Bank databases. The results indicate a reverse nexus between CO2 emissions and political stability. Thirty years ago, they identified a connection between economic growth and carbon dioxide emissions so significant that they established this relationship as one of the most robust in all social sciences. Bennett & Nikolaev (2017) Even the relationship between EF and happiness inequalities across nations has been clarified. We find a robust negative relationship between EF and happiness inequality — this conclusion still holds when we use alternative metrics of happiness inequality. The legal system and stable money both have an inverse relationship with happiness disparity. The study also applies the Engerman-Sokoloff hypothesis, which confirms the negative correlation between EF and happiness inequality by utilizing a measure of factor endowments as a tool for economic liberty.

Ciftci et al., (2022) reconnoitered the causal links between EF, FDI, and economic growth for the top FDI-attracting countries between 1995 and 2019. The study shows only little evidence for causal connections between EF, FDI, and economic growth. However, when considering the freedom index's sub-components, the analysis identifies a large number of causal relationships between the variables, suggesting that the direction of causation is dependent on the nation and the

EF indicator. The outcomes show how crucial it is for policymakers to take into account certain settings and indicators when studying the connections between EF, FDI, and economic growth. Kešeljević (2018) analyzed the link between EF and development in 407 districts across Germany. The authors develop six measures of economic independence and group them into groups based on tax rates, the size of the government, and the size of the public sector. The findings imply that areas with lower tax burdens and a comparatively smaller public sector consistently have greater rates of economic growth and income levels. The beneficial impact of EF on growth is resilient to many criteria and is not affected by sample size. A move to more EF may be associated with considerable increases in income and growth. The analysis also reveals a persisting north-south difference in the post-unification period.

Mushtaq & Ali Khan (2018) studied how EF affects sustainable development in 58 nations, using a Sustainable Development Index that incorporates 39 variables related to economic, social, and environmental factors. The panel OLS, Fixed Effect, and first difference GMM techniques were deployed for the period 2000-2015. The outcomes reveal that EF has a positive impact on maintainable development, as do administrative quality, self-governing accountability, and law and order. Overall, this recommends that policies promoting economic freedom and good governance can help countries achieve sustainable development. Uzelac et al., (2020) examined the impact of institutional determinants on economic activity in nineteen Central CEE nations. The period from 1999 to 2016 was under consideration. Principal Component Analysis was employed to construct a mixed measure of EF, and a REM was employed to estimate the causal linkages. The results, democratization and the decrease of corruption boost GDP, while political stability fosters expansion. Regulation quality has no discernible effect. Economic growth is also accelerated by EF and the rule of law. Institutions like the legal system, political stability, and the EF are essential in determining the economic landscape of CEE nations.

Majeed et al., (2021) explored the impact of EF on economic growth and air quality in Pakistan from 1990 to 2019. The short-term trends in growth and pollution did not disclose any clear impacts. EF was found to significantly reduce air pollution, while inflation instability increased emissions over the long run period. Positive fluctuations in EF had adverse effects on growth in the short term but proved useful in the long run. Positive changes in EF led to an increase in both short-term and long-term emissions, while negative changes had negligible effects on both timeframes. Overall, EF tended to encourage economic activities that raised emissions. In a separate study by Mavrakana et al. (2019), the impact of EF, regulations, and bank governance on bank performance and risk-taking in eighteen European countries from 2004-2016 was inspected. The findings suggest that EF enhances bank performance and contributes to financial stability. Liberal credit, labor, and business regulations also improve bank profitability and reduce risk-taking. Larger boards increase the probability of default, while experienced executives are linked with less risk-taking and better performance. The presence of female managers has a positive impact on performance and leads to less credit risk in a liberal environment. Director compensation increases bank performance and reduces risk-taking. However, the results vary by time and location.

Bennett (2021) talked about how investors, market analysts, and specialists on government policy may all utilize composite EF indexes. The paper suggests a novel aggregate and normalization technique utilizing the Multiple Reference Point approaches, using the Heritage Foundation's index of EF as an example. This method offers more thorough data on a nation's EF, highlighting overall strengths and shortcomings and enhancing the data offered by other indices. Decision-

makers may get a complete view of a country's position and relative performance in comparison to other countries thanks to the ensuing numerical scores and graphical representations. According to Ding et al., (2021), insufficient public and private investment has caused reduced growth rates and productivity stagnation in many emerging nations. Foreign investment and assistance in agricultural production are urgently required to remedy this. The study explores whether EF and foreign investment may increase agricultural output in emerging and least-developed nations. The study discovered that although FDI is negligible in the least developed nations, overall foreign capital has a favorable effect on food production in developing and least developed nations. EF affects food manufacturing favorably in least-developed nations but negatively in emerging nations. The environment should be made favorable for sustainable food production by the government.

Ahmed et al., (2023) examine the nexus of Economic Freedom (EF) and economic growth in four South Asian countries covering 1995–21. The study used several statistical models such as OLS, REM, and RLS by panel data to investigate the effect of EF on economic growth. These results suggest that in these countries, economic growth has a strong and positive impact on EF. More specifically property rights, this time from a business point of view ascertain the freedom to trade and conduct general economic transactions as well as for deciding which investments or financial assets. Conversely, monetary freedom proved to be the least helpful. In addition, the research uncovers that higher taxation is negative for tracks running through the economy as this results in slower growth. Accordingly, policymakers are encouraged to accelerate the enhancement of EF in these countries focusing on strengthening property rights and further liberalizing trade and financial liberty.

The literature review comprehends several studies that reflect the association between EF and various facets of social and economic growth. Investing in human capital, foreign direct investment (FDI), GDP components, income inequality, microfinance institutions, bank performance, entrepreneurship, sustainable development, environmental performance, air quality, and composite indices of EF are just a few of the topics covered in the studies. The outcomes demonstrate the beneficial effects of EF on financial investments, FDI, human capital, entrepreneurship, economic growth, sustainable development, and environmental performance. These studies investigated how laws, political stability, the size of the government, the rule of law, and property rights affect economic performance. The influence of laws, political stability, government size, the rule of law, and property rights on economic performance has also been observed in these studies. The studies highlight the value of considering specific indicators and contextual factors when assessing the link between EF, economic growth, and various development-related characteristics.

Though there is a consensus in most of the above-discussed studies that EF promotes growth, it is crucial to consider how EF is measured and defined. A thorough grasp of EF is necessary for policy implications since a single element cannot successfully change the economic situation. To develop a greater grasp of the subject, the article incorporates all sub-components and the entire Index of EF to close these gaps.

3. Theoretical Background

This study aims to examine how EF (measured by the Economic Freedom Index), FDI, GCF, LF, and control of corruption (COC) influence economic growth (measured by GDP per capita). Additionally, we include total natural resource rents (TNR) as an explanatory variable to capture the unique characteristics of MENA countries. Previous studies have demonstrated that countries

with greater EF see a decline in poverty, and improvement in income distribution (Gwartney et al., 2004). They have also demonstrated the close relationship between economic equality and liberty, indicating that countries with greater national equality tend to exhibit higher levels of economic liberty (Berggren, 1999).

Economic success is the ultimate objective of every economy, and it has been discovered that economic liberty significantly contributes to this process by raising financial freedom and capital stock (Tiwari, 2011), which fosters entrepreneurship, investment, and innovation (Bjrnkov, 2018; Dreher et al., 2013). Since this study analyses the effect of the overall measure of EF, proxied by EFI (composed), and its subcomponents (decomposed) on economic growth, it is imperative to understand the link of these components with economic growth.

FDI promotes technical transfer, innovation, and advancement (Aitken and Harrison, 1999). FDI encourages export-oriented growth, increasing exports and foreign exchange gains (Carkovic & Levine, 2002). It also improves human capital through training employees, resulting in a more productive workforce, innovation, and growth (Borensztein et al., 1998). GCF propels technical progress by investing in research, development, and new technologies, resulting in higher economic growth (Romer, 1990). By boosting connectivity and lowering transaction costs, infrastructure investment fosters economic development (Aschauer, 1989). Furthermore, GCF promotes human capital development, resulting in a more productive and inventive workforce, which drives total economic growth (Mankiw et al., 1992).

Improving LF human capital boosts productivity, innovation, and technical development (Romer, 1990). LF productivity, which is impacted by technical advancements, capital investment, and organizational efficiency (Mankiw et al., 1992), is critical for economic growth. Labor market factors, such as unemployment rates and labor supply changes, have a considerable impact on growth. Policies that promote labor market flexibility and reduce employment obstacles help to boost growth (Blanchard & Katz, 1992). Control of corruption is critical for economic progress because it degrades institutional integrity and affects resource allocation (Mauro, 1995; Shleifer & Vishny, 1993). Furthermore, it promotes social trust, improves institutions, and creates a favorable climate for growth (Knack & Keefer, 1995). Growth and TNR have a complicated connection. The Dutch Disease phenomena, on the other hand, shows a negative link, since currency appreciation from increasing resource rents can undermine competitiveness and slow overall economic growth (Corden & Neary, 1982). Excessive reliance on TNR can also result in the resource curse, which causes economic instability, and inequality, and slows long-term growth owing to corruption, poor institutions, and a lack of diversification (Sachs & Warner, 2001).

Economic Freedom Index (EFI)

In deciding a country's success, EF is essential. It serves as a potent instrument for promoting monetary peace and improving our comprehension of human nature. The Heritage Foundation's Index of EF, which consists of 12 sub-components, is used to construct the EF index. These twelve aspects of EF are rated on a scale of 0 to 100, where greater scores denote higher EF and lower scores denote less EF. These 12 EF indicators are weighted and summed together to get an overall EF index score for each country. This study has used all the twelve sub-components of the EF index in the analysis.

I. Property rights (PR)

Property rights quantify in what way it is acceptable for people and organizations to lawfully possess, utilize, and dispose of the property. It assesses how strictly the government upholds specific laws protecting property rights, such as safeguards against wrongful expropriation or

seizure. In essence, this element evaluates how well a nation's legal system protects and upholds property rights.

II. Government Integrity (GI)

GI gauges how honest and ethically accountable government officials are. The rule of law, corruption prevention, and openness of government are all evaluated. A government with a high score in this category is transparent, accountable, and devoid of corruption—qualities that are critical for fostering personal prosperity and economic success.

III. Judicial Effectiveness (JE)

JE assesses the effectiveness and fairness of a nation's judicial system. It considers elements including the safeguard of PR, the efficacy of the legitimate system in resolving conflicts, and the independence of the court. A nation with a high JE score likely has a trustworthy, effective legal system that can safeguard property rights and promote investment. It may improve the judicial system's credibility and encourage economic development.

IV. Tax Burden (TB)

The complete quantity of taxes paid by individuals and businesses, including direct and indirect taxes, is referred to as the tax burden and is specified as a percentage of the GDP of the country. It is a multiple metric that considers the peripheral tax rates on both own and corporate income. The index helps examine how taxes affect the economy and compare tax regimes in various nations.

V. Government Spending (GS)

GS indicates the total amount that the government has spent on products and services anticipated for immediate consumption or future investment. Government spending examples include wages for employees, the building of infrastructure, funding for the military, and social welfare initiatives.

VI. Fiscal Health (FH)

FH reflects a country's ability to manage its public finances efficiently. The factors such as government spending, tax burden, public debt, and fiscal policy are taken into account. A sturdy FH shows that a country has a stable budget, low levels of public liability, and sound fiscal policies. This can contribute to overall economic growth and stability, as well as attracting foreign investment.

VII. Business Freedom (BF)

BF measures the ease of opening, working, and continuity of business in a specific country. The regulatory environment, property rights, and access to credit are taken into account. An extraordinary BF score specifies that a nation has a promising environment for entrepreneurship and business expansion, with minimal government intervention and bureaucracy. It can lead to improved job creation, economic growth, and innovation.

VIII. Labor Freedom (LF)

LF plans a nation's labor market's adaptability and usefulness. It reflects elements including the legal necessities for hiring and firing employees, the minimum salary, and the employment laws. A nation with a high LF score likely has a competitive labor market that is flexible enough to allow for effective resource allocation. This may keep the growth of the economy and the generation of workers.

IX. Monetary Freedom (MF)

MF index discloses a country's skill for preserving price stability and decreasing inflation. It reflects things like the central bank's autonomy, the currency's stability, and the ease of accessing

credit. A country with a high MF score likely has a predictable and stable monetary policy, which can encourage investment and economic expansion. This may also enrich national currency confidence and boost its appeal to overseas investors.

X. Trade Freedom (TF)

The state's openness to global trade is estimated by TF. It encompassed factors such as tariffs, quotas, and regulations on imports and exports. A high TF score reflects that a country has a liberalized trade policy, which can lead to improved international trade and economic growth and vice versa. Resultantly, it offers a wider variety of goods at lower prices to consumers.

XI. Investment Freedom (IF)

IF measures how welcoming a nation is to foreign investment. It considers elements including the economy's receptiveness to foreign investment, the regulatory setting, and the preservation of property rights. A nation with a high IF likely has a climate that is welcoming to foreign investment, which may increase economic growth, create jobs, and spur technological innovation. This can give investors more security and confidence when making investments in the nation.

XII. Financial Freedom (FF)

EF scales a nation's financial sector's effectiveness and stability as well as its citizens' and enterprises' access to credit. It reflects elements including how simple it is to get credit, how tightly banks and other financial institutions are regulated, and how fiercely competitive the financial industry is. A country with a high FF score likely has a stable and effective financial system that can support economic growth and give both consumers and companies access to credit.

4. Data sources and Methodology

4.1 DATA SOURCES

The data on the variables mentioned in Table 1 were collected from two distinct databases of the Word Bank (WDI & WGI) and Heritage Foundation (HF) website from the period 2002 to 2021 in the case of seventeen MENA nations (Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, Yemen).

Table 1: Variables used by the present study

Variable	Description	Measurement	Source
LnGDP	GDP per capita	(constant 2015 US\$)	WDI
LnFDI	Foreign direct investment	net inflows (BoP, current US\$)	WDI
LnGCF	Gross capital formation	(constant 2015 US\$)	WDI
LnL	Labor force	Total	WDI
COC	Control of Corruption	Estimate	WGI
TNR	Total natural resources rents	(% of GDP)	WDI
EFI	Economic Freedom Index	Index	HF
PR	Property Rights	Index	HF
GI	Government Integrity	Index	HF
JE	Judicial Effectiveness	Index	HF
TB	Tax Burden	Index	HF
GS	Government Spending	Index	HF
FH	Fiscal Health	Index	HF
BF	Business Freedom	Index	HF
LF	Labor Freedom	Index	HF

MF	Monetary Freedom	Index	HF
TF	Trade Freedom	Index	HF
IF	Investment Freedom	Index	HF
FF	Financial Freedom	Index	HF

Source: Author's creation

4.2 METHODOLOGY

Numerous economic model specifications have been deployed to perform a composed and decomposed analysis to detect the linkage between economic growth and EF in the presence of FDI, GCF, LF, COC, and TNR for seventeen MENA countries.

The composed model specification for the analysis is as:

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 EFI_{it} + \varepsilon_{it} \quad (1)$$

Where β s are the intercept and slope coefficients, and ε_{it} is the usual error term. All the variables in the above equation are defined in Table 1.

The following model specifications were examined to examine how economic growth is inclined by the subcomponents of EFI:

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 PR_{it} + \varepsilon_{it} \quad (2)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 GI_{it} + \varepsilon_{it} \quad (3)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 JE_{it} + \varepsilon_{it} \quad (4)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 TB_{it} + \varepsilon_{it} \quad (5)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 GS_{it} + \varepsilon_{it} \quad (6)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 FH_{it} + \varepsilon_{it} \quad (7)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 BF_{it} + \varepsilon_{it} \quad (8)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 LF_{it} + \varepsilon_{it} \quad (9)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 MF_{it} + \varepsilon_{it} \quad (10)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 TF_{it} + \varepsilon_{it} \quad (11)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 IF_{it} + \varepsilon_{it} \quad (12)$$

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln L_{it} + \beta_4 COC_{it} + \beta_5 TNR_{it} + \beta_6 FF_{it} + \varepsilon_{it} \quad (13)$$

These model specifications provide an influence of numerous components of EFI on economic growth. The expected relation between economic growth and sub-components of EFI modeled in equations 2 to 13 are already discussed in the theoretical background.

4.3 Estimation

The FGLS technique is a statistical approach employed in linear regression analysis for addressing heteroscedasticity and serial correlation. In ordinary least squares (OLS) regression, one key assumption is that the error terms behave as white noise, but this assumption is frequently violated in practice. FGLS helps correct these issues by employing a weighted least squares regression approach, where the weights are determined to reduce the variance of the error term while accounting for issues like heteroscedasticity and serial correlation. Various methods can be used to estimate these weights, such as the Newey-West estimator, which adjusts for both heteroscedasticity and serial correlation, or the White estimator, which addresses heteroscedasticity alone. By applying FGLS, the resulting regression coefficients are generally more efficient and less biased compared to OLS, improving the precision of the statistical inference and enhancing predictive accuracy.

5. RESULTS AND INTERPRETATION

Table 2: Descriptive Statistics of seventeen MENA Countries

Variables	Mean	Std. Dev.	Min	Max	Skew.	Kurt.
lnGDP	9.038	1.189	6.589	11.205	0.148	1.822
lnFDI	21.382	1.334	15.102	24.398	-0.704	4.732
lnGCF	24.073	1.126	21.704	26.262	0.063	2.096
lnL	15.310	1.077	12.794	17.247	-0.088	2.264
COC	-0.197	0.777	-1.782	1.559	0.003	2.157
TNR	19.549	17.241	0.001	66.653	0.568	2.252
EFI	60.750	8.896	15.600	77.700	-0.707	4.502
PR	45.526	17.265	10.000	83.600	-0.117	2.456
GI	42.418	17.438	10.000	90.000	0.216	2.309
JE	47.347	19.835	11.000	87.100	0.067	2.319
TB	85.515	14.546	10.000	100.000	-1.042	4.498
GS	64.681	15.481	7.600	96.500	-1.099	4.558
FH	47.226	36.918	0.000	99.800	0.112	1.440
BF	65.677	9.885	39.800	87.500	-0.308	2.754
LF	61.970	13.607	21.700	97.000	-0.258	2.954
MF	74.955	10.088	0.000	92.300	-1.974	12.286
TF	70.492	14.191	15.000	88.600	-1.509	5.464
IF	47.697	19.902	0.000	90.000	-0.584	2.991
FF	46.849	19.220	10.000	90.000	-0.217	2.402

Source: Author's creation

Based on the descriptive statistics provided in Table 2, the mean and standard deviation of various economic indicators and measures of governance and freedom have been presented. These include GDP per capita, FDI, GCF, LF, COC, TNR, EFI, and also for all sub-components of EFI. For each measure, the minimum and maximum values have also been reported. These statistics provide an overview of the range and distribution of these variables in the dataset. For example, we can see that the mean GDP is 9.038, with a standard deviation of 1.189, indicating that there is significant variability in GDP across the countries. The skewness value of 0.148 indicates that the distribution is slightly positively skewed, while the kurtosis value of 1.822 suggests that the distribution is somewhat peaked.

Table 3: Estimated Results from FGLS Model (Composed Analysis) Dependent Variable: lnGDP

LnGDP	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
LnFDI	0.064	0.024	2.630	0.008	0.016	0.111	***
LnGCF	0.763	0.044	17.310	0.000	0.677	0.849	***
LnL	-0.842	0.043	-19.630	0.000	-0.926	-0.758	***
COC	0.298	0.061	4.890	0.000	0.179	0.418	***
TNR	0.003	0.002	1.830	0.067	0.000	0.007	*
EFI	0.022	0.005	4.430	0.000	0.012	0.032	***
Constant	0.914	0.784	1.170	0.244	-0.623	2.450	
Mean dependent var	9.145		SD dependent var		1.004		
Prob > chi2	0.000		Chi-square		1768.291		

Source: Author's creation, *** $p < .01$, ** $p < .05$, * $p < .1$

The estimations results of equation 1 using FGLS, representing composed analysis, are testified in Table 3. The coefficient on FDI is positive, with a value of 0.064, and is statistically significant at the 1% level. It indicates that FDI contributes to GDP growth which is consistent with previous studies (Pegkas 2015; Muhammad & Khan 2019). With a value of 0.763, the GCF coefficient is positive and statistically significant at the 1% level. This suggests that GCF favorably influences GDP growth. This result is in line with previous studies (Pasara et al., 2020; Aslan & Altinoz, 2021). The labor force's coefficient has a negative value of -0.842 and is statistically significant at the 1% level. A negative association between LF and GDP per capita may exist for several reasons, including high unemployment and underemployment brought on by a lack of employment opportunities, inadequate investment in capital-intensive industries that limit productivity growth, income inequality and poverty that reduce consumer demand and restrain economic expansion, as well as brain drain or skill mismatch that results in a decline in human capital and diminished productivity. Shahid (2014) found that economic growth and LF participation have a negative and negligible relationship.

The control of corruption coefficient, valued at 0.298, is not only positive but also statistically significant at the 1% level. This recommends that COC is likely to promote stronger economic growth. This outcome is similar to Cielik & Goczek (2018) and Tjandrasa & Dewi (2022). Consequently, combating corruption can play a critical role in supporting economic growth. With a value of 0.003, the coefficient for total natural resource rentals is positive and statistically significant at the 6% level. According to these outcomes, the natural resource rents of MENA nations have an auspicious influence on economic growth, which is consistent with other studies (Abdulahi et al., 2019; Ampofo et al., 2020). With a value of 0.022, the EFI coefficient is positive and statistically significant at the 1% level. The evidence indicates that EF affects GDP growth (Haan & Sturm 2000; Gwartney et al. 2002; Ahmed et al. 2023). Overall, the composite analysis reveals that EFI, along with other control factors, is a significant factor in determining economic growth.

Table 4: FGLS Results Dependent Variable: lnGDP

Decomposed Model Specification												
	2	3	4	5	6	7	8	9	10	11	12	13
C	2.345 *** (0.59)	2.274 *** (0.628)	4.705 *** (0.908)	2.066 *** (0.614)	3.322 *** (0.598)	3.715 *** (1.176)	3.757 *** (0.641)	2.728 *** (0.701)	4.036 *** (0.830)	3.376 *** (0.55)	3.843 *** (0.58)	3.874 *** (0.58)
lnF DI	0.078 *** (0.02)	0.100 *** (0.024)	0.144 *** (0.042)	0.072 *** (0.024)	0.088 *** (0.024)	0.192 *** (0.055)	0.086 *** (0.025)	0.100 *** (0.029)	0.092 *** (0.025)	0.069 *** (0.024)	0.101 *** (0.02)	0.097 *** (0.02)
lnG CF	0.747 *** (0.04)	0.736 *** (0.044)	0.586 *** (0.075)	0.729 *** (0.043)	0.736 *** (0.047)	0.683 *** (0.096)	0.723 *** (0.046)	0.734 *** (0.04)	0.714 *** (0.04)	0.671 *** (0.047)	0.680 *** (0.04)	0.682 *** (0.04)
lnL	-0.87 *** (0.04)	-0.887 *** (0.041)	-0.949 *** (0.061)	-0.838 *** (0.043)	-0.907 **** (0.044)	-0.994 *** (0.081)	-0.894 *** (0.043)	-0.894 *** (0.04)	-0.90 *** (0.04)	-0.81 *** (0.047)	-0.870 *** (0.04)	-0.870 *** (0.04)
CO C	0.281 *** (0.06)	0.209 ** (0.083)	-0.374 *** (0.132)	0.500 *** (0.048)	0.468 *** (0.050)	0.259 ** (0.108)	0.491 *** (0.054)	0.403 *** (0.05)	0.488 *** (0.05)	0.458 *** (0.048)	0.447 *** (0.05)	0.439 *** (0.05)
TN R	0.005 *** (0.00)	0.004 ** (0.002)	0.015 *** (0.004)	-0.001 *** (0.002)	0.004 ** (0.002)	0.011 ** (0.006)	0.004 ** (0.002)	0.003 *** (0.002)	0.004 ** (0.002)	0.005 *** (0.002)	0.007 *** (0.002)	0.007 *** (0.002)
PR	0.010 *** (0.00)											
GI		0.012 *** 0.003										

JE			0.03 1 *** (0.0 05)									
TB				0.01 0 *** (0.0 02)								
GS					0.001 *** (0.00 2)							
FH						0.00 1 *** (0.0 02)						
BF							- **** - 0.00 3 *** (0.0 03)					
LF								0.00 4 * (0.0 02)				
MF									- 0.00 4 (0.0 04)			
TF										0.00 8 *** (0.00 2)		

IF											0.00 03 (0.0 01)	
FF											0.00 03 (0.0 01)	

Source: Author's creation, *, **, and *** specify the significance level at 1%, 5%, and 10%.

Table 4 reflects the decomposed investigation of the linkage between various subcomponents of EFI and GDP growth. We have estimated 12 different models, presented in equations 2 to 13, each including one subcomponent of EFI in the existence of control variables. The estimated coefficients for each autonomous variable, along with their standard errors in parentheses, are presented. The results designate that all the independent variables have a statistically momentous relationship with GDP. The coefficients for FDI, and GCF are positive and statistically significant, indicating that higher levels of FDI, and GCF are associated with higher economic growth. The relation between LF participation and economic growth is found to be negative in all decomposed models. The coefficient for the COC is positive and statistically significant in 11 out of 12 models, indicating that higher levels of COC are associated with higher economic expansion. The coefficient for TNR (total natural resources rents) is positive in 11 out of 12 models, suggesting that higher levels of TNR are linked with greater economic growth. This result is according to the expectation, as TNR plays an important role in natural resource-rich MENA countries.

The decomposed data analysis of MENA nations demonstrates that EFI subcomponents have a considerable impact on economic growth. Except for MF & BF, the coefficients for PR, GI, JE, TB, GS, FH, LF, TF, IF, and FF are found to be significant and have a positive relationship with GDP per capita in the MENA region, conferring to Table 4. According to earlier research (Torstensson,1994; Goldsmith,1995; Nelson & Singh,1998; Weede, 2012), the majority of subcomponents of EFI considerably boost economic growth, and analyzing the individual impact of each economic freedom indicator can inform better policy choices for promoting economic growth and prosperity. Our study's findings support the previous research. Ahmed et al., (2023) revealed that EF indicators have a noteworthy impact on economic growth, while MF has little contribution. TB hinders economic growth, whereas PR, BF, TF, IF, and FF have a positive and strong influence on economic growth.

6. Conclusion and Recommendations

The objective of the current study was to explore how EF affects economic growth in the MENA area using both composed and decomposed analyses. The study analyzed the influence of numerous factors on GDP per capita using the FGLS model and data from 2002 to 2021. These variables included FDI, GCF, LF, TNR, COC, and EFI. The evidence strongly supports the idea that there is a direct and positive linkage between EF and economic growth in the natural resources-rich MENA region and it can be seen in the findings of both the composed and the deconstructed analysis. The composed analysis showed that the EFI, COC, FDI, and GCF all had a substantial and favorable influence on GDP growth. However, it is discovered that there is a negative and significant linkage between the LF and GDP per capita growth. As expected, the association

between total natural resource rents and GDP growth was also found to be positive and significant. Twelve models, one for each EFI subcomponent, are used to perform the deconstructed analysis. The results show a mainly favorable and statistically significant association between the majority of EFI subcomponents and economic growth. These subcomponents, which include PR, GI, JE, TB, GS, FH, LF, TF, IF, and FF, all show a positive relationship with GDP per capita. However, two subcomponents, MF & BF, are found to affect economic growth negatively.

Policymakers in MENA economies should prioritize policies to promote EF because through composed and decomposed analysis it is crystal clear that EF is an engine and driver of economic progression besides natural resource rents. Such policies include reducing government intervention, lowering taxes, improving property rights, and reducing corruption should be introduced. Doing so could lead to higher economic growth and prosperity. The study reveals a positive linkage between FDI, GCF, and economic growth. Therefore, policymakers should focus on attracting more foreign investment and promoting domestic investment to increase capital formation in the region. The study found a negative linkage between the LF and economic growth pointing to probable causes like high rates of unemployment and underemployment brought on by a lack of job opportunities, inadequate investment in capital-intensive industries, which results in limited productivity growth, and income inequality, and poverty, which reduce consumer demand and impede economic growth, and brain drain or skill mismatch, which results in a loss of human capital and decreased productivity. Policymakers must address the underlying causes of diminishing marginal productivity in this region. The study found a positive association between the COC and GDP growth. Policymakers should prioritize efforts to reduce corruption and improve transparency and accountability in government. The study delivers valued visions into the linkage between EF and GDP growth in the MENA region. However, more research is needed to comprehend the fundamental relations between the variables studied. Forthcoming research could examine the influence of other factors, such as political stability, on economic growth in the region. Moreover, the study used panel data estimation using the FGLS model. Future research can use alternative econometric models to compare results and improve the robustness of findings.

References

- Abdulahi, M. E., Shu, Y., & Khan, M. A. (2019). Resource rents, economic growth, and the role of institutional quality: A panel threshold analysis. *Resources Policy*, 61, 293-303.
- Adediji, A. T., Oyinlola, M. A., & Okodua, H. (2020). Economic freedom, corruption and economic growth in Africa. *Cogent Economics & Finance*, 8(1), 1804223. doi: 10.1080/23322039.2020.1804223
- Ahmed, S., Mushtaq, M., Fahlevi, M., Aljuaid, M., & Saniuk, S. (2023). Decomposed and composed effects of economic freedom on economic growth in south Asia. *Heliyon*, 9(2).
- Aitken, B. J., & Harrison, A. E. (1999). Do domestic firms benefit from direct foreign investment? Evidence from Venezuela. *American economic review*, 89(3), 605-618.
- Alfaro, L., Chanda, A., Kalemli-Ozcan, S., & Sayek, S. (2004). FDI and economic growth: the role of local financial markets. *Journal of international economics*, 64(1), 89-112.
- Ampofo, G. K. M., Cheng, J., Asante, D. A., & Bosah, P. (2020). Total natural resource rents, trade openness and economic growth in the top mineral-rich countries: New evidence from nonlinear and asymmetric analysis. *Resources Policy*, 68, 101710.
- Arora, V., & Vamvakidis, A. (2006). The impact of US economic growth on the rest of the world: how much does it matter?. *Journal of Economic Integration*, 21-39.

- Aschauer, D. A. (1989). Is public expenditure productive?. *Journal of monetary economics*, 23(2), 177-200.
- Aslan, A., & Altinoz, B. (2021). The impact of natural resources and gross capital formation on economic growth in the context of globalization: evidence from developing countries on the continent of Europe, Asia, Africa, and America. *Environmental Science and Pollution Research*, 28, 33794-33805.
- Bennett, D. L. (2021a). Local institutional heterogeneity & firm dynamism: Decomposing the metropolitan economic freedom index. *Small Business Economics*, 57(1), 493-511.
- Bennett, D. L. (2021b). Local economic freedom and creative destruction in America. *Small Business Economics*, 56(1), 333-353.
- Bennett, D. L., & Nikolaev, B. (2017). On the ambiguous economic freedom–inequality relationship. *Empirical Economics*, 53, 717-754.
- Berggren, N. (1999). Economic freedom and equality: Friends or foes?. *Public choice*, 100, 203-223.
- Bjørnskov, C. (2018). Economic freedom and economic growth: A survey of the literature. *Journal of Institutional Economics*, 14(2), 197-235.
- Blanchard, O. J., Katz, L. F., Hall, R. E., & Eichengreen, B. (1992). Regional evolutions. *Brookings papers on economic activity*, 1992(1), 1-75.
- Blomström, M., Lipsey, R. E., & Zejan, M. (1996). Is fixed investment the key to economic growth?. *The Quarterly Journal of Economics*, 111(1), 269-276.
- Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth?. *Journal of international Economics*, 45(1), 115-135.
- Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth?. *Journal of international Economics*, 45(1), 115-135.
- Carkovic, M., & Levine, R. (2005). Does foreign direct investment accelerate economic growth. *Does foreign direct investment promote development*, 195, 220.
- Cebula, R. J., & Mixon, F. G. (2012). The impact of fiscal and other economic freedoms on economic growth: An empirical analysis. *International Advances in Economic Research*, 18, 139-149.
- Cieřlik, A., & Goczek, Ł. (2018). Control of corruption, international investment, and economic growth—Evidence from panel data. *World development*, 103, 323-335.
- Ciftci, C., & Durusu-Ciftci, D. (2022). Economic freedom, foreign direct investment, and economic growth: The role of sub-components of freedom. *The Journal of International Trade & Economic Development*, 31(2), 233-254.
- Clark, J. R., & Lawson, R. A. (2008). The impact of economic growth, tax policy and economic freedom on income inequality. *The Journal of Private Enterprise*, Fall.
- Corden, W. M., & Neary, J. P. (1982). Booming sector and de-industrialisation in a small open economy. *The economic journal*, 92(368), 825-848.
- De Haan, J., & Sturm, J. E. (2000). On the relationship between economic freedom and economic growth. *European journal of political economy*, 16(2), 215-241.
- De Vanssay, X., & Spindler, Z. A. (1994). Freedom and growth: Do constitutions matter?. *Public Choice*, 359-372.
- Ding, G., Vitenu-Sackey, P. A., Chen, W., Shi, X., Yan, J., & Yuan, S. (2021). The role of foreign capital and economic freedom in sustainable food production: Evidence from DLD countries. *Plos one*, 16(7), e0255186.

- Dreher, A., Gassebner, M., & Lamla, M. J. (2013). Does the level of corruption matter for the effect of economic freedom on economic growth?. *Journal of Economic Behavior & Organization*, 91, 28-52.
- Dreher, A., Gassebner, M., & Schaudt, P. (2015). The composition of the effects of economic freedom on economic growth: A panel analysis. *European Journal of Political Economy*, 40, 81-96.
- Ghazalian, P. L., & Amponsem, F. (2019). The effects of economic freedom on FDI inflows: An empirical analysis. *Applied Economics*, 51(11), 1111-1132.
- Goldsmith, A. A. (1995). Democracy, property rights and economic growth. *The Journal of Development Studies*, 32(2), 157-174.
- Graafland, J., & Compen, B. (2015). Economic freedom and life satisfaction: Mediation by income per capita and generalized trust. *Journal of Happiness Studies*, 16, 789-810.
- Gwartney, J. D., Holcombe, R. G., & Lawson, R. A. (2004). Economic freedom, institutional quality, and cross-country differences in income and growth. *Cato J.*, 24, 205.
- Gwartney, J. D., Lawson, R., & Edwards, C. (2002). *Economic freedom of the world: 2002 annual report*. The Fraser Institute.
- Gwartney, J., Lawson, R., & Hall, J. (2019). Economic freedom of the world: 2019 annual report. Fraser Institute. Retrieved from <https://www.fraserinstitute.org/economic-freedom>
- Gwartney, J., Lawson, R., & Hall, J. (2020). Economic freedom of the world: 2020 annual report. Fraser Institute. Retrieved from <https://www.fraserinstitute.org/economic-freedom>
- Haseeb, M., Wattanapongphasuk, S., & Jermisittiparsert, K. (2019). Financial Development, Market Freedom, Political Stability, Economic Growth and C [O. sub. 2] Emissions: An Unexplored Nexus in ASEAN Countries. *Contemporary Economics*, 13(3), 363-375.
- Hayek, F. A. (2020). *The constitution of liberty: The definitive edition*. Routledge.
- Heritage Foundation. (2021). 2021 Index of Economic Freedom. Retrieved from <https://www.heritage.org/index/>
- Hermes, N., & Lensink, R. (2003). Foreign direct investment, financial development and economic growth. *Journal of Development Studies*, 40(1), 142-163.
- International Monetary Fund (IMF). (2015). Balance of payments and international investment position manual (6th ed.). Washington, DC: International Monetary Fund.
- Islam, M. R. (2018). Wealth inequality, democracy and economic freedom. *Journal of Comparative Economics*, 46(4), 920-935.
- Kamarudin, F., Anwar, N. A. M., Chien, F., & Sadiq, M. (2021). Efficiency of microfinance institutions and economic freedom nexus: empirical evidence from four selected asian countries. *Transformations in business & economics*, 20.
- Kešeljević, A. (2018). Economic freedom and growth across German districts. *Journal of Institutional Economics*, 14(4), 739-765.
- Knack, S., & Keefer, P. (1995). Institutions and economic performance: cross-country tests using alternative institutional measures. *Economics & politics*, 7(3), 207-227.
- Landes, D. S. (1998). *The Wealth and Poverty of Nations: Why Some Are So Rich and Some So Poor*. New York: W. W. Norton.
- Li, Q., & Reuveny, R. (2003). Economic globalization and democracy: An empirical analysis. *British journal of political science*, 33(1), 29-54.
- Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics*, 22(1), 3-42.

- Majeed, M. T., Yu, Z., Maqbool, A., Genie, M., Ullah, S., & Ahmad, W. (2021). The trade-off between economic growth and environmental quality: does economic freedom asymmetric matter for Pakistan?. *Environmental Science and Pollution Research*, 28, 41912-41921.
- Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. *The quarterly journal of economics*, 107(2), 407-437.
- Mankiw, N. G., Romer, D., & Weil, D. N. (1992). A contribution to the empirics of economic growth. *The quarterly journal of economics*, 107(2), 407-437.
- Mauro, P. (1995). Corruption and growth. *The quarterly journal of economics*, 110(3), 681-712.
- Mauro, P. (1995). Corruption and growth. *The quarterly journal of economics*, 110(3), 681-712.
- Mavrakana, C., & Psillaki, M. (2019). Do economic freedom and board structure matter for bank stability and bank performance?
- Muhammad, B., & Khan, S. (2019). Effect of bilateral FDI, energy consumption, CO2 emission and capital on economic growth of Asia countries. *Energy Reports*, 5, 1305-1315.
- Mushtaq, S., & Ali Khan, R. E. (2018). Economic freedom and sustainable development: A Panel Data Analysis. *The Pakistan Journal of Social Issues. Special Issue*, 89-97.
- Nelson, M. A., & Singh, R. D. (1998). Democracy, economic freedom, fiscal policy, and growth in LDCs: a fresh look. *Economic Development and Cultural Change*, 46(4), 677-696.
- Pasara, M. T., & Garidzirai, R. (2020). Causality effects among gross capital formation, unemployment and economic growth in South Africa. *Economies*, 8(2), 26.
- Pegkas, P. (2015). The impact of FDI on economic growth in Eurozone countries. *The Journal of Economic Asymmetries*, 12(2), 124-132.
- Ploeg, F. V. D. (2011). Natural resources: curse or blessing?. *Journal of Economic literature*, 49(2), 366-420.
- Rahman, M. M. (2018). Impact of labour force participation on economic growth in South Asian countries.
- Rapsikevicius, J., Bruneckiene, J., Lukauskas, M., & Mikalonis, S. (2021). The impact of economic freedom on economic and environmental performance: evidence from European countries. *Sustainability*, 13(4), 2380.
- Romer, P. M. (1990). Endogenous technological change. *Journal of political Economy*, 98(5, Part 2), S71-S102.
- Romer, P. M. (1990). Endogenous technological change. *Journal of political Economy*, 98(5, Part 2), S71-S102.
- Sachs, J. D., & Warner, A. M. (2001). The curse of natural resources. *European economic review*, 45(4-6), 827-838.
- Sayari, N., Sari, R., & Hammoudeh, S. (2018). The impact of value added components of GDP and FDI on economic freedom in Europe. *Economic Systems*, 42(2), 282-294.
- Scully, G. W., & Slottje, D. J. (1991). Ranking economic liberty across countries. *Public Choice*, 69(2), 121-152.
- Shahid, M. (2014). Impact of labour force participation on economic growth in Pakistan. *Journal of Economics and Sustainable Development*, 5(11), 89-93.
- Shleifer, A., & Vishny, R. W. (1993). Corruption. *The quarterly journal of economics*, 108(3), 599-617.
- Shleifer, A., & Vishny, R. W. (1993). Corruption. *The quarterly journal of economics*, 108(3), 599-617.

- Solow, R. M. (1956). A contribution to the theory of economic growth. *The quarterly journal of economics*, 70(1), 65-94.
- Tamazian, A., Chousa, J. P., & Vadlamannati, K. C. (2009). Does higher economic and financial development lead to environmental degradation: evidence from BRIC countries. *Energy policy*, 37(1), 246-253.
- Tanzi, V. (1998). Corruption around the world: Causes, consequences, scope, and cures. *Staff papers*, 45(4), 559-594.
- Tiwari, Aviral. 2011. Foreign aid, FDI, economic freedom and economic growth in Asian countries. *Global Economy Journal* 11: 1850231.
- Tjandrasa, B. B., & Dewi, V. I. (2022). The Model of GDP Growth in ASEAN-4 Countries: Control of Corruption as an Intervening Variable. *Journal of Economics, Business, & Accountancy Ventura*, 25(1), 1-9.
- Torstensson, J. (1994). Property rights and economic growth: an empirical study. *Kyklos*, 47(2), 231-247.
- Uzelac, O., Davidovic, M., & Mijatovic, M. D. (2020). Legal framework, political environment and economic freedom in central and Eastern Europe: do they matter for economic growth? *Post-Communist Economies*, 32(6), 697-725.
- Weede, E. (2012). Liberty in comparative perspective: China, India, and the West. *Towards a worldwide index of human freedom*, 189-241.
- Wei, S. J. (2000). How taxing is corruption on international investors?. *Review of economics and statistics*, 82(1), 1-11.