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Original Article

Foreign Direct Investment, Economic Freedom, and Economic Growth in GCC Countries

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Abstract: *From 2008 to 2022, this paper examines the causal relationships among economic freedom, economic growth, and foreign direct investment on a panel of three Gulf Cooperation Council nations: Oman, Qatar, and the United Arab Emirates. We discovered compelling evidence of a positive relationship between FDI and economic growth through a panel data analysis using the System Generalized Method of Moments. We also discovered that the effect of FDI is stronger when the economic freedom variable is present, suggesting that economic freedom functions as a supplement to FDI. Therefore, this study offers important information to policymakers in the GCC countries on how to draw Foreign Direct Investment (FDI) inflows.*

Keywords: *Foreign Direct Investment, Economic Freedom, Economic Growth, Dynamic Panel, Data Analysis.*
JEL Classification*: F21, O43, C23.*

I. INTRODUCTION

Although the theoretical literature expects that Foreign Direct Investment (FDI) inflows can transmit great advantages to the host country, empirical studies on the FDI-growth link have provided conflicting results (Herzer et al. 2008). Some studies in this literature have found that FDI exerts a positive impact on economic growth in the recipient countries (De Mello, 1999; Chong et al., 2010; Gui-Diby, 2014), while others have found no such evidence (Ericsson and Irandoust, 2001) or even a negative impact (Moran, 1998) on economic growth (see also the survey by Gorg and Greenaway, 2004). Based on the unclear and conflicting findings of the FDI-growth link, the research has determined that the host nation's absorptive ability is the primary explanatory factor for the differing findings. In particular, nations with low absorptive capacity may not see a significant impact from FDI on economic growth. In other words, host nations need certain prerequisites to reap the rewards of foreign direct investment. In addition to this significant result, the research has considered several intervening country-specific characteristics significant for FDI spillovers, including trade policy, deeper domestic financial markets, and higher levels of human capital.

This paper uses recent research highlighting institutions' significance in growth processes to clarify the relationship between Foreign Direct Investment (FDI) and economic growth. To address these issues, our research specifically emphasizes the role that economic freedom (henceforth referred to as EF) plays in mediating FDI spillovers. Our theory is based on the observation that a lack of EF can hinder a firm's ability to absorb and internalize new technology from Multinational Companies (MNCs) and slow economic growth in the host nations. On the other hand, nations heading toward higher EF typically see faster growth rates in per capita GDP over time.

In order to determine the connection between EF and economic growth, we employ the Fraser Institute's EF index in this paper. As a gauge of institutional quality, the index sheds light on the traits of a prosperous environment to the degree that higher EF scores are associated with faster economic growth and higher income levels. Examining the index's constituent parts shows several reasons to anticipate that nations with higher EF levels will be better able to absorb information while also being more likely to reap the benefits of investment spillover.

First, the consensus in the research is that fewer regulations would increase economic growth. It's common knowledge that an open and free market gives business owners more chances to test novel concepts in untapped markets. To increase the possible returns on their investment, it also pushes businesses to take on riskier ventures, such as those involving foreign direct investment. However, a highly controlled market has a negative impact on how resources are distributed in such a setting. In this regard, Alfaro et al. (2004) contended that the underdevelopment of local financial markets may constrain the economy's capacity to benefit from possible FDI spillovers.

Second, employment laws may also have implications for FDI spillovers. If the laws for hiring and firing employees are less restrictive, spillover effects through labor mobility are more likely to occur because workers who have previously worked with MNCs can transfer their knowledge and experience of new technologies to local firms (Fosfuri et al. 2001). Third, another component of EF is the defense of property rights. Reforming the law on intellectual property may encourage multinational corporations to provide better and more advanced technologies in developing nations more quickly than they would under a lax intellectual property rights framework. Some of this technology could eventually diffuse to local firms - especially local suppliers whose technological competence the multinationals have a strong vested interest in (Javorcik, 2004). Finally, free exchange across borders may help domestic firms penetrate foreign markets for exporting purposes (Aitken et al. 1997; Barrios et al. 2003). One way to argue that FDI spillovers could be negatively related to the level of EF is because MNCs may be more willing to transfer technology if the level of competition in the industry in which they operate is low (i.e., a low level of EF). However, whether economic freedom helps foster FDI spillovers is an empirical matter, and this is precisely the question we are trying to answer**.**

This study is very important for the Gulf Cooperation Council (GCC) nations. Indeed, Foreign Direct Investment (FDI) helps these nations' economies thrive, creating jobs and more cash for the region's governments and citizens. Furthermore, improved governance and high-quality institutions tend to magnify the beneficial effects of FDI on regional economic growth. Therefore, the region's governments must keep funding social infrastructures while enhancing the caliber of their governance and institutions.

There are three ways in which this work adds to the literature. First, in our opinion, this study is the first to examine the connection between EF, FDI, and economic growth in the GCC nations. Second, the findings of this study will help policymakers create policies that better allocate Foreign Direct Investment (FDI) and other forms of external capital to industries with the biggest impact on economic growth. Third, in contrast to other research, we use a more sophisticated dynamic panel econometric method that formally accounts for simultaneity bias and country-specific effects in this work. The approach uses the System Generalized Method of Moments (GMM) estimator, which is superior to the cross-section estimator in a number of ways.

This paper aims to investigate how EF mediates FDI and economic growth in a panel of three GCC nations—Oman, Qatar, and the United Arab Emirates—between 2008 and 2022. Our dynamic panel regression studies demonstrate that foreign direct investment has a favorable and significant impact on regional economic growth. The positive complementarities between the FDI and EF index are also highlighted in this study. This indicates that MNCs greatly benefit the nations that support greater economic freedom.

The remainder of the paper is structured as follows. Section 2 provides a detailed literature review, while Section 3 describes the used data and the empirical methodology. Section 4 presents the empirical results. Section 5 presents the concluding remarks and policy implications.

II. REVIEW OF LITERATURE

A) Review of Theoretical Literature

MNCs' FDI is considered a key element in the growth process for many countries. According to Dunning (1993), MNCs have been linked to superior technologies, patents, trade secrets, brand names, management techniques, and marketing strategies. Also, they are known to be among the biggest spenders in research and development activities (Borensztein et al. 1998). Moreover, they hire a large share of professional and technical workers (Markusen, 1995) and undertake substantial efforts in educating workers (Fosfuri et al. 2001). Some of the advantages associated with MNCs may not be fully absorbed after they have invested and established a subsidiary in the host nation; as a result, they may trickle down to domestic businesses, boosting the home economy.

Additionally, host nations can fund current account deficits with the help of Foreign Direct Investment (FDI). Due to the long-term nature of MNC investment strategies, FDI is thought to be less volatile than other financial flows like portfolio investments. For their part, Aitken et al. (1997) showed that FDI promotes exports of host countries by augmenting domestic capital for exports, helping transfer technology and new products for exports, and facilitating access to new and large foreign markets. Local firms may learn with the practice of MNC, or MNC may transfer technology and know-how to local suppliers in order to improve the quality of inputs (Rodriguez-Clare, 1996). Entrance to MNCs is generally complemented by foreign technology, which increases competition in the host country (Blomström et al. 1994). In order to thwart competition, local firms are given an incentive to grow and be more efficient in the production process (Crespo and Fontoura, 2007).

However, some research questions the sanguine belief that FDI creates beneficial spillovers for domestic businesses. Linkages, asset bubbles, foreign dominance, economic instability, and large inflows of foreign workers are just a few of the negative social repercussions of EF (i.e., investment freedom) that they have demonstrated. For instance, Krugman (2000) calls into doubt the benefits associated with foreign acquisition of domestic firms, arguing that in financial crises, foreigners can take

advantage of fire sales of assets by liquidity-constrained domestic investors. Due only to their better cash position, overseas investors are less effective in this scenario than domestic ones. Therefore, the author refutes the claim that foreign companies acquire local companies because they possess specialized knowledge and can manage domestic companies more effectively and efficiently. Similarly, Hausmann and Fernández-Arias (2001) question the advantages of foreign direct investment. They maintained that a recent increase in FDI indicates weak markets, insufficient institutions, and elevated risks. Because they lack the institutions and marketplaces necessary for their businesses to expand, residents are selling them. The existence of asymmetric information may also distort the degree of investment. In this context, Razin et al. (1999) argued that because foreign direct investors gain crucial inside information about the firm, they will overcharge uninformed domestic savers for stock. In anticipation of this excess profit, multinationals will overinvest in the local economy. With regard to this issue, Stiglitz (2000) found that without first putting into place an effective regulatory framework, full capital account liberalization will bring instability to a developing country due to free flows of short-term speculative capital. However, the author recognized that FDI is not as volatile as the other short-term flows that can rush into a country and, just as precipitously, rush out.

The absorptive ability of the host nations, which is primarily influenced by a number of characteristics such as per capita income, human capital, trade openness, and the development of the financial markets, determines whether FDI spillovers happen automatically, according to earlier research. Numerous research have explored the absorptive capacity concept with varying degrees of success. For instance, Blomström et al. (1994) use cross-country data from 78 developing countries and found that low-income developing countries do not enjoy substantial growth benefits from FDI, whereas high-income developing countries do. They concluded that to incorporate new technology from foreign enterprises' investments, a certain threshold degree of development is required. Balasubramanyam et al. (1996), on the other hand - using cross-country data for a sample of 46 developing countries - found that trade openness is crucial for acquiring the potential growth impact of FDI. They maintained that compared to closed economies, more open economies will probably draw in more foreign direct investment and encourage its more effective use.

Furthermore, their findings showed that Foreign Direct Investment (FDI) is a vehicle of international knowledge transfer, contributing more to domestic growth than local investment. Through investigation of the FDI flows in 7 East Asian countries from 1995 to 2000, Quazi (2007) considered EF (a proxy of domestic investment climate) apart from the traditional variables. He emphasized that one important and reliable factor influencing FDI is EF. He concluded that to draw in more Foreign Direct Investment (FDI), a host nation should develop its FDI plans by concentrating on EF components. Such initiatives will probably create a favorable atmosphere for attracting FDI and will also be ready to cultivate the elements required for economic expansion.

It has also been stated that workers capable of using these new technologies are necessary for their adoption. Borensztein et al. (1998) used a cross-country analysis of 69 developing countries. They found that the effect of FDI on economic growth depends on the level of human capital in the host country, where FDI has positive growth effects only if the level of education is higher than a given threshold. Xu (2000) found that technology transfer from FDI contributes to productivity growth in more developed countries but not less developed countries because the latter lack adequate human capital. For their part, Alfaro et al. (2004) found that capital accumulation, both physical and human, does not seem to be the main channel through which countries benefit from FDI. Instead, they indicated that countries with well-developed financial markets gain significantly from FDI via total factor productivity improvements.

Several authors have shown the impact of financial development on FDI spillovers. Hermes and Lensink (2003) and Alfaro et al. (2004, 2010), among others, found that FDI plays an important role in contributing to economic growth. However, for these beneficial impacts to materialize, the degree of development of local financial markets is essential. It was discovered that two crucial prerequisites for FDI spillovers were banking growth and stock market liquidity. These authors contend that a more advanced financial system positively impacted the process of technological diffusion linked to foreign direct investment. Effective financial markets enhance a nation's ability to absorb foreign direct investment (FDI) inflows by lowering the risks associated with investments made by domestic companies looking to copy new technologies. For their part, Alfaro et al. (2004) and Wang and Wong (2009) argued that growth effects of multinationals are stronger in countries with relatively well-developed financial markets. As a result, a nation's ability to benefit from the influence of multinational corporations seems to depend on its circumstances. This result is supported by Alfaro et al. (2010), who found that an increase in FDI leads to higher growth rates in financially developed countries than those observed in poorly developed ones. Their results also suggest the importance of absorptive capacities for the effect of FDI on economic growth.

Although opinions on the connection between Foreign Direct Investment (FDI) and economic growth are still divided, the evidence supporting the function of institutions in this process is stronger. North (1991) defined institutions as “the humanly devised constraints that structure political, economic, and social interaction. They consist of both informal constraints (sanctions, taboos, customs, tradition, and code of conduct) and formal rules (constitutions, laws, property rights)”. The author also noted that institutions provide an economy with an incentive structure, and as that structure changes, it influences whether economic

change is directed toward growth, stagnation, or decline. To put it briefly, institutions impact the protection of property rights, the level of corruption, and skewed or exploitative policies. These factors, in turn, affect investments in human and physical capital and, ultimately, economic growth.

B) Review of Empirical Literature

Indeed, numerous studies demonstrate that EF significantly influences cross-country variations in economic growth and per capita income (see, for instance, De Haan et al. 2006; Azman-Saini et al. 2010; Compton et al. 2011, among others). For their part, Knack and Keefer (1995) used two indicators collected by private agencies to measure the security of property rights. A number of indicators for contract and property rights security are reported by the Business Environment Risk Guide (BERI) and the International Country Risk Guide (ICRG). In growth regressions, they discovered a strong correlation between country performance and the ICRG indicators in particular. On this point, Barro (2000) referred to two main mechanisms when explaining the effect of property rights, namely the effect on incentives and business activity. His empirical findings showed that secure property rights improve growth performance by encouraging investments and enhancing the productivity of investments.

Meanwhile, Demetriades and Law (2006) found that financial development has larger effects on economic growth when the financial system is embedded within a sound institutional framework. They also found that more finance without sound institutions may not succeed in delivering long-term economic growth in low-income countries. On this point, Law et al. (2013) indicated that the financial development-growth nexus is contingent on institutional quality, thus supporting the idea that better finance (i.e., financial markets embedded within a sound institutional framework) is potent in delivering long-run economic growth. Using a sample of 140 countries, Rodrik et al. (2004) argued that governance is a factor that explains cross-country income differences, pointing out that institutions matter more than openness and geography in determining income level. Moreover, Acemoglu et al. (2001) used the protection from the expropriation risk index measured by the ICRG as a proxy for institutional quality. They demonstrated that the main cause of the wide variations in per capita income between nations is variations in state policies and institutions. For their part, Hall and Jones (1999) investigated cross-country differences in economic performance based on variations in inputs (e.g., capital and human capital). They discovered that variations in physical capital and educational attainment only account for a portion of the wide range in production per worker between nations. Similar to the literature on growth accounting, levels accounting finds a sizable residual that differs significantly between nations. They demonstrated how variations in institutions and governmental policies entail variations in capital accumulation, productivity, and output per worker.

A smaller team of academics has looked into the connection between economic growth and EF. Economists concur that EF is one of the cornerstones of a nation's institutional framework, along with political freedom and civil rights. As a result, institutions are one of the more significant determinants of variations in living standards between nations. According to the Heritage Foundation (2004), EF is “the absence of government coercion or constraint on the production, distribution, or consumption of goods and services beyond the extent necessary for citizens to protect and maintain liberty itself.” For a long time, economists have placed a higher value on the freedom to provide and select resources, commercial rivalry, free commerce with other countries, and the protection of property rights as crucial components required to achieve economic growth. However, a number of empirical studies have demonstrated the significance of EF in elucidating variations in economic growth among nations. For example, Bengoa and Sanchez-Robles (2003) examined the interplay between EF, FDI, and economic growth using panel data for a sample of 18 Latin American countries from 1970-1999. Their results showed a positive contribution of EF on FDI inflows. Economic growth was also found to be positively related to FDI. They also suggested that human capital, economic stability, and liberalized markets may help attract long-term capital flows. In a related study, Doucouliagos and Ulubasoglu (2006) examined the relationship between EF and economic growth based on the meta-analysis of 45 studies taken from the literature. Their results showed a positive and robust link between EF and economic growth regardless of the sample of countries, the measure of EF, and the level of aggregation.

On the other hand, using data from 85 countries for the period 1976-2004 and the GMM estimation method, Azman-Saini et al. (2010) found that FDI does not have an independent impact on economic growth and that the positive effect is only possible in countries with high levels of EF. This means the countries promote greater freedom of economic activities and gain significantly from the presence of MNCs. In the same trend, Compton et al. (2011) used the measure of EF representing the following areas: the size of government, takings and discriminatory taxes, and labor market freedom, and found a positive association between EF and economic growth for the 50 US states over the period 1981-2004 (but not all components of EF affect growth equally). For their part, Fabro and Aixalá (2012) tested the relative impact of EF, civil liberties, and political rights on economic growth in a panel of 79 countries from 1976 to 2005. According to their findings, the three aspects of institutional quality play a significant role in economic growth, directly through improved resource allocation or indirectly through encouraging investment in human and physical capital. For his part, Nawaz (2015) discovered that institutional development also results in faster economic growth in a panel of 56 nations spanning the years 1981–2010.

To date, empirical studies on the FDI-growth relationship remain largely limited, particularly concerning the effects of EF on FDI spillovers in the North African region. As for Meon and Sekkat (2004), they investigated the effect of the quality of institutions on manufactured exports and FDI in MENA countries. Their results showed that a low level of corruption and a high level of bureaucracy contribute significantly to the firm's decision to invest abroad. Kobeissi (2005) also argued that governance, legal environment, and EF are the important factors affecting the inflow of FDI in the MENA region. His findings indicate that the most significant aspect is governance, which is followed by the legal system and EF. The final two factors may be less significant than the others because investors from various nations may be less or more tolerant of flaws in the investment climate of the host nation. According to Daniele and Marani (2006), institutions significantly impact FDI attraction. This suggests that MENA nations require significant institutional reforms in their legal and business systems to increase their appeal to foreign direct investment.

On the other hand, Caetano and Galego (2009) used panel data, which included 17 MENA countries and 25 European countries, to investigate the impact of institutional variables on FDI. They found that investment freedom has a positive and significant relationship with FDI in both regions, while the size of the government negatively affects FDI inflows. The authors also noted that EF and FDI inflows are positively related in the MENA and European Union countries. For their part, Sufian and Sidiropoulos (2010) studied the determinants of FDI in MENA countries by employing a panel data methodology. According to the study, nations losing out on foreign investment could increase their appeal to prospective foreign investors by implementing institutional changes. Therefore, MENA policymakers should eliminate all trade barriers, advance their financial systems, lower corruption, enhance the policy environment, and establish suitable institutions.

On the other hand, Costas et al. (2021) presented an analysis of the factors affecting foreign direct investments, focusing on governance quality and adoption of International Financial Reporting Standards on countries of the GCC over the period 1996-2017. They demonstrated that one of the main factors encouraging foreign direct investments is the implementation of International Financial Reporting Standards. In terms of the quality of governance, the GCC countries have met the minimal requirements for foreign direct investment governance. Foreign direct investments are also more significantly influenced by governance indices related to laws, regulations, and corruption.

Osmanovic et al. (2022) showed the effects of economic growth, cost of living, economic freedom index, global oil price, and construction value-added on the inward foreign direct investment stock in GCC in the long-term and short term for an unbalanced data period of study from 1996 to 2020 (Bahrain, Kuwait, Oman, Saudi Arabia, and the United Arab Emirates) and Qatar from 1999 to 2020. For the estimation of these variables in the Gulf Council region over the long and short terms, they employed the PMG ARDL model. They discovered that the long-term impacts of regional FDI were positively correlated with economic growth, construction industry volumes, cost of living, and economic freedom indexes. They also verified that there is cross-sectional reliance among GCC nations.

More recently, Mujallia et al. (2024) examined the effect of International Financial Reporting Standards (IFRS) and institutional quality on economic growth in the GCC region over the period 1998-2022. They verified a 15% long-term drop in GDP when the GCC countries adopted IFRS. The GDP has increased by 13%, indicating a good short-term impact. On the other hand, both short-term and long-term effects of institutional quality on GDP were negative. They employed a six-variable institutional quality index. While putting long-term strategies in place to lessen the anticipated drop in GDP, they advised governments to capitalize on the short-term benefits of introducing IFRS. While highlighting the benefits of open trade and low inflation in promoting economic growth, consideration should also be given to the institutional quality and the economic effects of IFRS implementation.

Our research adds to the body of knowledge regarding EF's moderating function in the relationship between FDI and growth. We investigate the effect of EF's moderating function on the FDI-growth relationship using a sample of three GCC nations for which data is available. The next section discusses the approach used.

III. DATA AND EMPIRICAL METHODOLOGY

A) Data

From 2008 until 2022, the study examines a sample of three GCC nations: Oman, Qatar, and the United Arab Emirates. The availability of trustworthy data during the sample period was the main determinant in selecting the nations for this study. Economic growth, as determined by real GDP per capita growth rate at 2015 USD prices, is the dependent variable. The World Bank's World Development Indicators (2025) are the source of the main variable of interest (FDI), the other control variables, and the underlying institutional variable (EF). The source of the EF Index is Gwartney et al. (2024).

The World Bank defines Foreign Direct Investment (FDI) as net inflows of capital used to purchase a long-term management stake (10 percent or more of voting stock) in a business that operates in an economy different from the investor's own. The balance of payments indicates the total equity capital, earnings reinvestment, and other long-term and short-term

capital. This data, which is divided by GDP, displays net foreign investment inflows (new investment inflows less disinvestment) into the reporting economy. Given that nations may have seen spillover benefits, the coefficients related to FDI are expected to have a positive sign (Gui-Diby, 2014).

The EF index from the Fraser Institute measures freedom of economic activities in a country. Higher indexes are associated with smaller governments (Area 1), stronger legal structure and security of property rights (Area 2), access to sound money (Area 3), greater freedom to exchange with foreigners (Area 4), and more flexible regulations of credit, labor, and business (Area 5). Greater EF increases economic growth, according to a survey by De Haan et al. (2006) that concentrated on empirical studies using this EF score. A positive coefficient is therefore anticipated.

Our baseline model includes the explanatory variables common to most growth regressions found in the literature:

- Initial GDP per capita (log): real GDP per capita log. Several studies pointed out that per capita income could serve as a good proxy for institutions' general development and sophistication (La Porta et al. 1998). A negative coefficient is expected, indicating the existence of conditional convergence among countries;
- Inflation rate: The growth of the consumer price index measures the annual percentage change in the consumer price index that determines the inflation rate. This rate reflects the price change paid by the average consumer during a given period when purchasing goods and services. A negative coefficient is expected because high inflation can deteriorate price competitiveness, negatively affecting foreign trade and economic growth (Elder, 2004).
- Trade openness is measured as the percentage of imports plus exports in GDP. Assuming that openness to international trade is beneficial to economic growth, a positive coefficient is expected (Fetahi-Vehapi et al. 2015).

B) Empirical Methodology

Our empirical study aims to investigate if EF significantly impacts how FDI affects economic growth in GCC nations. To achieve this, we use a standard that is essentially the same as others (e.g., Alfaro et al. 2004; Azman-Saini et al. 2010). We consider the following model:

$$y_{i,t} = \alpha y_{i,t-1} + \beta_1 FDI_{i,t} + \beta_2 EF_{i,t} + \beta_3 X_{i,t} + \mu_t + \eta_i + \varepsilon_{i,t} \quad (1)$$

Eq. (1) can also be alternatively written with the growth rate as a dependent variable:

$$Growth_{i,t} = y_{i,t} - y_{i,t-1} = (\alpha - 1) y_{i,t-1} + \beta_1 FDI_{i,t} + \beta_2 EF_{i,t} + \beta_3 X_{i,t} + \mu_t + \eta_i + \varepsilon_{i,t} \quad (2)$$

The subscript "t" represents the periods, whereas i represents a country, y is the logarithm of real GDP per capita, FDI is foreign direct investment, EF is the economic freedom index, and X is the matrix of control variables described in the previous section, μ_t is a time specific effect, η_i is an unobserved country-specific fixed effect and $\varepsilon_{i,t}$ is the error term. Eq. (2) forms the basis for our estimation. As in Alfaro et al. (2004), the coefficient $(\alpha - 1)$ in Eq. (2) is expected to be negative if it indicates conditional convergent and positive if divergent.

While FDI can potentially affect economic activity through various channels, we examine one specific link between FDI and economic growth in a second set of regressions, specifically the one working through EF. The hypothesis we would like to test is whether the level of EF in the host country affects the impact of FDI on economic growth. To this end, we add an interaction term constructed as the product of FDI and the EF (i.e., FDI*EF) to Eq. (2) as an additional explanatory variable, apart from the standard variables used in the economic growth equation. If the coefficient on the interaction term is positive and significant, it implies that the marginal effect of FDI on economic growth depends on the level of EF.

The regression to be estimated is the following:

$$Growth_{i,t} = (\alpha - 1) y_{i,t-1} + \beta_1 FDI_{i,t} + \beta_2 EF_{i,t} + \beta_3 (FDI_{i,t}.EF_{i,t}) + \beta_4 X_{i,t} + \mu_t + \eta_i + \varepsilon_{i,t} \quad (3)$$

The subject model is aware of the endogeneity issue with the variables and the connection between the residuals and the delayed endogenous variable. Any convergence model is dynamic and adds more endogeneity to the explanatory variables. Generally, the Generalized Moments (GMM) method analyzes dynamic models in first differences. In this context, Anderson and Hsiao (1982) suggested using the lagged first differences of the endogenous variable as instruments. Arellano and Bond (1991) added to this list of instruments the lags of the endogenous variable by showing their orthogonality to the residuals.

It should be noted that dynamic panels can use one of two types of GMM estimators. These are the first differences between the GMM estimator (Arellano and Bond, 1991) and the system GMM estimator (Blundell and Bond, 1998), which is only an improved version of the first. As the name suggests, the first difference GMM estimator controls the influence unique to the statistical unit or individual by predicting the model's equation in the first difference. This latter method is used in the most recent applied works on the association between FDI and economic growth, notably those of Alfaro et al. (2004); it is on the results of this second method that we principally base our conclusions on.

The technique of Arellano and Bond (1991) involves rewriting the original equation in first differences, eliminating individual fixed effects, and then using their own lagged levels as instruments for the differenced series. This method improves on the instrumental variable estimation of Anderson and Hsiao (1982) by mentioning a set of orthogonality conditions defining optimal GMM estimators. It also resolves the difficulty of choosing the list of instruments. However, it has been revealed that this first version omits a set of orthogonality conditions that can be shown by considering a system consisting of two equations. Arellano and Bover (1995) and Blundell and Bond (1998) proposed the GMM method in the system. This approach involves combining the equation for the initial difference with the one for the level for every period. The predefined variables in the first difference equation are instrumented by their level-lagged values for a minimum of one period.

In contrast, the predefined variables in the level equation are instrumented by their initial differences. The GMM is used to estimate the system of equations obtained simultaneously. Blundell and Bond (1998) verified this method using Monte Carlo simulations. They showed that the system GMM estimator is more efficient than the difference GMM estimator (Arellano and Bond, 1991), which only uses the moment conditions of the first difference equation with lagged variables as instruments.

The reliability of the two tests determines how well the system GMM estimation works. We can assess the validity of the lagged variables using the Sargan/Hansen test first, and the absence of autocorrelation of errors in the second-order difference equation is the null hypothesis in the Arellano and Bond test.

Our findings confirm no serial correlation, and the instruments employed are also valid. The estimation findings are presented in Table (1).

IV. EMPIRICAL RESULTS

Table 1 reports a preliminary analysis of the effects of FDI and EF on economic growth and presents coefficient estimates obtained from the baseline specification, which used an interaction term constructed as a product of FDI and EF.

Table 1. The growth effect of FDI and economic freedom

Variable	Estimation
Initial GDP per capita	-0.305***
	(-4.595)
Foreign Direct Investment	0.486**
	(2.515)
Economic Freedom	0.144**
	(3.21)
Foreign Direct Investment*Economic Freedom	0.081**
	(-3.438)
Inflation	-0.232**
	(-2.497)
Trade openness	0.595*
	(2.126)
Constant	-54.156***
	(-3.764)
R-Squared	0.92
AR(2) test (p-value)	0.541
Sargan test (p-value)	0.58

Notes: AR(2) is a test of second-order residual serial correlation. J-test is the Hansen over-identification test. T-statistics are in parentheses. *, **, and *** indicate statistical significance at 10%, 5% and 1% levels, respectively.

The calculated coefficient on FDI is statistically significant at the 5% level, as shown by the results in Table (1), indicating that FDI contributes to economic development in the GCC countries. This outcome aligns with certain research findings in the literature on FDI and growth (e.g., Chong et al., 2010; Gui-Diby, 2014; Gammoudi et al., 2016). Conversely, the EF coefficient

has a positive sign and is statistically significant at conventional values, suggesting that a high EF enhances economic growth by increasing the productivity of investment. This finding is consistent with the survey conducted by De Haan et al. (2006), Azman-Saini et al. (2010), and Al Abri and Al Bulushi (2022), who concluded that EF is crucial for economic growth. Importantly, our results also confirm that the greater the EF, the more it enhances the advantage of foreign direct investment. Notice that the coefficients of the core variables considered in the equation enter the regression equation with the correct sign and are significant at the 5% significance level or better.

However, the regression results based on interaction specification employing an interaction term between FDI and the EF index (FDI*EF) are displayed in Table (1). We established the contingency in this specification using the interaction term. This would suggest that the effect of FDI on economic growth rises with EF if the term is positive and significant. The first finding is that the association term is statistically significant at the 5% level and positively signed. This finding suggests that considering the complementarity and interaction between EF and FDI is necessary for FDI to contribute to economic growth more effectively. This result aligns with other recent research revealing that the host countries' capacity to absorb FDI affected economic growth. Thus, the results support the idea that FDI spillovers can only be facilitated by increasing economic activity flexibility. The income convergence results align with the findings by Elaya et al. (2019).

Then, using the conditional converging hypothesis, we included the natural logarithm, or the beginning GDP per capita, as an independent variable. The concept of income convergence, which holds that nations with high initial incomes typically see lower production in the future while those with low first incomes do the opposite, further supports the finding that initial incomes exhibit an inverse relationship with economic growth and are statistically significant at the 1% level. The income convergence results align with the findings by Breitenlechner et al. (2015) and Yilmazkuday (2011).

Moreover, we noted that the coefficient of the inflation rate has a negative sign and is then statistically significant at the 5% level, suggesting that a high inflation rate will have an adverse impact on economic growth. The result shows that a 1% increase in inflation would decrease real GDP growth by 0.232%. This finding suggests that inflation harms economic growth. Consequently, the adverse effect of inflation on economic growth can be explicated by the general price increase, which can raise production costs within firms, creating production-related difficulties. This supports the works of Sadeghi et al. (2023), who affirmed that high inflation decreases economic growth in Middle Eastern countries.

However, at the 10% level, trade openness also plays a substantial role in explaining the economic growth of GCC nations. This variable's positive sign indicates that economic growth increases with trade openness. According to the findings, economic growth will rise by 0.595% for every 1% change in trade openness, indicating that trade openness also has a significant impact on economic growth. This result is consistent with Altaee's (2018) study, which indicated that trade openness and economic growth were positively correlated in GCC nations.

However, Hansen's over-identification test and second-order serial correlation p-values show that the model is sufficiently described. The null hypothesis that there is no second-order serial correlation cannot be rejected at the 5% level because the computed regression also passed both specification tests. Since the Hansen test indicates that the orthogonality criteria cannot be rejected at the 5% level, the regression is not hampered by simultaneity bias. This implies that the tools used in the analysis are reliable and the equation is sufficiently stated.

V. CONCLUSIONS AND POLICY IMPLICATIONS

One of the primary means of cross-border technology transfer is thought to be FDI. As a result, numerous nations vie to draw in more foreign direct investment. This paper uses recent research that emphasizes EF's role in economic growth to better understand the nature of FDI flows. In particular, it investigates how EF contributes to FDI inflows. It makes the case that FDI is looking for high-quality domestic institutions because they may make the workplace more alluring to investors by lowering operating costs and increasing productivity.

In order to examine the hypothesis, this study analyzes data from three GCC nations between 2008 and 2022, along with the System GMM panel estimator. Three significant conclusions are drawn from the analysis. First, the coefficient that quantified the effect of Foreign Direct Investment (FDI) on economic growth was positive and substantial, suggesting that FDI has a beneficial effect on economic growth. Second, it has been determined that EF plays a significant role in the long-term economic success of the GCC nations. To name two, the findings presented by Azman-Saini et al. (2010) are likewise in line with the positive correlation between EF and economic growth. Lastly, the degree of EF in the host nations determines how FDI affects economic growth. This indicates that the nations that support more economic freedom benefit greatly from the presence of MNCs. Through FDI-related externalities, businesses from these nations can more readily absorb and adapt to new technology and other advantages. This also explains why certain countries have more benefits from the acquisition Foreign Direct Investment (FDI) and its relationship with foreign multinational corporations that have a performance advantage than others. Our study's conclusions imply that EF plays a significant role in the country's absorptive ability.

In this regard, GCC nations ought to balance the costs of measures meant to draw in foreign direct investment and capital flows against those that aim to raise the level of EF. It is not necessary for these two policies to be conflicting. In addition to drawing in foreign investment, higher EF levels enable host nations to optimize the advantages of FDI. Before employing alternative strategies to draw in more foreign investment, GCC nations should implement regulations and processes to ensure sufficient transparency for prospective investors. However, creating more effective institutions will take time and effort. In many nations, implementing such changes may be politically challenging in the short term, but they might yield significant economic advantages over time.

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