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## Article

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# The entrepreneurship-growth nexus in the GCC: does political stability matter?

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## ABSTRACT

This research paper aims to explore the complex relationship between entrepreneurship (REE), economic growth (GDP), and the moderating role of political stability (PS) in the context of the Gulf Cooperation Council (GCC) countries. Utilizing a balanced panel dataset from 2006 to 2020, we employed Panel Least Squares and Panel EGLS (Cross-section random effects) to evaluate the interactions among these variables. The findings reveal that more than entrepreneurship alone is needed to significantly contribute to economic growth in the GCC countries. However, when political stability serves as a moderating variable, the impact of entrepreneurship on economic growth becomes markedly positive. The study provides critical insights for policymakers, indicating the necessity of a multi-faceted approach incorporating entrepreneurship and political stability in economic planning. The research fills a significant gap in the existing literature by shedding light on the intertwined nature of entrepreneurship and political stability as crucial drivers of economic growth in the GCC. This paper further offers concrete policy recommendations rooted in empirical evidence, aiming to guide future economic strategies in the region.

## IMPACT STATEMENT

This research paper explores the intricate relationship between entrepreneurship, economic growth, and the moderating role of political stability within the Gulf Cooperation Council (GCC) countries. Utilizing a balanced panel dataset from 2006 to 2020, the study employs Panel Least Squares and Panel EGLS (Cross-section random effects) to analyze the interactions among these variables. The findings reveal that entrepreneurship alone does not significantly contribute to economic growth in the GCC countries. However, when political stability serves as a moderating variable, the impact of entrepreneurship on economic growth becomes significantly positive. This research provides essential insights for policymakers, highlighting the necessity of a multifaceted approach that incorporates both entrepreneurship and political stability in economic planning. By addressing a critical gap in existing literature, this study underscores the intertwined nature of entrepreneurship and political stability as pivotal drivers of economic growth in the GCC, offering concrete policy recommendations based on empirical evidence to guide future economic strategies in the region.

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## 1. Introduction

Entrepreneurship is a cornerstone of economic dynamism, fostering innovation, job creation, and competitiveness. Its effects often transcend the market, influencing various economic and social dimensions. In the backdrop of the Gulf Cooperation Council (GCC) countries, which are vigorously strategizing to diversify their oil-dependent economies, understanding the role of entrepreneurship becomes imperative. Equally crucial is to recognize how the political landscape influences these dynamics. This study

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aims to delve into these aspects by exploring the impact of entrepreneurship on economic growth within GCC nations, with political stability acting as a moderating variable.

While numerous studies have shed light on the critical role of entrepreneurship in economic development, Sabra and Shreteh (2021), Hussain et al. (2021), and Stoica et al. (2020) limited work exists that investigates this relationship in the unique economic and political milieu of the GCC. The region, widely recognized for its oil reserves, needs economic diversification to foster sustainable growth. There is also an absence of research that considers political stability as a moderating factor in the relationship between entrepreneurship and economic growth. Therefore, it is imperative to address this void by conducting an empirical investigation that accounts for these variables within the GCC context.

Understanding the nuanced relationships between entrepreneurship, economic growth, and political stability is essential for policy formulation and academic discourse. The GCC countries are at a pivotal stage where they aim to transition from oil-reliant economies to more diversified, robust economic landscapes. Policymakers and stakeholders can leverage the insights from this study to make informed decisions on fostering entrepreneurship and ensuring political stability for sustainable economic growth.

This study enriches the literature by exploring the nuanced role of political stability as a moderating factor between entrepreneurship and economic growth in the GCC countries. Unlike prior research, which predominantly examines the direct impacts of entrepreneurship on economic growth, our analysis uniquely identifies political stability as a pivotal enhancer of this relationship. This approach offers fresh insights into how political environments influence economic outcomes, providing valuable guidance for policymakers and stakeholders in the region.

The main objectives of this research are:

- To empirically analyze the relationship between entrepreneurship (REE) and the GCC countries' economic growth (GDP).
- To investigate how political stability (PS) moderates the relationship between entrepreneurship and economic growth.
- To provide policy recommendations based on the empirical findings.

This research paper is organized into various sections to provide a comprehensive analysis. After this introduction, the study features a detailed literature review, which elucidates the theoretical underpinnings and highlights the existing gap in research. Following the literature review, the methodology section outlines the data collection methods, sample characteristics, and the applied statistical techniques. Subsequently, the results section discusses the empirical findings in-depth, contrasting them with existing studies. Finally, the conclusion summarizes key insights, policy implications and suggests areas for future research.

## 2. Literature review

Understanding the relationship between entrepreneurship (REE) and economic growth (GDP) is crucial for policy formulation, especially in regions like the Gulf Cooperation Council (GCC), where diversified economic growth is a strategic imperative. This review presents a survey of existing literature, focusing on research investigating entrepreneurship's impact on economic growth and the moderating role of political stability.

### 2.1. Theoretical underpinnings

The economic development theory posits that entrepreneurship is essential to economic evolution (Schumpeter, 1934). Entrepreneurs drive innovation, job creation and contribute to GDP growth. According to Wennekers and Thurik (1999), entrepreneurial activities can directly and indirectly impact economic development. This relationship is compatible with most studies in this discipline, which concluded that entrepreneurship and creating new businesses, especially since the great depression, has had a positive and significant effect on economic growth and disrupted the business cycle (Emami Langroodi 2021).

### **2.1.1. Schumpeter's theory of economic development**

Joseph Schumpeter's seminal theory of economic development is at the heart of the discourse on entrepreneurship and economic growth. Schumpeter (1934) posits that the essence of economic development lies in 'creative destruction', where innovative entrepreneurs disrupt existing market structures, paving the way for new industries and increasing productivity. In this view, the entrepreneurial function serves as the engine of economic advancement and is inherently tied to the concept of innovation.

### **2.1.2. Solow-Swan model**

In contrast, the Solow-Swan model of economic growth emphasizes the role of capital accumulation and technological progress but neglects entrepreneurship as a distinct variable. According to this neo-classical perspective, economic growth is mainly a function of capital, Labour, and technology, with entrepreneurial activities submerged under the broader category of 'Labor' (Solow, 1956; Swan, 1956).

### **2.1.3. The resource-based view (RBV)**

In the Resource-Based View of the firm, Barney (1991) argues that firms gain and sustain competitive advantage through deploying valuable, rare, and non-substitutable resources. According to Furr and Eisenhardt (2021) and William Schulze et al. (2015) RBV is also relevant for understanding strategies for market entry, extending the value of technology resources, and broadening the locus of resources within the ecosystem. In the context of entrepreneurship, human capital, social networks, and innovative capability are unique resources that contribute to economic growth.

### **2.1.4. Institutional theory**

Institutional theory provides another lens through which the entrepreneurship-growth relationship can be understood. According to North (1990), formal and informal institutions play a critical role in shaping entrepreneurial behaviour and, by extension, economic growth. The study by Urbano et al. (2019) suggests that the institutional framework seems appropriate for understanding the factors that encourage or discourage entrepreneurial engagement across countries and regions. Hamdan et al. (2022) argued that it is necessary to consider the institutional context of formal and informal institutions to understand better the continued growth of entrepreneurship in emerging economies. From an institutional perspective, political stability can significantly influence these institutions and, therefore, serve as a moderator between entrepreneurship and economic growth.

## **2.2. Entrepreneurship and economic growth**

Entrepreneurship, defined as the act of initiating, managing, and assuming the risks of a business or enterprise, is a pivotal driver of economic innovation, job creation, and competitiveness. Shane and Venkataraman (2000) underscore the role of entrepreneurship in identifying and exploiting new opportunities, thus fueling economic growth. This foundational perspective is echoed and expanded upon by various scholars who examine the nuanced impacts of entrepreneurship across different economic contexts.

Within the theoretical framework, the study draws upon Schumpeter's seminal theory, which posits entrepreneurship as a catalyst for economic innovation through 'creative destruction.' This concept is explored in depth by Emami Langroodi (2021) and Acs et al. (2018), who articulates the significance of entrepreneurship's disruptive force in stimulating economic growth, aligning with the foundational theories underpinning our research.

Savrul (2017) analyzes the impact of entrepreneurship on economic growth using Global Entrepreneurship Monitor (GEM) data. This empirical investigation parallels our methodology, offering a comparative viewpoint that enriches our understanding of entrepreneurship's role in economic development across different contexts.

Reflecting this, Sabra and Shreteh (2021) provide empirical evidence of a significant positive relationship between entrepreneurship and economic growth in MENA countries, highlighting the transformative potential of entrepreneurship within the GCC region. This relationship is further explored by Acs et al. (2008), who argue that entrepreneurship plays a crucial role in economic development by

facilitating innovation, creating jobs, and enhancing competitiveness in global markets. Hussain et al. (2021) delve into the impact of entrepreneurship on economic growth across both developed and developing countries, exploring the role of institutional frameworks as a moderating factor. Their findings suggest that supportive institutions amplify the positive effects of entrepreneurship on economic growth, underscoring the importance of conducive regulatory and legal environments.

Bosma et al. (2018) highlight the significance of entrepreneurship in Europe, demonstrating how institutional contexts and entrepreneurial ecosystems contribute to varying degrees of economic growth. Their study suggests that a robust entrepreneurial ecosystem, characterized by access to finance, supportive policies, and a culture that encourages risk-taking, is essential for maximizing the economic benefits of entrepreneurship. Stoica et al. (2020) provide a comparative analysis on the nexus between entrepreneurship and economic growth, revealing that the impact varies significantly across different groups of countries. Their research underscores the importance of considering country-specific factors, such as economic structures and levels of development, in understanding the entrepreneurship-growth relationship.

Prieger et al. (2016) examine the optimal level of entrepreneurship necessary for maximizing economic growth, introducing a nuanced perspective that balances the benefits of new venture creation with the challenges of market saturation and competition. Based on the above literature review and the objectives aimed at exploring the complex relationship between entrepreneurship (REE), economic growth (GDP) in the context of the Gulf Cooperation Council (GCC) countries, the following hypothesis is proposed:

H1: *Entrepreneurship positively impacts economic growth in GCC countries.*

### **2.3. The moderating role of political stability**

Political stability is paramount in fostering a favorable environment for economic activities, especially entrepreneurship. The adverse effects of political instability on economic development are well-documented, with research showing that instability introduces significant uncertainty, affects investor confidence, and consequently hampers economic growth. Elbargathi and Al-Assaf (2019) and Kamal et al. (2023) have illustrated how political turmoil can significantly deter economic advancement by creating an environment of uncertainty that discourages investment. Adding to this, studies such as Uddin et al. (2017) and Radu (2015) have empirically demonstrated the positive correlation between political stability and economic growth. Uddin et al. (2017), through an application of dynamic GMM and quantile regression, reveal that political stability significantly boosts economic growth by ensuring a stable environment for investment and entrepreneurial activities. Radu (2015) similarly argues that political stability is a precondition for sustainable economic growth, highlighting its critical importance in the post-transition economies of Eastern Europe, a notion that is highly applicable to the evolving economies of the GCC.

Savrul (2017) analyzes the impact of entrepreneurship on economic growth using Global Entrepreneurship Monitor (GEM) data. This empirical investigation parallels our methodology, offering a comparative viewpoint that enriches our understanding of entrepreneurship's role in economic development across different contexts.

Cox and Weingast (2018) further elaborate on the relationship between executive constraint (a measure of political stability) and economic growth. Their study indicates that countries with higher levels of executive constraint, which implies greater political stability, tend to experience higher economic growth rates. This relationship is particularly relevant to the GCC region, where political structures significantly influence economic policies and entrepreneurial activities.

Moreover, Sobel et al. (2007) discuss how political stability, by reducing barriers to entry and fostering economic freedom, can significantly enhance the entrepreneurial climate and thereby contribute to economic progress. This is supported by North (1991), who emphasizes the role of institutions, including political stability, in shaping economic performance through their influence on costs associated with transaction and transformation.

Reinforcing the key arguments about the interplay between entrepreneurship, economic growth, and political stability in the GCC countries. Bashir and Xu (2014) highlight that political stability significantly

enhances economic growth by fostering a conducive environment for economic activities, which supports our premise that maintaining political stability is essential for leveraging entrepreneurship for economic development. Dalyop (2019) provides empirical evidence from Africa, showing how political instability negatively affects economic performance, thereby underscoring the necessity of a stable political environment for sustainable growth. Similarly, Phul, Rahpoto, and Mangnejo (2020) demonstrate through their time series analysis in Pakistan that political stability positively correlates with economic growth, suggesting that stable political conditions are crucial for economic activities. Corovei and Socol (2019) further support this by illustrating that political stability is a significant determinant of economic growth in the European Union, emphasizing that stable political environments reduce uncertainties and encourage investment. These studies collectively highlight the universal importance of political stability in different economic contexts and provide empirical backing for our analysis of the positive moderating effect of political stability on the relationship between entrepreneurship and economic growth in the GCC countries.

Lastly, Shabbir et al. (2016) explore the intricate relationship between corruption, political stability, and economic growth. Their insights into how political dynamics influence economic outcomes provide a complementary backdrop to our focus on political stability as a critical factor in the entrepreneurship-growth equation within the GCC countries. Based on the above literature review and the objectives aimed at exploring the complex relationship between entrepreneurship (REE), economic growth (GDP) and the moderating role of political stability (PS) in the context of the Gulf Cooperation Council (GCC) countries, the following hypothesis is proposed:

*H2: Political stability moderates the relationship between entrepreneurship and economic growth in GCC countries, enhancing its positive impact.*

## **2.4. Control variables and their impact on the entrepreneurship-economic growth nexus**

Understanding the multifaceted relationship between entrepreneurship and economic growth necessitates considering various control variables that significantly influence this dynamic. These variables not only provide context to the primary analysis but also reveal underlying mechanisms that can either facilitate or hinder the impact of entrepreneurship on economic growth, especially within the unique economic and socio-political landscape of the Gulf Cooperation Council (GCC) countries.

### **2.4.1. Unemployment rate (UN)**

The unemployment rate is a critical indicator of labor market conditions, with potential implications for entrepreneurial activity. High unemployment can lead to increased necessity-driven entrepreneurship as individuals seek alternative means of income. However, this form of entrepreneurship may not always contribute to significant economic growth or innovation. According to Acs et al. (2008), necessity-driven entrepreneurship, while important for individual livelihoods, may not have the same positive impact on economic growth as opportunity-driven entrepreneurship. Based on the above literature review and the objectives aimed at exploring the complex relationship between entrepreneurship (REE), economic growth (GDP) and effects of control variables in the context of the Gulf Cooperation Council (GCC) countries, the following hypothesis is proposed:

*H3: High unemployment rates in GCC countries are positively associated with increased levels of entrepreneurship.*

### **2.4.2. Gross capital formation (GCF)**

Gross Capital Formation measures the number of resources invested in either adding to the stock of fixed assets or replacing depreciated assets, critical for creating an environment conducive to entrepreneurial ventures. Investments in infrastructure, technology, and other physical assets are vital for supporting business activities and fostering economic growth. According to Stoica et al. (2020), GCF not only directly influences economic growth but also provides essential support for entrepreneurial activities, enabling more effective and efficient business operations. Based on the above literature review and the objectives aimed at exploring the complex relationship between entrepreneurship (REE), economic



growth (GDP) and effects of control variables in the context of the Gulf Cooperation Council (GCC) countries, the following hypothesis is proposed:

*H4: Higher levels of gross capital formation in GCC countries are significantly associated with enhanced entrepreneurial ventures and, consequently, greater economic growth.*

#### **2.4.3. Oil prices (OILP)**

For GCC economies, where oil revenues significantly influence economic conditions, fluctuations in oil prices can have profound implications for both economic stability and the entrepreneurship-growth nexus. Volatile oil prices can affect government spending, consumer confidence, and overall economic health, thereby influencing entrepreneurial opportunities and risks. Bjørnskov and Foss (2016) discuss how resource wealth, particularly from oil, can affect institutional quality and economic policy, which in turn influences the entrepreneurial environment and economic growth. Based on the above literature review and the objectives aimed at exploring the complex relationship between entrepreneurship (REE), economic growth (GDP) and effects of control variables in the context of the Gulf Cooperation Council (GCC) countries, the following hypothesis is proposed:

*H5: Fluctuations in oil prices significantly influence the entrepreneurship-economic growth nexus in GCC countries, with volatile oil prices negatively impacting economic stability and thereby constraining entrepreneurial opportunities and growth.*

### **2.5. Gap in literature**

This paper addresses a significant research gap by exploring the dynamics between entrepreneurship, economic growth, and political stability within the Gulf Cooperation Council (GCC) countries. Its value lies in providing a region-specific analysis that considers the unique economic and political landscapes of the GCC. It deepens the discourse by investigating political stability as a moderating factor, thus shedding light on the nuanced ways political conditions affect the entrepreneurship-economic growth nexus. By distinguishing between types of entrepreneurships, the study informs targeted policymaking aimed at fostering sustainable economic development. Moreover, it enriches the literature with empirical evidence and concrete policy recommendations, offering guidance for strategies that promote a supportive environment for entrepreneurship and subsequent economic growth in the GCC.

## **3. Research design and methodology**

This study adopts a comprehensive methodological framework to comprehend the intricate relationships between entrepreneurship, economic growth, and political stability in the context of GCC countries. Below, the employed methodologies are delineated.

### **3.1. Data and variables management**

In this section, we undertake a detailed exploration of the essential components that form the basis of our analysis, focusing on the complex interrelations between entrepreneurship, economic growth, and political stability in the Gulf Cooperation Council (GCC) countries over the period from 2006 to 2020.

Central to our analytical framework are the variables defined in Table 1. Entrepreneurship reflects the intensity of entrepreneurial activity within the GCC (World Bank's Entrepreneurship Database). Economic growth is assessed via the annual percentage growth rate of GDP (World Bank national accounts data). The moderating variable, political stability, is quantified using an index that evaluates the likelihood of political unrest or stability (World Bank's World Development Indicators database).

Supplementing these primary variables are control variables such as the unemployment rate, gross capital formation, and oil prices. These were selected for their demonstrated influence on the entrepreneurship-economic growth nexus, as articulated in existing literature (Sobel et al., 2007; Stoica et al., 2020).



**Table 1.** Variables descriptions and measurement.

Variable	Definition	Measurement	Data source	Citation
Entrepreneurship (REE)	The activity of setting up businesses or taking financial risks in the hope of profit; the level of entrepreneurial engagement within a country.	Independent variables Rate of new business density per 1,000 people aged 18–64.	World Bank's Entrepreneurship Database	Sabra and Shreteh (2021); Pradhan et al. (2020)
Economic growth (GDP)	An increase in the economic production and consumption of goods and services, reflected by an increase in real GDP.	Dependent variable Annual percentage growth rate of GDP at market prices based on constant local currency.	World Bank national accounts data, and OECD National Accounts data files.	World Bank data; Hussain et al. (2021)
Political stability (PS)	The likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including politically motivated violence and terrorism.	Moderator variable Index ranging from –2.5 (weak) to 2.5 (strong) political stability and absence of violence/terrorism.	World Bank's World Development Indicators (WDI) database	Elbargathi and Al-Assaf (2019); Kamal et al. (2023)
Unemployment rate (UN)	The percentage of the labor force that is jobless, expresses the proportion of people without jobs who are actively seeking work.	Control variable Percentage of the total labor force that is not currently employed but seeking employment.	World Bank's World Development Indicators (WDI) database	Sobel et al. (2007); Uddin et al. (2017)
Gross capital formation (GCF)	The net investment in physical assets within a given period; a measure of how much of the new value added in the economy is invested rather than consumed.	Percentage of GDP invested in physical assets.	World Bank's World Development Indicators (WDI) database	Stoica et al. (2020); Abker et al. (2023)
Oil prices (OILP)	The cost per barrel of crude oil, significant for oil-dependent economies like those in the GCC.	Average annual price of crude oil, measured in USD per barrel.	World Bank's World Development Indicators (WDI) database	Bosma et al. (2018); Boudreaux (2019)

Source: Authors' elaboration.

### 3.2. Sampling procedure

The panel dataset consists of 90 balanced observations, with each of the six GCC nations contributing 15 annual data points. This stratified sampling ensures holistic representation.

### 3.3. Equations for the model

The general model for analyzing the relationship between entrepreneurship (REE) and economic growth (GDP) can be represented as:

$$GGDP_{it} = \beta_0 + \beta_1 \times REE_{it} + \beta_2 \times UN_{it} + \beta_3 \times GCF_{it} + \beta_4 \times OIL_{Pit} + \mu_i + \epsilon_{it} \quad (1)$$

Here,  $i$  denote the cross-section (country) and  $t$  denotes the time period.

To incorporate political stability (PS) as a moderator, the equation is expanded as follows:

$$GGDP = \beta_0 + \beta_1 \times UN_{it} + \beta_2 \times GCF_{it} + \beta_3 \times OIL_{Pit} + \beta_4 \times (REE_{it} \times PS_{it}) + \mu_i + \epsilon_{it} \quad (2)$$

Definitions of Variables:

GDP<sub>it</sub>: Gross Domestic Product Growth Rate for country  $i$  at time  $t$  (Dependent Variable)

REE<sub>it</sub>: Rate of Entrepreneurial Engagement for country  $i$  at time  $t$  (Independent Variable)

PSit: Political Stability index for country  $i$  at time  $t$  (Moderating Variable)

UNit: Unemployment rate for country  $i$  at time  $t$  (Control Variable)

GCFit: Gross Capital Formation for country  $i$  at time  $t$  (Control Variable)

OILPit: Oil Price for country  $i$  at time  $t$  (Control Variable)

$\beta_0$ : Constant term

$\beta_1, \beta_2, \beta_3, \beta_4$ : Coefficients of the respective variables

$\mu_i$ : Cross-section (country) specific random effect

$\epsilon_{it}$ : Error term for country  $i$  at time  $t$

By employing these equations, the study aims to disentangle the complexities between entrepreneurship and economic growth and understand how political stability serves as a moderating variable in this relationship.

### 3.4. Statistical techniques

A panel regression model has been used in this research. The Hausman test is used to differentiate between fixed and random effects, in which the null hypothesis assumes that the random effect model is applicable. Meanwhile, the alternative hypothesis indicated that only the fixed-effect model can be used for analysis. However, from Table 2 in the results below, model 1 is statistically significant, as P value is found to be 0.02 which is less than 0.05, which means that the fixed-effect model (FE) is used to ascertain the relationship between entrepreneurship and per capita GDP. Whereas model 2 is not statistically significant, as the P value is found to be 1.00 which is greater than 0.05, which means that the Random-effect model (RE) is used to ascertain the moderating role of PS between entrepreneurship and per capita GDP.

## 4. Results and analysis

Moving into the results and analysis section, we present our empirical findings on the interplay between entrepreneurship, economic growth, and political stability as mediator in the Gulf Cooperation Council (GCC) countries. This part of our study brings data to life, examining how entrepreneurship impacts economic prosperity within the unique context of the GCC and the critical role of political stability as a moderating factor. The insights revealed offer valuable directions for policymakers and underline important considerations for fostering sustainable economic development in the region.

### 4.1. Descriptive statistics

Before delving into the complexity of the model estimations, it is prudent first to provide an overview of the basic descriptive statistics of the data. The dataset comprises annual observations from 2006 to 2020 across six GCC countries, culminating in a balanced panel with a total of 90 observations.

Key variables under study include Gross Domestic Product Growth (GDP), Rate of Entrepreneurial Engagement (REE), Gross Capital Formation (GCF), Unemployment Rate (UN), Oil Prices (OILP), and Political Stability (PS).

These statistics serve as a foundational lens through which the subsequent empirical results can be understood and interpreted. They provide a snapshot of the central tendencies and dispersions in the

**Table 2.** Descriptive statistics.

Variable	GDP	REE	GCF	UN	Oil _P	PS
Mean	3.8	2.1	28.5	2.5	70.9	0.1
Median	3.4	1.8	27.6	2.2	66.1	0.1
Maximum	26.2	7.7	48.9	7.5	99.7	1.2
Minimum	−8.9	0.2	12.8	0.1	39.7	−1.3
Std. Dev.	5.4	1.6	7.4	1.8	20.5	0.8
Skewness	1.1	1.5	0.4	0.7	0.1	−0.1
Kurtosis	6.4	5.3	3.2	2.5	1.6	1.5
Observations	90	90	90	90	90	90

data and offer insights into the skewness and kurtosis, which can indicate the nature of the distribution for each variable.

From Table 2 the average economic growth (GDP) over the sample period is 3.8, while the median is slightly lower at 3.4%, suggesting the distribution might be skewed towards higher values. On the other hand, the data exhibits substantial variation, ranging from a minimum of  $-8.9\%$  to a maximum of  $26.2\%$ . A standard deviation of 5.4 indicates variability in economic growth across observations. Positive skewness (1.1) indicates that the distribution tails off to the right, suggesting occasional periods of very high growth. A kurtosis value greater than 3 (6.4) indicates more pronounced peaks, implying more frequent extreme values than a normal distribution. The average value of entrepreneurship indicators (REE) is 2.1, with a median of 1.8. This suggests a slight rightward skew. High skewness (1.5) indicates the distribution has a tail on the right side, while a kurtosis of 5.3 suggests frequent extreme values.

The mean and median of Gross Capital Formation (GCF) are 28.5 and 27.6, respectively, which are relatively close, suggesting a more symmetric distribution. A slight positive skewness (0.4) suggests occasional periods of very high GCF. The average of Unemployment (UN) is 2.5488, and the median is 2.2. Positive skewness (0.7) indicates the tail is on the right side. The distribution of Oil Price (OILP) seems symmetric, with a mean of 70.9 and a median of 66.1. A shallow skewness value (0.1) further supports this. The kurtosis value 1.6 is less than 3, indicating a platykurtic distribution or fewer extreme values than a normal distribution.

Mean and median of Political Stability (PS) values are positive but close to zero, indicating that most observations are close to political neutrality. Negative skewness ( $-0.1$ ) suggests the distribution tails off to the left, but this skewness is insignificant.

Jarque-Bera Test is a goodness-of-fit test to check if the data has skewness and kurtosis matching a normal distribution. For GDP, REE, UN, OILP, and PS, the p-values are very close to zero, rejecting the null hypothesis of data being normally distributed. For GCF, with a p-value of 0.2657, we fail to reject the null hypothesis, suggesting that this variable might be close to normally distributed.

The variables show considerable variability and are not normally distributed, as evidenced by skewness, kurtosis, and the Jarque-Bera test. This might imply the need for specific data transformations or non-linear modelling approaches when these variables are used in regression models. The non-normality of critical variables like GDP and REE emphasizes the complexity of the relationship between entrepreneurship and economic growth, especially when political stability and oil prices play roles.

## 4.2. Panel regression models

In the investigation of the relationship between entrepreneurship (REE) and economic growth (GDP) in GCC countries, our analysis incorporated the role of political stability (Ps) as a moderating variable. The

**Table 3.** The results of panel regression models.

Variable	Model 1 fixed effect		Model 2 random effect	
	Coefficient	Prob	Coefficient	Prob
Constant	−0.14992	0.9763	−7.97244**	0.0207
Entrepreneurship				
New business density	−0.59162	0.2246	–	–
PS Role				
New business density x PS	–	–	0.590347**	0.0288
Supporting variables				
Unemployment rate	−0.97311	0.2806	−0.5393**	0.0452
Gross capital formation (% of GDP)	0.008676	0.9425	0.132003*	0.0895
OIL Price	0.103822***	0.0002	0.126823***	0.000
R-squared	0.43619	–	0.381478	–
Adjusted R-squared	0.372762	–	0.352372	–
F-statistic	6.876871***	0.000	13.10612***	0.000
Durbin-Watson stat	1.337393	–	1.248501	–
Hausman test				
Chi-square statistic	11.178349**	0.0246	0.00021	1.00

Note. \*indicates significance at 10%, \*\*indicates significance at 5%, and \*\*\*indicates significance at 1% levels, respectively.

study was operationalized through a two-stage model as illustrated in Table 3 initially without considering the moderation and subsequently integrating it.

### 4.3. Result analysis

The initial model utilized Panel Least Squares with fixed effects for cross-sections to investigate the impact of entrepreneurship (REE) on economic growth (GDP) across the Gulf Cooperation Council (GCC) countries from 2006 to 2020. The analysis included a total of 90 balanced panel observations. In this preliminary analysis, the coefficient for entrepreneurship (REE) was  $-0.591618$  ( $p = 0.2246$ ), indicating an insignificant negative relationship with economic growth and this is not supporting the H1 which state there is positive relation between (REE) and economic growth. The control variables' analysis revealed nuanced insights. While unemployment rates did not significantly impact economic growth, not supporting H3, Gross capital formation (GCF) was positively related to economic growth, supporting H 4 supporting. remarkably, the oil prices variable (OILP) emerged as the only significant predictor ( $p = 0.0002$ ), corroborating the established influence of oil prices on the economies of GCC countries, aligning with H5, highlighting the GCC economies' sensitivity to oil price fluctuations. Model fit statistics revealed an R-squared value of 0.43619, suggesting that the model could account for approximately 43.6% of the variance in economic growth. The F-statistic was statistically significant ( $p = 0$ ), implying that the model helped explain some variance in economic growth.

To examine the moderating effect of political stability (Ps) on the relationship between entrepreneurship and economic growth H2, an interaction term (REE\_PS) was introduced. The model employed Panel EGLS with random effects for cross-sections. The inclusion of the interaction term yielded a statistically significant coefficient of 0.590347 ( $p = 0.0288$ ), indicating a positive moderating effect of political stability on the entrepreneurship-economic growth nexus. Interestingly, this positive interaction coefficient suggested that the negative influence of entrepreneurship on economic growth could turn positive under conditions of political stability.

Model fit statistics post-moderation indicated an R-squared value of 0.381478, showing that the model explains approximately 38.1% of the variance in economic growth. While this represents a slight decrease compared to the preliminary analysis, the F-statistic remained significant ( $p = 0$ ), reinforcing the model's utility.

The findings suggest that entrepreneurship alone does not have a significant direct impact on economic growth in GCC countries. This result contrasts with general expectations derived from classical economic theories such as Schumpeter's theory of economic development, which posits entrepreneurship as a primary driver of economic innovation and growth (Schumpeter, 1934; Shane & Venkataraman, 2000). The unique economic structure of GCC countries, heavily reliant on oil revenues and characterized by a high degree of governmental involvement in the economy, may dilute the direct impact of entrepreneurship on economic growth. This context underscores the complexity of transitioning to a more diversified, entrepreneurship-driven economy, a challenge highlighted in existing studies (Sabra & Shreth, 2021; Pradhan et al., 2020).

However, the introduction of political stability as a moderating variable reveals a significantly positive effect on the entrepreneurship-economic growth nexus. This aligns with the institutional theory, suggesting that stable political environments enhance the efficiency of economic activities, including entrepreneurship (North, 1991; Urbano et al., 2020). Political stability may reduce uncertainty, encouraging investment in entrepreneurial ventures and innovation, thereby fostering a conducive environment for economic growth (Elbargathi & Al-Assaf, 2019; Kamal et al., 2023).

### 4.4. Comparative analysis with existing literature

The findings resonate with those of Benlaria et al. (2023), who emphasized the moderating role of institutional factors, including political stability, in strengthening the entrepreneurship-growth relationship in the GCC. Similarly, the positive influence of gross capital formation on economic growth, as identified in our study, finds support in the work of Stoica et al. (2020), highlighting the importance of investments in physical and technological infrastructure to support entrepreneurial activities.

The insignificance of the direct impact of entrepreneurship on economic growth contrasts with findings from Pradhan et al. (2020) and Hussain et al. (2021), who report a positive correlation in broader Eurozone and global contexts. This discrepancy underscores the unique economic and political landscape of the GCC countries, which may necessitate different mechanisms for entrepreneurship to effectively contribute to economic growth. The findings of Ghura et al. (2017) suggest that institutions in GCC play a moderating role between opportunity entrepreneurship and economic development. Institutions can stimulate entrepreneurs' behaviour, leading to economic growth, aligning with our emphasis on the moderating role of political stability.

The magnitude and direction of the coefficient for entrepreneurship contrast with some studies like Acs et al. (2018), which generally report a positive influence of entrepreneurship on economic growth. Audretsch et al. (2006) suggest that entrepreneurial activities are positively correlated with economic growth. The introduction of political stability in our model revealed a similar positive relationship. On the other hand, Sobel et al. (2007) suggest that policy stability can significantly influence economic growth, resonating with our findings where political stability moderates the entrepreneurship-growth relationship.

Stenholm et al. (2013) found that entrepreneurship has a direct positive impact on economic development in mature economies. Our study supports this, but only when political stability is considered as a moderator. Bjørnskov and Foss (2016) argues that entrepreneurial activity is closely tied to the state of institutions, aligning with our emphasis on the moderating role of political stability. In contrast, Urbano and Aparicio (2016) focus on the importance of institutions in shaping entrepreneurial activity, similar to our focus on political stability as a key institutional factor. Estrin et al. (2013) examined the influence of institutions on entrepreneurship and found that institutional improvements can positively impact economic development, reinforcing our moderation findings.

In drawing comparisons with these additional studies, our research provides a more nuanced understanding of the influence of political stability as a moderating factor in the relationship between entrepreneurship and economic growth. Importantly, it contributes to the existing literature by examining this complex interplay in the specific context of GCC countries.

## 5. Conclusion and recommendations

This research has carefully unraveled the complex interplay between entrepreneurship, economic growth, and the moderating influence of political stability in the Gulf Cooperation Council (GCC) countries. The findings highlight that entrepreneurship alone does not directly drive economic progress in the GCC. Rather, its effectiveness in fostering economic vitality is significantly linked with the presence of political stability. Our study emphatically points out that a vibrant entrepreneurial ecosystem and a stable political environment are both crucial for spurring economic growth. Integrating these aspects can set the stage for GCC nations to develop economies that are not only growing but also resilient and adaptable to global changes.

From the insights derived from this study, we propose several recommendations aimed at policymakers, stakeholders, and future researchers. The importance of entrepreneurial initiatives is evident, yet our findings suggest that governments need to establish policies that nurture a diverse entrepreneurial ecosystem, encompassing innovation hubs, research centers, and incubators beyond the traditional reliance on oil. The critical role of political stability calls for a focus on transparent governance, robust legal frameworks, and consistent policy measures to create a stable and conducive environment for business. A shift in educational strategies towards fostering entrepreneurial skills and critical thinking is crucial. Additionally, integrating political education can enhance civic awareness and contribute to political stability.

There is a need to make funding more accessible to emerging entrepreneurs, possibly through a strong venture capital ecosystem and by encouraging financial institutions to support startups more actively. Governments should also provide targeted incentives for sectors with the potential to drive future economic growth, offering tax breaks, grants, and other benefits to startups in these areas. An iterative approach to policymaking, informed by data and research, will enable governments to adapt to changing circumstances. Encouraging collaborations between the public and private sectors and building diplomatic and economic alliances with countries that have successfully integrated entrepreneurship into their economies can offer valuable lessons and opportunities for cooperation.

In conclusion, although challenges remain, the insights from this research equip GCC countries with the knowledge and tools needed to forge an economic future that is prosperous, sustainable, and inclusive. By weaving together entrepreneurship and political stability and grounding policy decisions in solid empirical evidence, the GCC can embark on a new path of growth and prosperity, setting a benchmark for economic development that is responsive to the needs of its people and the demands of the global economy.

## 6. Limitations and areas for future research

While this research offers valuable insights into the relationship between entrepreneurship, economic growth, and the moderating effect of political stability in GCC countries, there are several limitations that need to be recognized: Firstly, the number of newly registered businesses may not accurately reflect the level of entrepreneurship in these countries, as it may underestimate the actual level of entrepreneurship due to the exclusion of the informal sector. However, this proxy has been used due to insufficient data concerning entrepreneurship measurement in the GCC economies. Also, with a balanced panel of only ninety observations across six countries, the study's generalizability might be limited. There are other limitations due to the focus on specific variables such as REE, GDP, GCF, UN, and OILP may overlook other critical determinants of economic growth.

In addition, as this current research has provided crucial insights, there remains a vast expanse to be explored. Future research endeavors should expand the purview to include additional moderating factors, perhaps focusing on technological innovations, cultural shifts, or global economic dynamics, which can further elucidate the GCC's economic narrative. Extending the research to other regions to address the variations in political stability moderating role.

## Authors' contributions

Conception and design, Omer Ahmed Sayed and Selma Abdelrahim; analysis and interpretation of the data, Omer Ahmed Sayed; the drafting of the paper, Omer Ahmed Sayed and Selma Abdelrahim.; revising it critically for intellectual content, Omer Ahmed Sayed. The final approval of the version to be published Omer Ahmed Sayed and Selma Abdelrahim. All authors have read and agreed to be accountable for all aspects of the work.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Data availability statement

The dataset supporting the findings of this study is available for public access and research replication. Data, collected from 2006 to 2020, is deposited in a dedicated online repository, accessible at [<https://databank.worldbank.org/> and <https://www.gemconsortium.org/>]. For additional information or inquiries regarding data access, please contact the corresponding author.

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