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Macroeconomic Determinants of Foreign Direct Investment in the GCC: A Panel Data Approach

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Abstract

This study investigates the impact of fiscal and monetary policy variables on foreign direct investment inflows in the Gulf Cooperation Council (GCC) countries, which include Saudi Arabia, United Arab Emirates, Qatar, Kuwait, Bahrain, and Oman, utilizing panel data spanning from 2005 to 2023. The empirical analysis employs fixed effects and estimated generalized least squares panel regression models to address cross-sectional dependence and heteroskedasticity. Our analysis finds, among the macroeconomic indicators considered, only government expenditure demonstrates a statistically significant effect on foreign direct investment inflows, with a negative coefficient that supports the "crowding-out" hypothesis. This result suggests that higher levels of government spending may displace or deter private investment, including foreign direct investment. In contrast, other variables, including gross domestic product growth, inflation, interest rate differentials, exchange rates, and tax revenue, exhibit statistically insignificant effects on foreign direct investment, though the direction of their estimated coefficients remains consistent with established theoretical perspectives.

Keywords: Foreign Direct Investment, Government Expenditures, Macroeconomic Stability

INTRODUCTION

The Gulf Cooperation Council countries, comprising Saudi Arabia, the United Arab Emirates, Kuwait, Bahrain, Qatar, and Oman, possess a distinctive economic structure and have historically relied on oil and gas revenues to support economic growth and fiscal stability. This unique economic ecosystem and heavy dependence on oil and gas revenues render these countries vulnerable to economic recessions and shocks, most recently highlighted by the global coronavirus pandemic. Over the past two decades, fluctuations in global oil prices, growing climate-related commitments, and the need for sustainable economic development have compelled these states to pursue strategic economic reforms. Central to these reforms are monetary and fiscal policy frameworks designed to attract and sustain foreign direct investment, which is a crucial element of economic diversification in the region (Mahmood & Aslam, 2018; Ali & Audi, 2018; Mirzoev et al., 2020). Economic diversification is now recognized as a central objective among Gulf Cooperation Council economies to reduce vulnerability to oil and gas price

volatility, strengthen overall economic resilience, and enhance competitiveness in the global market.

Foreign direct investment plays a significant role in economic diversification and acts as a catalyst for development and structural transformation, not only across the Gulf Cooperation Council region but also for developing and transitioning economies globally (Gherghina et al., 2019). Foreign direct investment not only brings in vital capital but also facilitates technology transfer, employment generation, managerial expertise, and integration into international markets (Dunning & Lundan, 2008; United Nations Conference on Trade and Development, 2021), all of which contribute to long-term economic stability. By attracting foreign direct investment, Gulf Cooperation Council countries can advance economic diversification through the development of non-oil sectors such as tourism and hospitality, financial services, renewable energy and green technology, transport and logistics, manufacturing and industry, as well as technology and innovation (Alfaro et al., 2004; Iqbal & Raza, 2018; Bloch, 2020; Audi, 2024). For example, Saudi Arabia's Vision 2030 and the United Arab Emirates' major investments in green energy and financial centres demonstrate strategic shifts away from oil dependence (Fanack, 2024; Arab News, 2024). Additionally, Saudi Arabia and Qatar are targeting an increase in the gross domestic product share of tourism from three percent to ten percent and twelve percent, respectively, by 2030 (Middle East Briefing, 2024; Fanack, 2024). Among other non-oil economic drivers, manufacturing is expanding, with Saudi Arabia allocating over eleven percent of bank lending to the manufacturing sector (Arab News, 2024) and Bahrain developing its aluminium and advanced manufacturing industries (The Times, 2023). These sectors not only boost gross domestic product contributions but also support employment and long-term regional sustainability (Middle East Briefing, 2024). However, the determinants of foreign direct investment are complex and shaped by a broad range of factors, including macroeconomic stability, tax regimes, institutional quality, and investor perceptions of risk (Ali et al., 2022; Shahabuddin & Ali, 2024). The Gulf Cooperation Council's economic structure, marked by low or no taxation, high capital mobility, and pegged exchange rates, presents both opportunities and challenges for attracting foreign direct investment inflows.

Foreign direct investment is a substantial policy tool for fostering a more balanced and diversified economic base. The Gulf Cooperation Council states have recognized its importance and have implemented various initiatives to attract foreign direct investment, including business-friendly policies, streamlined regulatory protocols, and tax incentives, all designed to improve the investment climate and support inflows leading to job creation, technology transfer, and increased revenue from non-oil sectors (Alharthi et al., 2024). These actions align with broader national diversification strategies, such as Saudi Vision 2030 and the United Arab Emirates Centennial 2071, and involve key measures including (i) the simplification of regulatory procedures through one-stop systems and online platforms (World Bank, 2023); (ii) attractive tax incentives, including full foreign ownership rights in designated economic zones (Klemm & Van Parys, 2012); and (iii) substantial investment in infrastructure to attract capital into innovation-driven sectors (Hertog, 2022). Empirical studies indicate that these institutional

reforms and enhanced regulatory transparency have positively influenced foreign direct investment inflows in developing and resource-dependent economies (Globerman & Shapiro, 2002) and that investment promotion agencies enhance absorptive capacity for foreign technology and capital (Harding & Javorcik, 2013).

Saudi Arabia has introduced the Regional Headquarters initiative, requiring multinational enterprises to establish a regional headquarters in the kingdom as a prerequisite for doing business with major national entities such as Aramco and SABIC (Saudi Investment Ministry, 2023). According to Invest Saudi (2021), the Regional Headquarters program is projected to contribute up to eighteen billion United States dollars to Saudi Arabia's economy by 2030, creating around thirty thousand jobs. The long-term success of this initiative depends on maintaining a competitive corporate tax environment compared to regional peers, such as the United Arab Emirates (Oxford Business Group, 2023). The kingdom has implemented significant tax incentives, including thirty-year tax exemptions on Regional Headquarters profits and zero percent withholding tax on payments to related or unrelated parties. As a result, the effective tax rate for qualifying firms is reduced by thirty-eight percent compared to standard corporate tax structures (PricewaterhouseCoopers Middle East Tax Report, 2023). These reforms have made the kingdom the most tax-competitive regional headquarters destination in the Gulf Cooperation Council. Nevertheless, recent fiscal reforms, such as the introduction of value-added tax, corporate taxation initiatives, and the rationalization of public expenditure, have prompted debate regarding their short- and long-term effects on foreign investment flows (Mameche & Masood, 2021). Sustainable progress requires addressing persistent challenges, such as bureaucratic inefficiencies (Hertog, 2022), and aligning incentives with Organisation for Economic Co-operation and Development global tax reform standards (Alm et al., 2023).

Monetary and fiscal policies are essential for achieving and managing economic sustainability and growth in the Gulf Cooperation Council region. Monetary policy encompasses the regulation of money supply and interest rates, typically administered by central banks to influence inflation and overall economic activity. Fiscal policy pertains to government spending and taxation decisions, intended to stimulate economic growth, manage public debt, and promote societal well-being. These policies profoundly affect foreign direct investment inflows by influencing key macroeconomic factors such as gross domestic product growth, inflation, exchange rates, and interest rates. Expansionary fiscal policies, such as increased public spending on infrastructure, can stimulate growth and attract foreign direct investment by improving the investment climate and creating new business opportunities. In the Gulf Cooperation Council countries, capital investments have played a pivotal role in economic diversification and reducing dependence on oil revenues (Al-Iriani, 2007). Likewise, stable and predictable monetary policies that maintain low inflation and stable exchange rates bolster investor confidence, mitigate risks, and foster a favorable investment environment (Fischer, 1993; International Monetary Fund, 2021). The region's adoption of fixed exchange rate regimes has contributed to macroeconomic stability and reduced foreign currency risk for investors (Alshubiri, 2022), thus supporting economic diversification and foreign direct investment (Qatar

Tribune, 2024). In terms of monetary policy, the region's fixed exchange rate regimes and low-interest environments, closely tied to the monetary policy of the United States, further shape the investment landscape (Froot & Stein, 1991). While currency stability supports investor confidence, it may constrain the ability to use monetary tools to counter inflation or stimulate growth, which are important considerations for potential investors. These stable currency values and stringent inflation controls have formed the foundation for retaining and attracting foreign direct investment in the region (Buiter & Patel, 2006; Roussel et al., 2021).

Although scholarly interest in the influence of fiscal and monetary policies on foreign direct investment is increasing, empirical research on their joint effects within the Gulf Cooperation Council context remains limited, especially given the region's reliance on oil, diverse levels of government expenditure, and currency exchange regimes linked to the United States dollar. Most of the extant literature addresses either fiscal elements, such as taxation, or monetary aspects, such as macroeconomic stability, in isolation. Existing literature lacks:

- Integrated analysis of fiscal and monetary policy impacts on FDI within the GCC,
- Empirical focus on the region's structural characteristics, such as oil dependence and pegged exchange rates,
- Comparative, multi-country assessments over an extended period.

This study seeks to address this gap by exploring how the interplay between fiscal and monetary policies affects foreign direct investment inflows in Gulf Cooperation Council countries, using a panel data approach with country-specific economic indicators.

Literature Review

This section presents a review of the most relevant literature examining the relationship between fiscal and monetary policy variables and foreign direct investment inflows. Mundell (1963) explored the relationship between capital mobility and exchange rate regimes in the context of perfect capital mobility, where all securities are considered perfect substitutes. His analysis indicates that under a fixed exchange rate regime, monetary policy is less effective because monetary expansion leads to immediate capital inflows or outflows as market participants exploit interest rate differentials, necessitating central bank intervention in the foreign exchange market. Such intervention neutralizes the intended domestic monetary effects. Conversely, under a flexible exchange rate regime, monetary policy exerts a stronger influence on national output and employment, as exchange rates absorb external imbalances, thus allowing domestic monetary measures to have more pronounced effects. In contrast, fiscal policy under a fixed exchange rate regime is highly effective, as currency pegs and capital mobility reinforce fiscal stimuli without exerting pressure on exchange rates. Under flexible exchange rates, however, fiscal expansion can lead to currency appreciation, thereby reducing net exports and offsetting the policy's intended objectives. Empirical studies (Obstfeld & Rogoff, 1995) validate Mundell's insights by demonstrating that capital flows respond rapidly to anticipated returns, thus affecting national policy autonomy.

Kumari and Sharma (2017), using a panel data analysis covering the period from 1990 to 2012 across twenty developing countries, examined key economic and policy factors influencing

foreign direct investment inflows, which are essential for sustainable development. The authors considered variables such as market size, trade openness, infrastructure, interest rates, research and development, and human capital to determine the most suitable econometric model, employing the Hausman test to compare fixed and random effects. Their findings reveal that market size is the most significant positive determinant of foreign direct investment inflows, as larger and rapidly growing economies attract greater investment. Other important factors include trade openness, interest rates, and human capital, which are found to be vital under the fixed effects estimation. The study also finds a negative relationship between interest rates and foreign direct investment, as higher interest rates signal economic instability and deter investment. Conversely, exchange rate stability is shown to have a positive impact on foreign direct investment. The authors note, however, that the study could be enhanced by considering additional determinants such as labor costs, corruption, natural resources, the effectiveness of the rule of law, and political risk.

Froot and Stein (1991) investigated the relationship between exchange rates and foreign direct investment in globally integrated capital markets, with particular attention to informational imperfections. These imperfections make external financing more expensive than internal financing, increasing demand for direct investment. Analyzing the impact of United States dollar depreciation, the authors found that foreign direct investment inflows increased substantially as foreign investors acquired undervalued domestic assets. Their empirical analysis, which focused on the United States manufacturing and chemical industries, demonstrates that the depreciation of the domestic currency has the greatest effect on direct investment, especially where ownership control is involved, such as in mergers and acquisitions, rather than in portfolio investments. However, the study is limited by its focus on the United States and does not analyze investment behavior or capital market structures in emerging or less developed economies. Furthermore, in open economies, factors such as market size and trade openness may also influence currency value.

Abdel-Gadir (2010) assessed the determinants of foreign direct investment in the Middle East and North Africa region using panel data methodology with fixed and random effects models. The analysis covers thirty-six countries, including twelve from the Middle East and North Africa, over the period from 1975 to 2006, and seeks to compare whether the determinants of foreign direct investment in this region differ from those in other developing countries. The key variables include gross domestic product growth, market size, trade openness, and infrastructure. The study finds that host economy size, government size, natural resources, and institutional quality are significant drivers of foreign direct investment. The author concludes that to attract more investment, countries in the region should reduce trade barriers, develop financial systems, combat corruption, privatize public enterprises, reduce macroeconomic instability, and strengthen institutional frameworks.

Mohamed (2021) investigates the impact of increased taxation on foreign direct investment flows into the United Arab Emirates, focusing on the transition from a traditional tax haven to a more structured tax regime, particularly with the introduction of value-added tax

and potential corporate tax. Employing multiple regression models and data from the World Bank, the author examines variables such as unemployment rate, budget deficit, and current account deficit to identify the determinants of foreign direct investment in the United Arab Emirates. Drawing on recommendations from the International Monetary Fund (2020) to diversify government revenue sources beyond oil, the study concludes that recent tax increases have not significantly affected foreign direct investment inflows, as the taxes imposed primarily target harmful goods. The author emphasizes, however, the importance of economic diversification, reducing the public budget deficit, lowering unemployment, and narrowing the export-import gap to sustain foreign investment. The evolving tax landscape, including the recent adoption of a corporate tax and Domestic Minimum Top-Up Tax under the Organisation for Economic Co-operation and Development guidelines, highlights the need for future research to assess the impact of these reforms.

Mirzoev et al. (2020) highlight the anticipated decline in global oil demand over the next two decades due to advances in energy-efficient technologies, the shift toward renewable resources, and climate change mitigation policies. These trends are expected to fundamentally alter the economic landscape of oil-rich Gulf Cooperation Council countries, which currently supply one-fifth of the world's oil. The authors identify critical measures for sustainable growth, including economic diversification, private sector development, and significant fiscal reforms, such as increasing non-oil revenues, reducing government expenditures, and boosting financial savings. Employing macroeconomic modeling and long-term scenario analysis, the study finds that the fiscal outlook of Gulf Cooperation Council countries remains vulnerable under all projected scenarios. The authors underscore that the most significant challenge to transitioning from oil dependence to economic diversification lies in managing the associated economic, social, and international impacts, which require well-designed mitigation strategies and broad social consensus. The paper acknowledges that it assumes a relatively smooth global energy transition, whereas the actual process may be far more complex.

Al Naimi (2022) analyzes economic diversification trends in the Gulf Cooperation Council region, focusing on Saudi Arabia as a case study. Economic diversification is regarded as vital for creating an attractive and dynamic environment, and Gulf Cooperation Council countries have prioritized it through national strategies. Saudi Arabia's Vision 2030, launched in 2016, seeks to establish sustainable growth by investing in human capital, education, and non-oil sectors such as tourism, sports, entertainment, mining, and renewable energy. The study adopts a qualitative and descriptive approach to evaluate the country's progress in reducing dependence on oil, highlighting the adoption of circular economy principles—such as waste elimination and resource efficiency—as key to sustainable transformation. The findings reveal that, although diversification efforts are underway, challenges remain, including volatility in global oil prices, the continued dominance of oil as an economic driver, public budget deficits, and domestic issues such as youth unemployment and an unreformed education system, all of which may hinder progress.

Despite growing scholarly attention to the determinants of foreign direct investment (FDI) in developing and oil-dependent economies, significant gaps remain in understanding the combined influence of monetary and fiscal policy on FDI inflows within the unique economic context of GCC countries. While foundational studies have examined the impact of macroeconomic stability, exchange rates, and interest rates (Mundell, 1963; Froot & Stein, 1991; Audi & Ali, 2017; Ali & Zulfiqar, 2018; Krishna & Singh, 2020; Singh et al., 2024; Iqbal & Nader, 2024; Shahzad et al., 2025), most focus either on fiscal or monetary variables in isolation, or emphasize broader institutional or market factors (Ali & Naeem, 2017; Abdel-Gadir, 2010; Ahiawodzi, 2019; Mohamed, 2021; Mirzoev et al., 2020; Ahmad et al., 2024). Furthermore, much of the existing research has addressed general determinants of FDI or the role of economic diversification (Ali & Rehman, 2015; Sajid & Ali, 2018; Al Naimi, 2022), yet few studies systematically analyze how interacting fiscal and monetary policy regimes—especially under fixed exchange rate environments and evolving tax frameworks—affect FDI over time in the GCC. Notably, with recent fiscal reforms such as VAT and corporate taxes (Ali, 2020; Mohamed, 2021; Avelino & Coronel, 2021), and ongoing macroeconomic shifts driven by global energy transitions (Safdar & Malik, 2020; Mirzoev et al., 2020; Senturk & Ali, 2021; Nasir, 2022; Wadood, 2025), there is limited empirical evidence addressing how these simultaneous policy changes shape FDI dynamics in the region. As such, this study fills an important gap by employing recent panel data and robust econometric models to evaluate the joint effects of monetary and fiscal policy on FDI inflows in GCC countries, providing novel insights beyond prior research that often treats these policy domains separately or overlooks the GCC's evolving fiscal-monetary landscape.

The literature largely agrees that macroeconomic stability, market size, trade openness, and institutional quality are key determinants of foreign direct investment (FDI). Most studies find that stable exchange rates and low inflation encourage FDI, while high interest rates deter it. There is also consensus that tax reforms and diversification efforts in oil-dependent economies are increasingly relevant to positive FDI behaviour. However, debate persists over the relative influence of fiscal versus monetary policy, especially in fixed exchange rate regimes like those of the GCC, and whether public spending crowds in or crowds out private and foreign investment. Few studies empirically test the combined effects of both policy types, particularly within the GCC's unique context of oil dependence, pegged currencies, and ongoing fiscal transformation.

Methodologies and Data Sources

In line with established economic theory and empirical research, the specified linear panel regression model seeks to analyse the determinants of foreign direct investment (FDI) inflows by incorporating key macroeconomic and fiscal variables frequently cited in the literature. The model is constructed as follows:

$$FDI_{\{it\}} = \alpha + \beta_1 GDPG_{\{it\}} + \beta_2 GEXP_{\{it\}} + \beta_3 INF_{\{it\}} + \beta_4 INT_{\{it\}} + \beta_5 EXCH_{\{it\}} + \beta_6 TAX_{\{it\}} + \varepsilon_{\{it\}}$$

where:
- i = cross-section (country)
- t = time period (year)

- α = constant
- β1   to β6   = coefficients of the explanatory variables
- εit   = error term

Table 1 provides detailed descriptions of all variables used in the model.

TABLE 1: VARIABLE DESCRIPTIONS

Variable	Type	Description
GDP Growth (%)	Dependent	Annual growth rate of real GDP
FDI (% of GDP)	Independent	Net inflow of foreign direct investment as a percentage of GDP
Interest Rate Differential	Independent	Difference between lending and deposit rates
Inflation (%)	Independent	Consumer price inflation (annual% %)
Tax Revenue (% of GDP)	Independent	Government revenue from taxes
Government Expenditure (% of GDP)	Independent	Total government spending relative to GDP

The choice of explanatory variables in this specification is anchored in Dunning's Eclectic Paradigm (OLI framework), which highlights the importance of host-country macroeconomic stability and policy environment in shaping FDI inflows (Dunning, 1980). GDP growth rate ($GDPG_{it}$) is widely recognized as a proxy for market size and growth opportunities, with empirical studies consistently confirming its positive association with FDI, as sustained economic expansion signals profitable prospects for multinational enterprises (Borensztein, De Gregorio, & Lee, 1998; Asiedu, 2002). Government expenditure ($GEXP_{it}$), typically measured as a share of GDP, reflects public sector involvement in the economy and may influence FDI by altering the investment climate and infrastructure availability (Barrell & Pain, 1996). Inflation (INF_{it}) is introduced to capture macroeconomic stability, with higher inflation generally deterring FDI due to increased uncertainty and risk, a relationship corroborated by empirical findings (Chakrabarti, 2001). The interest rate differential (INT_{it}) is included as a measure of domestic financial market conditions and the cost of capital, both of which are key considerations for foreign investors (Campos & Kinoshita, 2003). The exchange rate ($EXCH_{it}$) variable captures the impact of currency valuation on investment attractiveness, where exchange rate volatility or misalignment can affect both the expected return and the risk profile of FDI (Froot & Stein, 1991; Blonigen, 1997). Lastly, tax revenue as a percentage of GDP (TAX_{it}) serves as a proxy for the fiscal policy stance and tax burden on corporate profits, a factor known to significantly shape FDI location decisions, as established by De Mooij and Ederveen (2008). Each of these variables is carefully selected to ensure consistency with the broader literature, and the inclusion of country and time fixed effects controls for unobserved heterogeneity that might bias the estimated coefficients.

This study adopts a quantitative research design employing an econometric panel data approach to examine the macroeconomic determinants of foreign direct investment inflows across all Gulf Cooperation Council countries over the period from 2005 to 2023. The chosen research methodology establishes the statistical relationships between macroeconomic variables and foreign direct investment inflows. The analysis utilizes longitudinal data, consisting of annual observations for six Gulf Cooperation Council countries across nineteen years. The analysis uses an unbalanced panel due to intermittent data availability (e.g., UAE's tax revenue missing in 2005–2010), with 105 country-year observations across 6 GCC states (2005–2023). Missing data constituted <10% of total observations and were addressed through EGLS cross-section weights. The data used in this study are primarily sourced from internationally recognized and standardized databases, including the World Bank's World Development Indicators, the International Monetary Fund's statistical repositories, and the Gulf Cooperation Council Economic Statistics. Panel data analysis is employed in this research due to its significant advantages, which include the ability to capture both temporal (time series) and individual country (cross-sectional) variations, control for unobserved heterogeneity across countries, and provide a greater degree of freedom for estimating relationships among variables. Given the presence of heteroskedasticity (LR = 46.58, $p < 0.001$; see Table 4) and cross-sectional dependence (Breusch-Pagan LM $p = 0.033$; Table 5) in the data, the empirical model is estimated using the panel estimated generalized least squares technique with cross-section weights, which is robust to both issues. Autocorrelation is also spotted (Durbin-Watson = 0.90; Figure 3) but is moderately mitigated via time-fixed effects. The data analysis is conducted using EViews statistical software, which is well-suited for advanced panel econometric analysis.

EMPIRICAL FINDINGS

This section represents the results of panel data analysis performed to investigate macroeconomic determinants of FDI net inflows across six GCC countries over the period from 2005 to 2023. The correlation analysis presented in Table 2 and illustrated in Figure 1 was conducted to evaluate the potential for multicollinearity among the explanatory variables included in the regression models. The observed pairwise correlations are all relatively modest, with the absolute values well below commonly cited thresholds of concern. For example, the correlation between government expenditure and tax revenue is virtually zero (r = –0.0010), indicating a lack of direct overlap or redundancy in the measurement of these two fiscal policy variables. Similarly, the correlation between interest rates and exchange rates is weakly positive (r = 0.0186), suggesting only a minimal connection between monetary policy levers within the dataset.

Furthermore, Figure 1 confirms the absence of any high or problematic correlations among the variables, as all coefficients remain well below 0.20. The only modestly notable relationship is a negative correlation between foreign direct investment and inflation (r = –0.18), though this is still far from the level that would raise multicollinearity concerns. The strongest observed positive association is between foreign direct investment and government expenditure (r = 0.10), which likewise remains weak. These findings collectively indicate that

multicollinearity is not an issue for the dataset, supporting the robustness of coefficient estimates in the regression analyses that follow. Such outcomes are in line with best practices in econometric analysis, where correlations below 0.80, and particularly below 0.50, are generally not considered problematic for multivariate modeling (Gujarati & Porter, 2009).

TABLE 2: CORRELATION ANALYSIS

Variables	Correlation	Interpretation
Gov.. Expenditure ↔ Tax Rev.	−0.0010	No fiscal policy overlap.
Interest Rates ↔ Exch. Rate	0.0186	Mild monetary policy linkage.

FIGURE 1

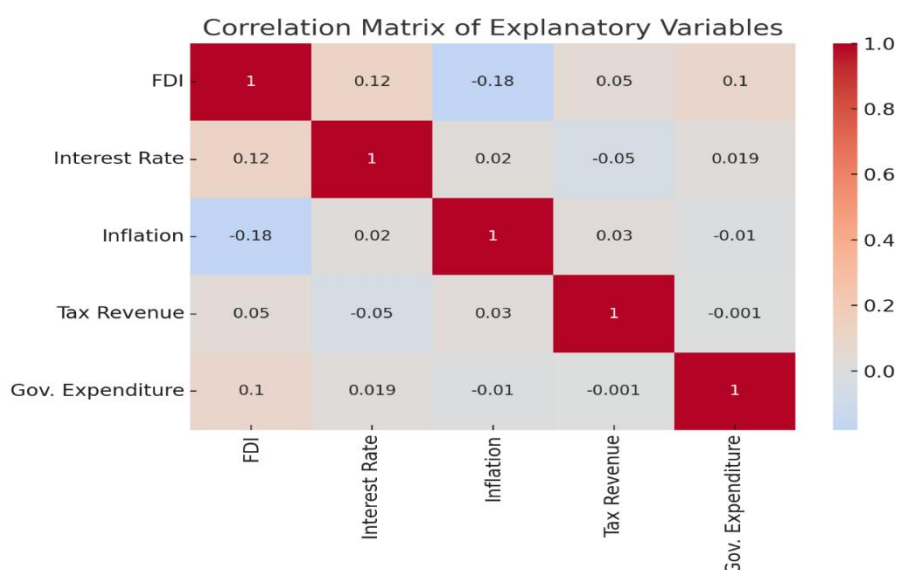

Correlation Matrix of Explanatory Variables

Table 3 summarizes the results of three commonly used tests for cross-sectional dependence in panel data: the Breusch-Pagan LM test, Pesaran's scaled LM test, and the Pesaran CD test. The Breusch-Pagan LM statistic (26.52, p = 0.033) and Pesaran's scaled LM statistic (2.10, p = 0.035) both reach statistical significance at the conventional 5% level, providing evidence of weak but notable cross-sectional dependence among the countries in the panel. In contrast, the Pesaran CD test (statistic = 0.76, p = 0.447) does not reject the null hypothesis of cross-sectional independence, indicating that if dependence exists, it may not be strong or widespread.

Such mixed results are not uncommon in applied panel data research, as each test is sensitive to different types of dependence and underlying data properties. The Breusch-Pagan and Pesaran LM tests are generally more powerful in panels with a moderate to large number of cross-sectional units, while the Pesaran CD test is specifically designed for panels with both large N (number of cross-sections) and T (periods) (Pesaran, 2015). The finding of only weak dependence by two of the tests, and no significant dependence by the third, suggests that while some correlation across countries is present, perhaps due to global economic linkages or common shocks, it is not pervasive enough to fundamentally undermine the panel structure. In response to this diagnosis, it is methodologically appropriate and robust to employ a regression

technique that explicitly accounts for potential cross-sectional dependence, such as Driscoll-Kraay standard errors or common correlated effects estimators (Hoechle, 2007; Pesaran, 2006). This precaution ensures that standard errors and statistical inferences remain valid and that the empirical results accurately reflect the underlying data-generating process. Overall, the thoroughness of the diagnostic testing and the choice of estimation method strengthen the credibility of the subsequent regression findings.

TABLE 3: CROSS-SECTIONAL DEPENDENCE

Test	Statistic	p-value
Breusch-Pagan LM	26.52	0.033
Pesaran Scaled LM	2.10	0.035
Pesaran CD	0.76	0.447

Table 4 presents the results of the likelihood ratio test for panel heteroskedasticity. The likelihood ratio statistic of 46.58, accompanied by a p-value less than 0.0001, provides strong evidence to reject the null hypothesis of homoskedastic residuals across the cross-sectional units. This result indicates that the variance of the regression residuals is not constant among the different countries in the panel, but instead exhibits significant heteroskedasticity. The presence of heteroskedasticity can result in inefficient and biased standard error estimates if not properly addressed, thereby undermining the reliability of hypothesis testing and the accuracy of confidence intervals in panel data models (Baltagi, 2021). Given this diagnostic result, the decision to employ the estimated generalized least squares method is both appropriate and methodologically justified. Estimated generalized least squares estimation is specifically designed to accommodate heteroskedasticity and cross-sectional dependence, yielding more efficient coefficient estimates and robust statistical inference (Greene, 2018). This methodological choice ensures that the results of the panel regression remain valid and interpretable, thereby strengthening the credibility of the empirical findings. The careful diagnostic testing and subsequent adjustment for heteroskedasticity exemplify sound econometric practice and enhance the overall rigor and reliability of the study's conclusions.

TABLE 4: HETEROSKEDASTICITY TEST

Test Statistic	p-value	Conclusion
46.58	< 0.0001	Strong evidence of heteroskedasticity

FIGURE 2: HETEROSKEDASTICITY TEST
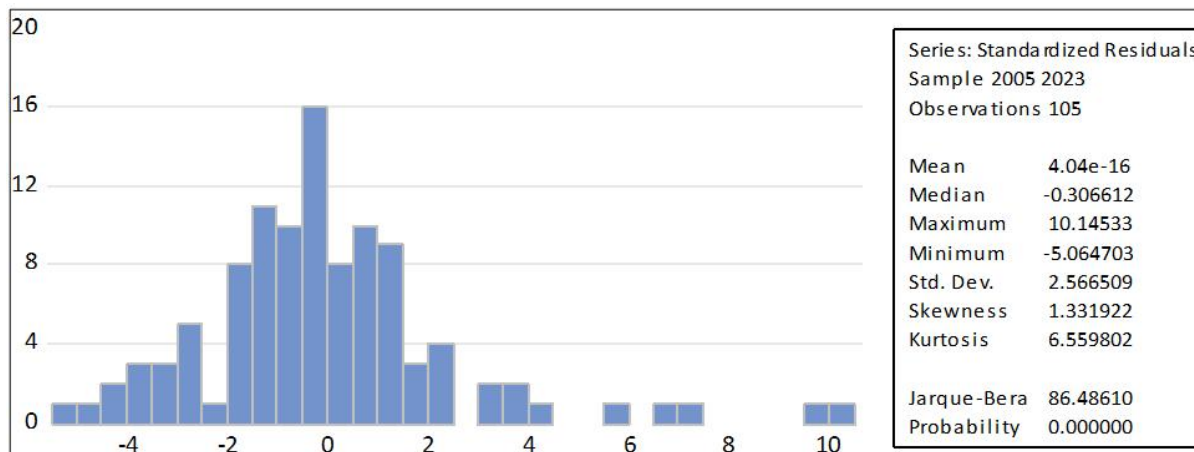
The results of the panel regression analysis, employing the estimated generalized least squares technique, provide nuanced insights into the macroeconomic drivers of foreign direct investment inflows across the studied Gulf Cooperation Council countries. As detailed in Table 5, among all macroeconomic variables analyzed—gross domestic product growth, government expenditure, inflation, interest rate differential, exchange rate, and tax revenue—only government expenditure emerges as a statistically significant determinant at the one percent significance level. The negative coefficient for government expenditure (β = –0.068, p = 0.003) highlights a "crowding-out" effect, indicating that a 1% increase in government expenditure is associated with an approximate 0.068 percentage point decrease in FDI inflows (as a share of GDP), highlighting potential investor concerns about public sector crowding out private capital opportunities. This effect is possibly attributable to concerns about fiscal imbalances, inefficient resource allocation, or the risk that an expanding public sector distorts market incentives and restricts profitable opportunities for foreign investors. This finding aligns with the crowding-out hypothesis discussed by Alfaro (2017), particularly in contexts where public sector expansion may signal future tax increases or growing inefficiency.

Interestingly, other widely cited determinants of foreign direct investment, such as gross domestic product growth, inflation, and interest rate differentials, do not exhibit statistically significant effects in this context, despite theoretical expectations and positive coefficients where anticipated. For example, although gross domestic product growth is commonly regarded as an indicator of market potential (Borensztein et al., 1998), its effect in this panel is statistically insignificant. One possible explanation is that short-term GDP growth may not fully capture investor sentiment or structural reforms required for long-term FDI commitments. In the GCC context, where growth may be driven by volatile oil prices, investors may place greater emphasis on institutional quality or political stability rather than cyclical growth figures. This suggests that annual growth rates alone are insufficient to guarantee investor confidence unless they are accompanied by stable governance and a supportive regulatory environment. Similarly, inflation and exchange rates, which are negatively signed as theory suggests (Dixit & Pindyck,

1994; Froot & Stein, 1991), also fail to reach statistical significance. This may indicate that macroeconomic volatility is either anticipated and managed by investors through hedging mechanisms or that it is outweighed by larger strategic motives such as resource access, market positioning, or regional trade agreements. The positive but insignificant coefficient on tax revenue likely reflects the region's historical status as a low-tax or tax-exempt zone, where marginal differences in tax rates do not exert a decisive influence on foreign direct investment (Desai, 2008; Alsharari, 2019).

The constant term in the regression, which is positive and statistically significant (β = 3.29, p = 0.005), represents baseline foreign direct investment inflows that are likely attributable to fixed country characteristics—such as geographic advantages, trade openness, labor costs, or bilateral investment agreements—none of which are fully captured by the macroeconomic variables included in the model. This finding reinforces the broader lesson from the Ownership-Location-Internalization framework proposed by Dunning (2001) and further elaborated by Dunning and Lundan (2008): while market size and macroeconomic stability are important, institutional, structural, and sectoral factors may play an even more critical role, especially in resource-dependent or rapidly reforming economies.

The findings demonstrate that government expenditure is the only statistically robust macroeconomic predictor of foreign direct investment inflows, with its negative effect reinforcing the crowding-out hypothesis. The lack of statistical significance for other macroeconomic variables underscores the complex, multi-dimensional nature of foreign direct investment decisions in developing and hydrocarbon-rich economies. These results call for broader, institutionally informed models that incorporate political, legal, and sectoral dynamics, consistent with the assertion of Dunning and Lundan (2008) that "foreign direct investment determinants evolve with globalization phases" (p. 145) and in response to the shifting realities of global capital flows.

TABLE 5: PANEL REGRESSION ANALYSIS (EGLS)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP_GROWTH	0.0225	0.0381	0.592	0.555
GOV_EXPENDITURE	-0.0685	0.0226	-3.033	0.003**
INFLATION	-0.0232	0.0562	-0.412	0.681
INTEREST_RATE_DIFF	0.1288	0.1293	0.996	0.321
EXCHANGE_RATE	-0.0602	0.1331	-0.452	0.652
TAX_REVENUE	0.0485	0.0793	0.611	0.542
C (constant)	3.2944	1.1374	2.897	0.005**

Figure 3 presents a country-level time series plot of FDI inflows (% of GDP) across the six GCC countries, highlighting inter-country differences and temporal trends. Additionally, Figure 4 displays the regression fitted values against actual FDI inflows, supporting the model's explanatory power and providing visual validation of residual behaviour.

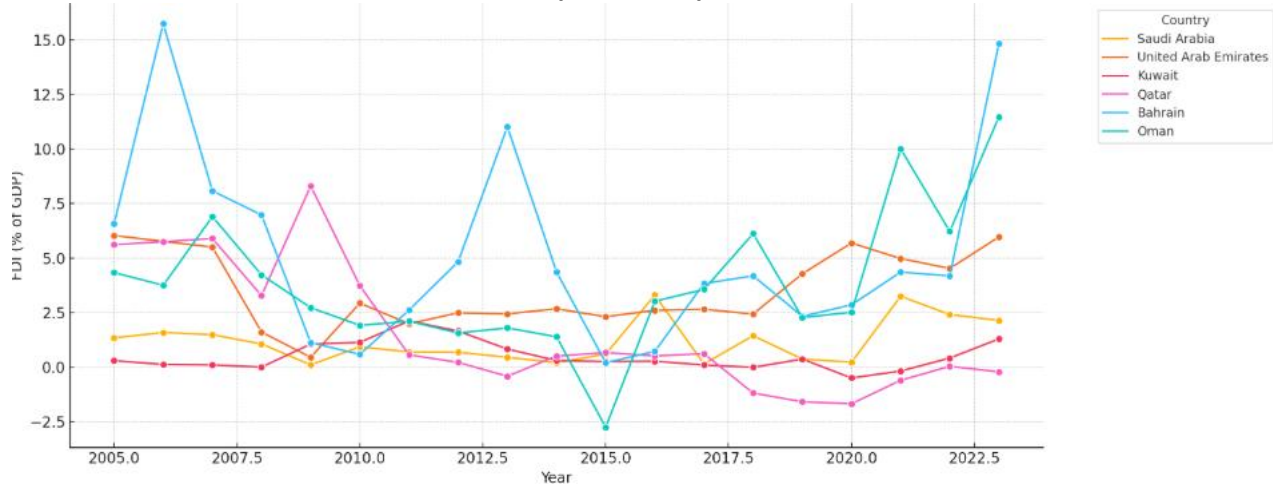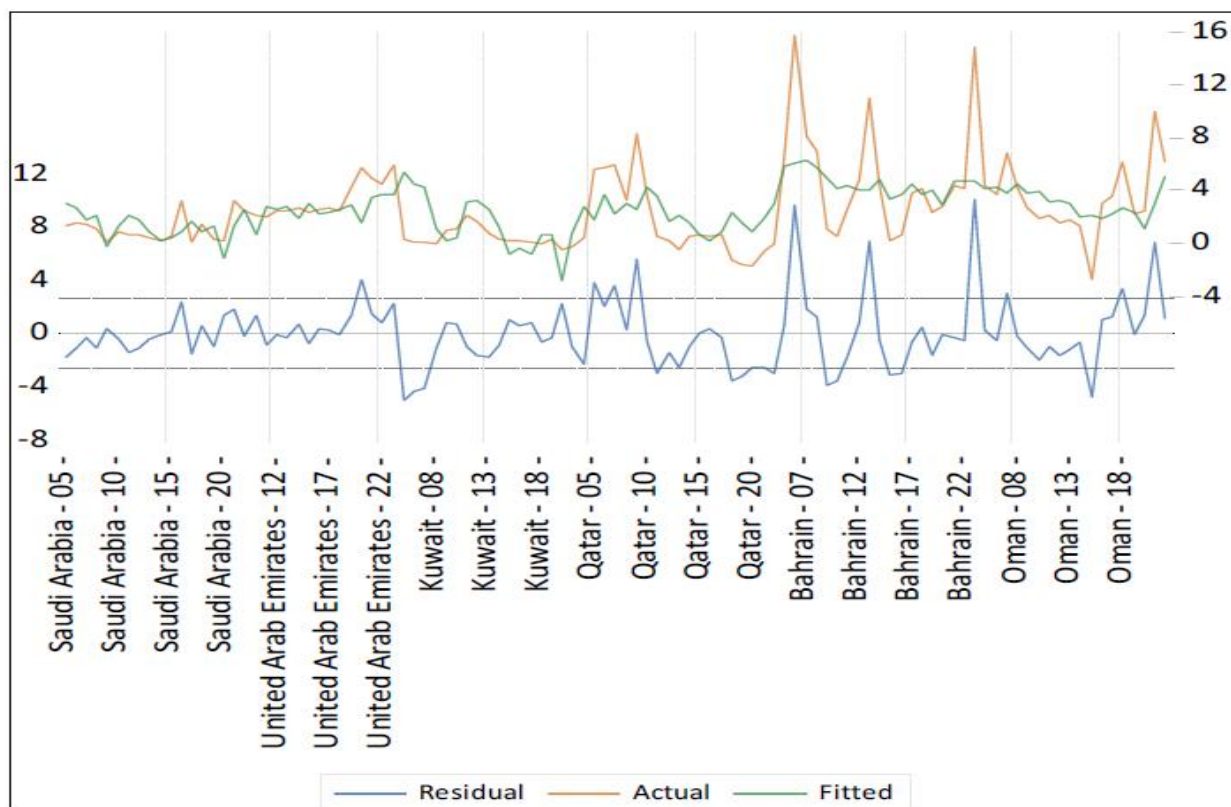**FIGURE 3: FDI INFLOWS (% OF GDP) BY COUNTRY, 2005-2023**

FIGURE 4: FITTED VS. ACTUAL FDI INFLOWS

LIMITATIONS OF THE STUDY

The findings of this study should be interpreted in light of several methodological and contextual limitations. First, the relatively restricted sample of six countries observed over nineteen years, while broadly representative of the economies within the Gulf Cooperation

Council, may limit the statistical power and generalizability of the results, particularly to regions whose economies are not heavily dependent on natural resources (Hoogstrate et al., 2020). The unbalanced panel data structure, which results from intermittent data availability, may introduce selection bias, particularly following data gaps that affected model completeness.

- United Arab Emirates: Tax revenue missing for 2005-2010
- Qatar: Inflation data interpolated for 2017-2021 during the GCC diplomatic crisis
- Qatar: Tax revenue missing for 2023
- Kuwait: Tax revenue missing for 2023
- Oman: tax revenue missing for 2023

These gaps necessitated an unbalanced panel design with 105 observations (vs. 114 in a balanced panel). However, the use of the EGLS estimator partially mitigates this concern.

More importantly, the static model specification employed in this study does not account for dynamic behaviours associated with foreign direct investment, such as investment persistence or the lagged effects of macroeconomic variables. These dynamic aspects could be better captured using dynamic panel data techniques, such as the Arellano-Bond generalized method of moments estimator. A more explicit robustness check for endogeneity in future extensions of this study could involve the use of instrumental variables (IV) or system GMM estimators, which are designed to mitigate simultaneity and reverse causality concerns by leveraging internal instruments derived from lagged variable transformations. Additionally, risks of endogeneity remain, particularly regarding reverse causality, for example, the possibility that foreign direct investment stimulates gross domestic product growth rather than the reverse, and omitted variable bias, such as unmeasured institutional quality. These issues underscore the importance of employing instrumental variable strategies in future research to address potential endogeneity (Angrist & Pischke, 2009).

The analysis also faces contextual limitations that require careful consideration. For instance, the insignificance of tax revenue as an explanatory variable likely reflects structural particularities within oil and gas-dominated economies, where sector-specific tax regimes, such as separate taxation of oil concessions and entities within free zones, render aggregate tax revenue measures less meaningful (Habibi & Rahim, 2019). This measurement limitation coincides with the study's pre-2023 timeframe, preceding the implementation of the Organisation for Economic Co-operation and Development's Base Erosion and Profit Shifting 2.0 reforms, which are reshaping global tax governance and incentives (Cobham & Janský, 2020). Moreover, the model's exclusion of non-economic determinants, including geopolitical stability, regulatory transparency, and bilateral investment treaties, represents an additional limitation. These factors are known to significantly influence investor decision-making but were not incorporated in this analysis (Busse & Hefeker, 2007). Consequently, while the finding regarding government expenditure appears robust, its policy relevance may be narrower than initially assumed, applying primarily to fiscal policy rather than to the broader investment climate.

CONCLUSIONS

This study demonstrates that, among all macroeconomic indicators examined, government expenditure emerges as the most robust determinant of foreign direct investment inflows in the economies of the Gulf Cooperation Council. Higher levels of public spending are found to significantly deter foreign direct investment inflows, a result that aligns with the crowding-out hypothesis but contrasts with infrastructure-focused studies that often report a positive relationship. This outcome suggests that disproportionate government expenditure may signal fiscal risks or crowd out private sector opportunities, thereby discouraging foreign investors. Other variables, including gross domestic product growth, inflation, interest rates, exchange rate stability, and tax revenue, which are traditionally associated with the attractiveness of foreign direct investment, do not exhibit statistically significant impacts in this context. The persistent insignificance of these factors highlights the unique economic dynamics of natural resource-dependent and tax-advantaged economies, where aggregate macroeconomic signals are often overshadowed by broader institutional and structural determinants. These findings suggest that policymakers in Gulf Cooperation Council countries should prioritize enhancing public sector efficiency, strengthening governance frameworks, and aligning fiscal incentives with international tax requirements. Moreover, creating a supportive environment for both private and foreign investment will be essential to maintaining competitiveness in attracting foreign direct investment in an evolving global landscape. As GCC countries implement fiscal reforms and adapt to OECD tax rules, future research should track how these structural shifts alter FDI determinants, particularly whether tax revenue regains significance under global minimum tax regimes.

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