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RESEARCH ARTICLE

The Influence of Entrepreneurial Ecosystem, Entrepreneurship on Economic Growth in GULF Economies

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ABSTRACT

Theoretically and empirically the great influence of entrepreneurial ecosystem and entrepreneurship on economic growth in developed economies is proven. This study investigates this influence on GULF economies by utilizing data from 2006 to 2022 and employs many estimation tools to perform the regression models in order to test the influence. These tools are the Pooled Least Squares (PLS), fixed effects (FE) and random effects (RE). The findings confirm the absence of any significant influence of both entrepreneurship or entrepreneurial ecosystem on economic growth in GULF economies. Nevertheless, the existence of a positive influence of their entrepreneurial ecosystem on entrepreneurship. Also, human capital and labour are positively influenced on their economic growth. Therefore, there is a necessity to establish more appropriate entrepreneurial ecosystem to upgrade the entrepreneurship activities in these economies and exploit their human capital and labour with effectively manner.

INTRODUCTION

Countries universally strive consistently to determine optimal strategies for realizing sustainable economic growth. Traditionally, the economic output of a country has been quantified using the production function, which combines capital and labor inputs with technical changes. As the economic growth in traditional models could be realized by investing in these factors of production (Erik and André, 2009). However, the novel models of economic growth believe that those investment are necessary but are not sufficient, the economic growth is resulting of the creative and innovative combinations of those factors. Moreover, Schumpeter in 1934 underscored the exigence of continuous innovations through the creative-destructive process to achieve economic growth.

According to Schumpeter 1934, the continuous innovation and the creative- destructive process are the substantial elements of the entrepreneurial activities. Besides, the ability to discover opportunities and predisposition for high risks taken. consequently, the scholarly researchers have attributed a great importance to investigating how entrepreneurship can enhancing the economic growth.

Many researchers underlined that in the process of reaching the economic development the entrepreneurship might be a decisive mechanism (Schumpeter, 1934; Marshall, 1961). Fritsch (2008) further identifies four mechanisms through which entrepreneurship significantly influences economic growth. (a) triggering competition in existing markets, thereby imposing efficiency on existing businesses, (b) accelerating the pace of creative destruction. (c) fostering innovation in industries, leading to the upgrowth of unprecedented markets, and (d) exceed the capacity of founded enterprises in providing an ultimate assortment of novel production outputs such as products, services and processes (Doran et al, 2018). Moreover, some contemporary authors have taken the entrepreneurship

into account as an additional factor alongside capital, labour, and technological evolution in the macroeconomic production function (Erik and André, 2009).

In light of the important function of entrepreneurship in upgrading economic growth, most governments have recently attributed a considerable attention to its influence (Alexander, 2015). Furthermore, scholars and policymakers are often engaged in searching for the most effective mechanisms and strategies to successfully implement entrepreneurial initiatives.

Acs (2006) conducted research to explore the appropriate methods for getting the benefits of entrepreneurship in reaching economic development. The research paper investigated the influence of each type of entrepreneurship, focusing on both exigency and opportunity entrepreneurship. It stated that the economic development is correlated with the population involvement in opportunity entrepreneurship while gradually moving away from necessity entrepreneurship (self-employment) (Acs, 2006). Meanwhile, others have expanded their focus and oriented their interest to the social and environmental upgrading besides the economic growth. They have also worked to delineate the factors that determine this broader influence (Neumann, 2021). Whereas, other researchers have shown interest in the relationship between entrepreneurship, competitiveness, and innovation, recognizing their significance in fostering economic development. They consider these elements as primary drivers of economic growth (João J & Cristina I, 2017; Mário Franco, 2020; Amorós et al, 2012; Galindo-Martín, 2023).

Furthermore, numerous studies have been interested in exploring the differential influences of entrepreneurship on economic growth among developed, emerging, and developing countries (Hugo et al, 2002; Acs, 2008; Smith, 2010; Doran et al, 2018; Khyareh, M & Amini, H. 2021; Tahir & Burki, 2023). Also, others have been concentrated to illustrate this influence by using the regional aspect (Kim et al, 2022; Xu, 2021; Fritsch, 2008; Amorós et al, 2007). Meanwhile, others have been explored the influence of entrepreneurial ecosystem on economic growth, (Acs et al, 2013; Salustiano, et al, 2016; E. Malechi, 2017; Cavallo, et all, 2018; Acs, 2018; Volkmann, C. ,2019; Jabłońska & Stawska,2020; Vodă et al, 2020; Sofia et al, 2022).

In this context, these studies which cited above have focused on exploring the influence of entrepreneurship on economic growth and the influence of entrepreneurial ecosystem on entrepreneurship or on the economic growth. However, they have not explored the influence of both entrepreneurial ecosystem and entrepreneurship on economic growth. Therefore, our research paper endeavours to investigate the influence of the entrepreneurial ecosystem and entrepreneurship on economic growth. Furthermore, some of those studies have been focused on exploring this influence in developed, emerging and developing counties, while, others have studied it in OECD (Sofia et al, 2022), and BRICS countries (Tahir & Burki, 2023), Additionally, other researches have investigated it at the regional level in China. nevertheless, there is a gap in the literature as we did not find studies that specifically focus on exploring the influence of entrepreneurial ecosystem and entrepreneurship on economic growth in GULF economies. As one of developed countries according to their global domestic product GDP.

Indeed, this research endeavors to investigate the degree to which Gulf countries are embracing entrepreneurial ecosystem and entrepreneurship as viable instruments to mitigate their reliance on petroleum resources in enhancing their economic growth. Especially, in the context of sustainable development which impose the transmission to exploit and product the cleanest sources of energies. Therefore, these countries must establish an appropriate entrepreneurial ecosystem to flourish the entrepreneurship, ultimately, they will achieve the upgrading of their economic growth.

LITERATURE OF THE REVIEW AND HYPOTHESES OF THE STUDY:

The influence of entrepreneurial ecosystem on economic growth

The ecosystem presents the environment 'engines which perform a crucial function in providing an appropriate atmosphere for enhancing economic growth through the rate augmentation of creating new ventures, small and medium enterprises and innovative projects. Therefore, many studies have scrutinized the influence of entrepreneurial ecosystem on economic growth among different countries.

A study completed by (Gomes et al, 2022) has assessed the degree to which the level of economic development in transition-driven and innovation-driven economies in the OECD can be influenced by every factor of the entrepreneurial ecosystem. It found positive influence of research and development transfer in transition-driven economies but it was negatively influence in innovation-driven economies. In contrast to taxes and bureaucracy and physical and service infrastructure. Further, it has illustrated the relatedness between economic growth and entrepreneurial ecosystem in economies with diverse economic growth rates. Other studies focused their researches on specific elements of entrepreneurial ecosystem, where Neck et al, 2004 suggested that single element of an entrepreneurial ecosystem may have great influence on the region comprehensive macroeconomic evolution (Neck et al, 2004). Mohammadi &Amini, 2021 have emphasized the positive influence of governance indicators among three groups of countries in the period time (2010-2018), also, another study has examined the role of institutions in 46 countries and it corroborated their able to promoting the economic development (ACs, et al, 2018). Moreover, in Germany from 1975 to 2002, a research paper confirmed that sectorial reapportionments are substantial mean to turn entrepreneurial activity into economic growth (Noseleit, F. 2013). (Holienka, M.et al, 2016) have affirmed that the entrepreneurial productivity is largely driven by access to infrastructure, rule of law, effective government programs, and market openness and dynamics. According to their findings these factors affect economic efficiency at a macro standard and the effective sectorial structure of micro framework.

In accordance with the insights garnered from the preceding studies, we are poised to posit the first hypothesis in our research.

H1: entrepreneurial ecosystem has weighty influence on economic growth within Gulf countries.

The influence of entrepreneurial ecosystem on entrepreneurship

In fact, the success of entrepreneurship often depends on the existence of a convenient environment, that supports and encourages entrepreneurs, providing an atmosphere conducive to taking risks, starting ventures, and providing assistance for high-risk seeks (Volkmann, C. ,2019). According with knowledge spill over theory of entrepreneurship, the circumstances underpinning decision-making can significantly influence a personal's determination to pursue a career as an entrepreneur (Acs et al, 2013). This theory suggests that when individuals perceive a context continuously providing knowledge, it can generate entrepreneurial opportunities from novel ideas. Thus, the entrepreneurial ecosystem is the combination of entrepreneurial actors (both prospective and current), organizations (e.g., enterprises, financial system), establishments (universities, financial institutions and government agencies), the entrepreneurial procedures (e.g., the business venture rate, levels of entrepreneurial aspiration, ext.) (Cavallo, et all, 2018), additionally, mechanisms and culture (E. Malechi, 2017).

Empirically, numerous scholarly investigations endeavour to ascertain the extent to which entrepreneurial ecosystem factors affect the success of entrepreneurship in various countries. A study has been conducted to consider this influence in OECD countries (Gomes et al, 2022). Additionally, a study led by M. Neck, et al 2004 searched into exploring novel enterprises creation within the condition of an entrepreneurial framework. Furthermore, a study conducted in Italy (1989) focused on the environmental stimulus that can motivate the entrepreneurs to start novel enterprises in different environmental conditions (Dubini, 1989). Moreover, Kumar's 2020 study considered how the development of an entrepreneurship ecosystem model can influence entrepreneurship development in Pakistan. Mohammadi, (2020) concentrated on the influence of governance as a principal conditions in the entrepreneurail ecosystem on the entrepreneurship growth. Meanwhile, other studies have shifted their research focus towards sustainable entrepreneurship and investigating the influence of the entrepreneurial framework on its achievement (Y. Huang et al, 2023; Volkmann, C., 2019).

These studies collectively validate the presence of a robust and meaningful correlation, as well as the consequential influence, between entrepreneurial ecosystem factors and entrepreneurship. Dubini's 1989 study in Italy confirms that the distribution of entrepreneurial types varies significantly across munificent, supportive, and sparse environments.

In the context of Pakistan, Kumar's 2020 research identifies a moderate strength of association between SMEDA SME policies, private educational establishments, cultural tendencies and entrepreneurship. Furthermore, Muhammadi's 2020 findings underscore the contribution of governance quality indicators to entrepreneurship activities, particularly in innovation-driven, efficiency-driven, and factor- and efficiency-driven economies.

In accordance with the insights garnered from the preceding studies, we are poised to posit the second hypothesis in our study.

H2: the entrepreneurial ecosystem has weighty influence on entrepreneurship within Gulf countries.

The entrepreneurship influence on economic growth

Entrepreneurship in its concept is the most effective driver of economic growth, since it contains: discovering environment 'opportunities; innovating new processes, products, services and new markets; and the responsibility of taking high risk in investments. Thus, it might be a great tool of enterprises success. Thereby, it could be a driver of economic growth. Nevertheless, recent studies have proven that the positive influence of entrepreneurship on economic growth is a matter of discussion, because of the variation and difference between the results of studies.

Many studies have directed their attention to examining the relationship and influence of entrepreneurial activities on the economic growth of countries. These studies have specifically chosen to analyse the national level in their investigations. Furthermore, their focus has been on discerning the differential influence between developed and developing countries (Stam & Stel, 2009; Savrul, M., 2017; Justin et al, 2018; Manual et al, 2020; Tahir &Buriki, 2023). Also, other study conducted by Xu et al 2021, has examined the spatial heterogeneity of the influence on 31 provinces and cities in China.

The outcomes of these studies varied based on the location of the research, However, there is a consensus that developed countries tend to be the primary beneficiaries of entrepreneurship, through its positive contribution on their national income. Countries in the developmental stage follow, experiencing a positive influence, while underdeveloped countries often face a negative influence.

In a study by Stam & Stel (2009), a comparison of the influence of entrepreneurial activities on economic growth among high-income, transition (China, Hungary, Poland, Russia, and Slovenia) and low-income countries (Argentina, Brazil, Chile, India, Mexico, South Africa and Thailand), revealed an absence of influence in low-income countries. in contrast to transition and high-income countries, especially those emphasizing growth-oriented entrepreneurship, demonstrated a significant contribution to macroeconomic growth. Also, Justin et al (2018) affirmed that the entrepreneurial activity (as defined by GEM) is negatively related to economic growth in middle/low-income countries. while entrepreneurial attitudes (perceptions, intentions and role models) had positive effects on GDP in high-income countries. Moreover, Manual et al.'s findings (2020) indicated the existence of an influence that varied with the level of economic development. boosting of new enterprises to spur the economic growth is not always appropriate less developed countries. whereas, for developed countries its stimulation is useful to create wealth.

In the context of transition economies BRICS (China, Hungary, Poland, Russia, and Slovenia), the causality results showed that there was a unilateral relationship between entrepreneurship and economic growth. This implies that high economic growth is possible by encouraging entrepreneurial activities (Tahir &Buriki, 2023). Furthermore, the Xu et al' study, (2021) in China have found that in developed eastern coastal and central regions, the entrepreneurship promoted their economic growth.

Nevertheless, Savrul, M., 2017 highlighted that despite the alterations in the entrepreneurial factorss do not stimulate economic growth instantly, but they offer a substantial and positive impact in the long run.

Given the insights gleaned from the preceding studies, we propose the third hypothesis for our study:

H3: the entrepreneurial activities has weighty influence of on economic growth within Gulf countries.

Data description

Proposed research study

This research paper is investigating the influence of entrepreneurial ecosystem and Entrepreneurship on economic growth from the perspective of spillover effects.

Sample and Data Collection

Considering the availability of data, this paper has taken five countries among seven Gulf counties, which are (Saudi Arabia; United Arabic Emirates; Qatar; Oman; Kuwait) and it has neglected (Iraq and Bahrain) because of their absence in Global Entrepreneurship Monitor (GEM) statistics. In current research a multivariate annual time series data spanning from 2016 to 2022 is used. Additionally, it has used the WDI (World Development Indicators) database of the world bank for the data about the economic growth indicators (GDP) of Gulf countries in this period of time. Also, we use the Penn World Tables for the control variables (Capital stock (Ks); Labour (L); and Human capital Hc).

Variable Measurement

Dependent Variable

The GDP per capita is adopted as a measurement of the economic growth, which is consistent with prior researches (Stam, 2009; Doran et al, 2018; Gomes et al, 2022; Tahir &Burki, 2023; Huang et al, 2023).

Independent Variables:

First independent variable: According to the research topic, entrepreneurial ecosystem is selected as the primary independent variable. consistent with prior researches (Gomes et al, 2022; Huang et al, 2023). According to the GEM dataset, it contains the following indicators: Entrepreneurial finance; Governmental policies: support and relevance; Governmental policies: Taxes and bureaucracy; research & development transfer; commercial and legal infrastructure; internal market dynamics; physical infrastructure and cultural and social norms.

Second independent variable: In the light of the theoretical assumptions, this paper selects the (TEA) to explore the relationship between entrepreneurship and economic growth. In order to measure entrepreneurship this paper uses Total early-stage Entrepreneurial Activity (TEA) Rate according to the seminal studies of (B. XU et al, 2021; Kim et al, 2022; Tahir et al, 2023).

Control variables:

The paper controls for several variables which have established link with economic growth in prior research The capital stock per capita (k); employment per capita (the employment rate) (L); and human capital (H) (Doran et al, 2018; Acs et al, 2018; B. XU et al, 2021).

Table (1): definition of variables factors

INDICATOR	DEFINITION
	Entrepreneurial ecosystem index system
ENTREPRENEURIAL FINANCE	The financial resources for (SMEs) (including donations and subsidizations).
GOVERNMENTAL POLICIES: SUPPORT AND RELEVANCE.	To what scope public policies assist entrepreneurship
GOVERNMENTAL POLICIES: TAXES AND BUREAUCRACY	To what scope public policies using - taxes or regulations to spur novel SMEs.
R&D TRANSFER	To what scope national research and development offer novel opportunities for SMEs.
COMMERCIAL AND LEGAL INFRASTRUCTURE	The existence of legal and estimation services and establishments that assist or upgrade SMEs.
INTERNAL MARKET DYNAMICS	The market growth rate
INTERNAL MARKET BURDENS OR ENTRY REGULATION	To what scope novel enterprises are free to join actual markets.
PHYSICAL INFRASTRUCTURE	The availability of physical resources with a suitable price for SMEs.
CULTURAL AND SOCIAL NORMS	To what scope social and cultural norms boost activities that can promote individual profit and income.
	Entrepreneurship index system
TOTAL EARLY-STAGE ENTREPRENEURIAL ACTIVITY (TEA) RATE	The percentage of population either a nascent entrepreneur or owner-manager of a novel enterprise who are between 18-64 age.

Source: Global Entrepreneurship Monitor (GEM)

Table (2): variable names and metrics

VARIABLE	NAME	METRICS	
DEPENDENT VARIABLE	GDP per capita	GDP (in mil. Real termsUS$)/ population	
INDEPENDENT VARIABLES	Entrepreneurial Ecosystem	PCA (principal component analysis) of entrepreneurial finance; Government Policies both support and taxes and bureaucracy; the R&D transfer; Internal Market Dynamics;	

		Physical Infrastructure; Cultural and Social Norms.	
INDEPENDENT VARIABLE	Entrepreneurship	Measuring by TEA	
CONTROL VARIABLES	Capital stock per capita	Capital stock (in mil. 2017US$)/ population	
	Employment per capita	Number of persons engaged (in millions)/ population	
	Human capital per capita	Human capital index, based on years of schooling and returns to education. Is already exist per capita in Penn World Tables	

MATERIALS AND METHODS

The entrepreneurship is particularly affected by the entrepreneurial ecosystem, which has a direct influence on encouraging entrepreneurs to take high risk and to innovate. Finally, new ventures or innovative projects in exist enterprises will be lunched. Thereby, the economic growth could be reached.

3.1. The Stationarity Test

The unit root test is a suitable tool in testing the stationarity of the series. In current research the Augmented Dickey-Fuller (ADF), and Phillips-Perron (PP) are employed in this paper to reveal the series stationarity.

3.2. The residual correlogram test

By using LM test then compare the extracted value of (R-Square) which was calculated from Lagrange statistics with the value of Chi-Square distribution at 0.05 P-value.

3.3. Model

In order to examine the first hypothesis of this study, this function will be employed to find the influence of entrepreneurial ecosystem on economic growth within GULF countries.

$$(GDP) = C+\beta_1 EE_{it} + \beta_2 Ks_{it} +\beta_3 L_{it} + \beta_4 Hc_{it}+\mu_{it}. \quad (1)$$

This function shows that GDP per capita can be explained by entrepreneurial ecosystem, capital stock per capita, labour per capita and human capital. In fact, there is non-linearities between the economic growth as the independent variable and dependent variable. Therefore, the logarithmic transformation is used for eliminating the heteroscedasticity problem. So, the expression 1 is converted to expression 2, according to previous studies (Tahir and U.Buri, 2023; Guo C-Q et al,2022; Wang and Li, 2022; Doran et al, 2018).

$$In\ (GDP) = C+\beta_1 In\ EE_{it} + \beta_2 InKs_{it} +\beta_3 InL_{it} + \beta_4 InH_{it}+\mu_{it}. \quad (2)$$

The entrepreneurship needs to being in an appropriate environment for succeed in enhancing the economic growth. So, we need to examine the second hypothesis

to estimate the influence of entrepreneurial ecosystem on entrepreneurship in GULF countries. And this is presented in expression 3 bellow:

$$InEnp_{it} = \gamma_1 InEE_{it} + \gamma_2 InK_{it} + \gamma_3 InL_{it} + \gamma_4 InHc_{it} + \mu_{it}. \quad (3)$$

Finally, we adopt the expression below to test the influence of entrepreneurship on economic growth in GULF economies to examine the third hypothesis of our research paper.

$$In\ (GDP) = C + \delta_1 InEnp_{it} + \delta_2 InK_{it} + \delta_3 InL_{it} + \delta_4 InHc_{it} + + \mu it. \quad (4)$$

Equation 2: shows the direct relationship between entrepreneurial ecosystem and the economic growth enhancing. If the parameter β_1 of EE is significant, so it exists a direct connection among entrepreneurial ecosystem and economic growth,

Equation 3: is utilized to show the effect between the two independent variables, (entrepreneurial ecosystem) on (entrepreneurship).

Equation 4: shows the direct influence of entrepreneurship on enhancing the economic growth. when δ_1 is significant so the relationship is existing.

This research empirically examines the multivariate time series approach.

Empirical results and discussion

Descriptive statistics

The descriptive statistics has shown in table (3). Indicate that the mean of GDP per capita is 47410,44 US$ in real terms**.** The maximum value of 98041,4 is recorded for Qatar in 2012, whilst the minimal value of 14533,7 US$ is noted for Oman in 2006. The average value of entrepreneurship is 11,50 while the minimum and maximum values are 3,74 and 25,52 respectively observed in United Arabic Emirate in 2006 and 2022.

Capital stock per capital average is 352248,1 US$, the minimum and maximum values respectively are 103266 recorded for Saudi Arabia in 2006, and 714976 for Qatar in2022. Also, the average of labour per capita is 0,568, the highest value of 0,98 recorded for Qatar in 2006 and the minimum value is 0,28 recorded for Saudi Arabia in 2009. Finally, the human capital index average is 2,77 when its maximum value is 3 recorded for Saudi Arabia, UAE, Qatar and the minimum value is 1 recorded in Oman.

Table (3): Descriptive Statistics

	GDP	TEA	EE	Ks	L	Hc
Mean	47410,44	11,50	0,249288	352248,1	0,568	2,777778
Maximum	98041,4	25,52	5,732519	714976	0,98	3,000000
Minimum	14533,7	3,74	-4,0148293	103266	0,28	1,000000
Std Dev.	0,126598	4,765216	2,410062	0,156001	0,158237	0,598820
Observation	45	45	45	45	45	45

Data source: the Global Entrepreneurship Monitor and World Development Indicators.

Results of stationarity test

Table (4) shown the findings of ADF and PP tests. If p-value is significant at 1%, 5% or 10% then the series are stationary (has not unit root). All variables should be stationary before contained in regression model. According to our results all variables are stationary at first difference excepting Hc is stationary at level. Thus, we can apply the regression models.

Table (4): Results of Panel unit root test

	ADF		PP		ADF		PP	
	LEVELS	**P-V**	**LEVELS**	**P-V**	**1ST diffirence**	**P-V**	**1ST diffirence**	**P-V**
GDP	14,8097	0,138	18,5093	0,047	48,1481	0,0000	50,6815	0,0000
EE	2,59343	0,9572	4,41522	0,8179	20,3324	0,0091	25,5844	0,0012
TEA	4,72080	0,5901	7,58327	0,2703	26,6503	0,0002	26,6668	0,0002
KS	4,96318	0,8936	9,32579	0,5015	29,2744	0,0011	31,0945	0,0006
L	10,5615	0,3927	16,0875	0,0972	60,6981	0,0000	77,2091	0,0000
HC	9,44307	0,0509	13,7723	0,0081				

Results of residual correlogram test

Table (5) shown the findings of correlogram squared residuals test (LM test). If p-values are greater than 0.05 so, the test confirms the absence of any correlogram between the residuals. According to our results all P-values are greater than 0.05 so that we can accept the null hypothesis which indicate that there are no correlogram between the residuals.

Sample: 2006 2022						
Included observations: 51						
Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
. |. |	. |. |	1	-0.012	-0.012	0.0073	0.932
. |. |	. |. |	2	-0.030	-0.030	0.0563	0.972
. |. |	. |. |	3	-0.028	-0.029	0.1010	0.992
. |. |	. |. |	4	-0.008	-0.010	0.1051	0.999
. |. |	. |. |	5	-0.043	-0.045	0.2119	0.999
. |. |	. |. |	6	-0.028	-0.031	0.2599	1.000
. |. |	. |. |	7	0.028	0.024	0.3087	1.000
. |. |	. |. |	8	-0.022	-0.026	0.3389	1.000
. |. |	. |. |	9	-0.010	-0.012	0.3454	1.000
. |. |	. |. |	10	-0.022	-0.025	0.3783	1.000
. |. |	. |. |	11	0.004	-0.001	0.3793	1.000
. |. |	. |. |	12	0.002	0.001	0.3796	1.000
*Probabilities may not be valid for this equation specification.						

Results of the Hausman test

Hausman test is used for selecting the suitable regression model either the fixed or random effects. If P-value is less than 0,05 the suitable model is fixed effects, if P-value is larger than 0,05 the random effects will be selected to perform the hypotheses analysis.

Table (5) illustrates the Hausman test results for each model.

Table (6): the results of Hausman tests

TEST TYPE	NULL HYPOTHESIS	TEST LEVEL	P-VALUE	RESULTS
HAUSMAN TEST OF MODEL 1	Random effect	2,580603	0,6303	Random effect
HAUSMAN TEST OF MODEL 2	Random effect	21,870995	0,0002	Fixed effect
HAUSMAN TEST OF MODEL 3	Random effect	1,331461	0,9317	Random effect

4.4. Hypothesis analysis

4.4.1. The first hypothesis Analysis

To define how entrepreneurial ecosystem influences economic growth, we use regression model with random effects. Table (7) indicate the results related to hypothesis (H1) where the coefficients of independent variables explore the direct influence of entrepreneurial ecosystem on economic growth in GULF economies. REM model shows that it does not exist a relationship among the entrepreneurial ecosystem and the economic growth of GULF countries, because the P-value is 0,57 larger than 0,05, thus it is not considerable. Similarly, the result of the model without the control variables explores absence of relationship, the P-value is 0,4494 larger than 0,05. This is compatible with results of (Gomes et al, 2022) where they found a negative effect of some entrepreneurial ecosystem 'factors either in innovation-driven economies and transition-driven economies, therefore, the positive influence of entrepreneurial ecosystem on economic growth is not proven in any economy, but it is dependent on the economies' development stage. However, this result is contrast with (Neck et al, 2004; ACs et al, 2018; Noseleit. F, 2013) who suggest the great influence of entrepreneurial ecosystem on economic growth. Also, the P-value of capital stock is 0,6164 greater than 0,05 so it has not significant influence on economic growth in GULF economies. This result does not compatible with (Doran et al, 2018 in OCDE countries; Z.J. ACs, 2018 in Germany; B. XU et al, 2021in China). Additionally, the p-value of labour is 0,055 less than 0,1 so it is significant at 10%. This result is according with the prior studies (B. XU et al, 2021; Z.J. ACs, 2018; Doran et al, 2018). However, it is contrary with (Cagaman et al, 2020) who found that there is no relationship between labour and economic growth in Germany economy. Further, the p-value of human capital is 0,04 less than 0,05, so there is a considerable influence on economic growth in GULF economies. This is compatible with (Tahir et al, 2023 in BRICS economies; B. XU et al, 2021 in China; Doran et al, 2018) and it is opposites with the results of (Z.J. ACs, 2018 in Germany).

4.4.2. The second hypothesis Analysis

To indicate the influence of entrepreneurial ecosystem on entrepreneurship in GULF economies (H2), the regression model with fixed effects is utilized. Table (8) indicates the results of the influence in our research. From the statistics indicated in the table, the coefficient of entrepreneurial ecosystem is positive and considerable in both models. Either the model without control variables or in model with them. This result is agreeing with (Dubini, 1989 in Italy; Gomes et al, 2022 in OECD; Neck et al, 2004; Kumar, 2020 in Pakistan; Mohammadi, 2020; Y. Huang et al, 2023; Volkmann. C, 2019). According to the able of entrepreneurial finance to facilitate the creation of novel enterprises, and the great influence of government policies in encouraging entrepreneurs to take high risk and engage in new ventures. Additionally, to the big influence of R&D transfer in establishing innovative projects. Additionally, the influences of Internal market dynamics, physical infrastructure and the cultural and social norms which consider as the most important factor in building an innovator entrepreneur.

4.4.3. The third hypothesis Analysis

In order to indicate the influence of entrepreneurship on enhancing economic growth in GULF economies. We use the regression model with random effects. Table (9) illustrates the results of our research. The p-value of entrepreneurship is not significant in both models, either the model which include the control variables (p-value= 0,3037) and in the model without them (p-value = 0,5775). Thus, there is not an influence of entrepreneurship on economic growth in GULF economies. These findings are disagreeing with (Tahir et al, 2023; Kim et al, 2022, Gautman and Lal, 2021 in G20 economies; Stam &Stel, 2009; Savrul, M, 2017; Justin et all, 2018; Manual et all, 2020; Xu et al, 2021) who emphasized that the influence is significant and positive in developed countries. Nevertheless, this is not proven in GULF economies Although its affiliation to developed economies according to their high GDP per capita which exceed 40.000 US$. This is due to their dependence on the exportation of oil resources in reaching their economic growth.

CONCLUSION

This study has endeavored to explore the influence of entrepreneurial ecosystem and entrepreneurship in enhancing GULF economic growth. due to their great ability in upgrading the economic growth of developed economies. So, we have investigated its role in the prior selected countries of GULF economies (Saudi Arabia; United Arabic Emirates; Qatar; Oman; Kuwait) over the period time (2006-2022). This study utilized an appropriate tool for the assessment of panel data to derive findings.

The results demonstrate the absence of the influence of entrepreneurial ecosystem and entrepreneurship on the economic growth of GULF economies. Although the presence of a positive influence of entrepreneurial ecosystem on entrepreneurship. Nevertheless, it does not reach the level in which it can contribute to enhance their economic growth. This conveys that the GULF economies can tackle their problem of dependence on petroleum resources in enhancing their economic growth through the investment in human capital. And try to change the human capital attitudes to entrepreneurship. Especially in the clean energy fields to avoid the major exploitation and exportation of fuel resources. moreover, they must adopt a strategy of establishing an appropriate entrepreneurial ecosystem which can support the entrepreneurial activities.

Suggested actions

The most important consequence of this research is that great efforts should be oriented to the entrepreneurial actions.

These governments should be invested largely in promoting education and oriented it toward the innovation.

Exploiting their natural, human and economic qualifications in the transmission toward the renewable energies in order to adapted with the sustainable development goals through the entrepreneurship activities.

Even though these countries'striving in establishing a suitable and powerful entrepreneurial ecosystem, however, it gets a weak influence on their entrepreneurship activities. Also, it does not realize any economic growth. so, we suggest that there is a necessity to orient and focus their efforts to build it.

Limitation of this research

We could not utilize advanced methodologies because of the small cross-section of panel data.

The study Restricted on the TEA factor as a determinant of the entrepreneurship variable, however it includes other factors which can be collected. The findings of this research are related to GULF countries. So, it cannot be generalized.

Table (7): Regression Random effect model (REM)

INGDP DEPENDENT VARIABLE	COEF	STD. ERROR	PROB	COEF	STD. ERROR	PROB
C	8,131478	4,874554	0,1021	10,44836	0,188232	0,0000
IN EE	-0,017478	-0,572095	0,5700	0,0218656	0,028656	0,4494
IN KS	0,192038	0,380792	0,6164			
INL	1,086844	0,556641	0,0570			
INHC	0,662711	0,318421	0,0430			

Table (8): Regression Fixed effect model (FEM)

IN TEA DEPENDENT VARIABLE	COEF	STD. ERROR	PROB	COEF	STD. ERROR	PROB
C	-6,702713	6,535614	O,3119	2,323678	0,057412	0,0000
IN EE	0,083675	0,035561	0,0242	0,113995	0,031293	0,0008
IN KS	0,572822	0,500908	0,2604			
INL	-0,197222	0,982413	0,8400			
INHC	1,700751	1,109697	0,1341			

Table (9): Regression Random effect model (REM)

INGDP DEPENDENT VARIABLE	COEF	STD. ERROR	PROB	COEF	STD. ERROR	PROB
C	7,263921	4,793385	0,1375	10,59488	0,432607	0,0000
IN TEA	-0,132779	0,127443	0,3037	-0,077920	0,137680	0,5775
IN KS	0,278650	0,376772	0,4639			
INL	0,909504	0,594529	0,1339			
INHC	0,609147	0,340989	0,0816			

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