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Exploring the Impact of Sustainable Economic Growth and Financial Development to Instigate Entrepreneurial Activities for Global Sustainability

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Abstract

Entrepreneurship stands out in the diverse range of human pursuits, characterized by bold aspirations, steadfast determination, and a transformative mindset. This is the place where hurdles are transformed into bridges, uncertainties drive invention, and fear is replaced by bold jumps. Entrepreneurs use transmutation to convert ordinary things into extraordinary ones, creating paths to growth and sparking positive impact for everyone. This study aims to find the impact of economic growth, trade openness, and human capital on entrepreneurial activities. The study uses Ordinary Least Square (OLS), Fixed Effects (FE), and Generalized Methods of Movement (GMM) estimation techniques to the annual unbalanced panel data of 217 countries from 1999 to 2022. The findings of this study show that economic growth instigate entrepreneurial activities. The GMM results from the table of baseline results show that one-unit change in economic growth brings 0.030 units positive and significant change in new business density which indicates that higher economic growth rate is connected with a higher rate of entrepreneurial activities. It demonstrates that the level of entrepreneurial activities in different economies around the world grows as the economic growth of those economies increases. On the other hand, the results of GMM show that the one-unit change in interaction terms of financial development with economic growth show 0.332 units positive and significant change entrepreneurial activities. These findings indicate that financial development plays an essential moderating role in instigating entrepreneurial activities. The study provides guidance to the individuals, institutions, policymakers, researchers and all the stakeholders who want to take initiatives for business activities.

Keywords: Economic Growth, Entrepreneurial Activities, Financial Development.

INTRODUCTION

The term "economic growth" refers to the increase in the production and consumption of goods and services within an economy, typically measured by indicators such as the Gross Domestic Product (GDP). Economic growth fosters an environment conducive to entrepreneurial activities by enhancing the availability of specific resources, including markets, access to capital, technological, skilled labor, advancements, improved infrastructure, consumer confidence, government support, opportunities for networking, and the possibility of expanding operations internationally. Entrepreneurs who can recognize these conditions and profit from them are in an excellent position to flourish and contribute to further economic

progress by adopting creative steps for entrepreneurial activities. Economic growth and financial development are essential to nurturing an entrepreneurial ecosystem. We examine the impact of these elements on entrepreneurial activities. These activities are based on innovation, bringing development to the economies (Al-Qudah et al., 2022). Entrepreneurial activities have been researched at the individual, corporate, and national levels in existing studies (Dutta & Meierrieks, 2021; Wennekers & Thurik, 1999). This study focuses on country-level data to promote entrepreneurship for the for the welfare of every individual and for the nation's well-being. The existing literature depicts that financial factors at the national level encourage entrepreneurship (Fan & Zhang, 2017; Klapper & Love, 2011; Klapper et al., 2015; Leon, 2019; Munemo, 2018). There is a need to access financial resources to take initiatives for entrepreneurial activities at the individual, corporate, or country level to promote innovative businesses, create employment opportunities, and circulate wealth for the sustainability of economies. Financial inclusion may provide an opportunity for start-ups and initiatives. Tay et al. (2022) demonstrate that financial inclusion is crucial for everyone to ensure access to financial services and to promote long-term economic growth.

The study uses financial development as a moderator to illustrate the importance of moderation among the hypothesized nexus in hypotheses 1 and 2. Financial development, such as the development of financial institutions and financial markets, makes it easier for prospective entrepreneurs with limited access to the financial system to gain access to financial markets and institutions. Financial development facilitates business start-ups and expansion by providing low-cost loans and opportunities to offer shares in the market to raise capital from investors, bridging the gap between the accessibility of the financial system and entrepreneurial activities. As a result, this study adds to the body of literature by describing the role of financial development as a moderator among the nexuses of economic growth and entrepreneurial activities. The dynamic and interconnected nature of entrepreneurship makes it a critical driver of economic, social, and technological progress in the modern world in which we live. It is crucial to shaping the future, helping people solve complex challenges, and creating new economic opportunities. Therefore, this study focuses on the importance of economic growth for entrepreneurial activities. The study provides directions to the individuals to start innovative businesses for the well-being and value addition of the societies.

LITERATURE REVIEW

In recent years, entrepreneurial endeavours have emerged as an essential component of countries' economic growth. Svetek and Drnovsek (2022) state that there is a lack of understanding regarding the relationships between entrepreneurship and the subjective well-being of a nation, even though this relationship is quite significant. The TEA rate measures the percentage of adults who are actively seeking to start a business or own and manage a firm that is less than 3.5 years old. This rate is a measure of the total early-stage entrepreneurial activities and is represented as TEA rate. Studies have shown that entrepreneurs motivated by opportunities generally experience greater level for the subjective well-being than those motivated by needs. However, entrepreneurs driven by necessities report similar levels of happiness (Abbas et al., 2022; Gohar et al., 2022). In competitive markets, inventive and imitative entrepreneurship are significant because they enhance and refine established products and services, diminish expenses, expand consumer accessibility, and ultimately elevate individuals' quality of life. According to certain studies' findings, a

robust and stable economic environment fosters entrepreneurial activities. Higher growth rates typically imply better opportunities for business owners to recognize and capitalize on particular markets. The efficacy of institutions, the legal framework, and the operational facilitation for enterprises significantly influence whether economic growth has a beneficial or detrimental effect on entrepreneurial activities. Nevertheless, the relationship between the two is apparent. Economic growth, financial development, and entrepreneurial activities are inseparable. A well-functioning financial system supports and stimulates entrepreneurial initiatives, while successful entrepreneurship contributes to the overall growth and stability of the economy and the financial system.

A number of authors, including Acs, Audretsch, Braunerhjelm, and Carlsson (2012: 297), have stated that the findings have demonstrated a remarkable level of robustness in relation to the influence of entrepreneurship on economic growth. On the other hand, experts such as Fritsch and Schroeter (2011) propose that the level of economic growth leads to the creation of enterprises. This phenomenon is justified because the opportunities and the expected benefits are bigger the higher the level of economic development. According to the research conducted by Koellinger and Thurik (2012), it has been demonstrated that economic expansion might be a result of entrepreneurial activity. Last but not least, the concept of a double causality

The connection between business start-up and expansion has been researched in several studies. According to certain studies' findings, a robust and stable economic environment fosters entrepreneurial activity. Higher growth rates typically imply a better opportunity for business owners to recognize and capitalize on particular markets. The quality of institutions, the regulatory environment, and the ease with which businesses can operate can considerably impact whether or not economic growth has a favourable or unfavourable impact on entrepreneurial activity. Nevertheless, the relationship between the two is apparent. Extensive literature discusses the relationship between economic growth and entrepreneurial activities. The objectives of this investigation are as follows:

- To explore the impact of Economic growth on entrepreneurial activities across countries
- To examine the moderating impact of financial development among the nexus of Economic growth and entrepreneurial activities across countries.

HYPOTHESIS

H1. Economic growth is positively associated with entrepreneurial activities.

H2. Financial Development strengthens the proposed positive relationship between economic growth and entrepreneurial activities.

METHODOLOGY

The evidence on entrepreneurial activities through economic growth was addressed in the preceding chapter. We have made every effort to perform a thorough and critical literature assessment, and the works we located are presented in chronological sequence. Because they thoroughly reviewed the pertinent literature, the authors of the current study were able to build a cogent theory regarding the factors that influence entrepreneurial activities. In the interim, we have included a thorough summary of the many strategies and techniques applied in earlier studies on this subject. First, the Hausman test suggests that a fixed effect would be

advantageous for this specific study project. We have also used both fixed and random effects. Following that, we used a two-step generalized method of moments (GMM) estimate to address the endogeneity and serial correlation issues. The endogeneity problems resulting from reserving causation and biases in the omitted variables were successfully addressed by this process. Tables 3 and 4 display the OLS, FE, and GMM results.

The Collection of Data and its Sources

Secondary data for all variables across national boundaries is sourced from the World Bank, International Monetary Fund (IMF), and International Labor Organization (ILO) World Development Indicators database. In this work, we employed an uneven panel data set across the nations to carry out an empirical review. We made use of unbalanced panel data, which combines cross-sectional and longitudinal data. As a result, it is better than other data settings like longitudinal and time series data settings. For our research, we have used data from 217 countries between 1999 and 2022. The choice of this time period was made due to the ease of access to data on entrepreneurial activities and other relevant factors. Table 1 presents the results of economic growth and entrepreneurial activities. Table 2 presents the results of moderating effect of financial development in the nexus of economic growth and entrepreneurial activities. New business density is the dependent variable that assesses the level of entrepreneurship in the chosen nations. The World Bank's World Development Indicators (WDI) provide the statistics for this variable.

Econometric Models

The study uses the following econometric models to achieve the desired objectives.

$$\text{NewBusinessDensity}_{it} = \alpha_0 + \alpha_1 \text{GDP\_GrowthRate}_{it} + \alpha_2 \sum_{j=1}^{j} X\, j_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots \text{(1)}$$

$$\text{NewBusinessDensity}_{it} = \alpha_0 + \alpha_1 \text{GDP\_GrowthRate}_{it} + \alpha_2 \text{GDP\_GrowthRate}_{it} * \text{FD} + \alpha_3 \sum_{j=1}^{j} X\, j_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots \text{(2)}$$

DATA ANALYSIS TECHNIQUES

The study used Ordinary Least Square (OLS), Fixed Effects (FE), and Generalized Methods of Movement (GMM) estimation techniques to analyze the annual unbalanced panel data which is collected from 217 countries and the time period is starting from 1999 to 2022. The STATA software is used for the analysis of the data to make presentable the results of this study. The results are presented in tables 1 and 2.

RESULTS AND DISCUSSION

Table 4.1 shows the results for the relationship between economic growth and entrepreneurial activities by using pooled least square regression (refer columns), fixed effect estimation technique, and two-step generalized method of movement. Column 1 and 2 present the results of OLS, column 3 and 4 presents the fixed effect results whereas Column 5 shows the results of a two-step generalized method of movement. The results of economic growth are positive and strongly significant in fixed effect and GMM in both cases with and without using control variables in the relationship of economic growth and entrepreneurial activities but these results are negative significant in OLS without control variables and positive insignificant with control variables. The cost of business startup procedures is negative and highly significant with entrepreneurial activities across all the models. It indicates that ease

in the cost of business startups promotes entrepreneurship, and cost-effective strategy always provides entrepreneurs the opportunities to take initiative. The labor force female participation rate is also positive and highly significant with entrepreneurial activities across all the models, which shows that the increasing number of female participations in the labor force also increases the entrepreneurial activities. Foreign direct investment and political stability have mixed impacts on entrepreneurial activities. The rule of law and GDP per capita also have strongly positive and highly significant effect on entrepreneurial activities across all the models, this indicates that proper implementation of law and order promotes the entrepreneurial activities across countries. Gross domestic product per person also enhances the chances to boost the entrepreneurship.

Table 4.1
Economic Growth and Entrepreneurial Activities

Dependent Variable	Ordinary Least Square		Fixed Effect		Two Step GMM
New Business Density	OLS	OLS	FE	FE	GMM
	(1)	(2)	(3)	(4)	(5)
GDP_GrowthRate	-0.092***	0.005	0.019**	0.042***	0.030***
	(-3.670)	(0.204)	(2.200)	(3.897)	(6.053)
CostofBusStartupPro		-0.009***		-0.004**	-0.002***
		(-3.865)		(-2.395)	(-3.782)
LaborFPR_Female		0.032***		0.080***	0.005***
		(4.516)		(4.019)	(2.748)
ForeignDirectInvest		0.185***		-0.000	-0.001
		(14.113)		(-0.046)	(-0.228)
RuleofLaw		0.062***		0.028***	0.004*
		(10.086)		(3.335)	(1.864)
PoliticalStability		0.001		-0.010*	0.000
		(0.182)		(-1.940)	(0.041)
GDP_Capita		0.000***		0.000***	0.000***
		(2.813)		(3.893)	(2.810)
L.NewBusinessDensity					0.897***
					(71.868)
_cons	3.799***	-2.735***	3.458***	-2.394**	-0.258***
	(28.782)	(-6.701)	(81.696)	(-2.225)	(-3.004)
Observations	1940	1649	1940	1649	1513
R Square (R^2)	0.0069	0.3935	0.0069	0.2508	-
F-Stats/Wald Chi^2	13.47***	152.10***	4.84*	10.40***	34139.24***
Number of Instruments					56
Number of Groups					148
Hansen test (p-value)					0.044
Arellano-Bond AR (1)					0.005
Arellano-Bond AR (2)					0.716

t-values are in parentheses *** p<.01, ** p<.05, * p<.1

Across all models, the significance level of F-statistics and Wald chai square is shown to be quite high. The high and significant value of F-stats reveals the overall fit of multiple models and the high value of Wald chai square shows that all the predictors of each model have a significant effect on the outcome variable. According to the findings of the two-stage GMM, the number of instruments is smaller than the number of groups. Arellano-Bond AR (1) is assumed to have a significant value, while AR (2) is assumed to have an insignificant value, which is found true in these results. The Hansen test's p-value is similarly statistically significant, supporting the validity of this study's findings. Using the fixed effect and GMM results, we find that, after controlling for other factors, a higher rate of economic growth is connected with a higher rate of entrepreneurial activities. The value of lag dependent variable is also positive and highly significant. Based on the above discussion of the results, we accept

hypothesis1 and draw the conclusion economic growth have strong impact in entrepreneurship. Also, the global economic expansion stimulates entrepreneurial activities. It demonstrates that the level of entrepreneurial activities in different economies around the world grows as economic growth of those economies increases and on the other hand these activities may be reduced if there is less economic growth.

Table 4. 2
Moderating Role of Financial Development in Economic Growth and Entrepreneurial Activities

Dependent Variable New Business Density	Ordinary Least Square		Fixed Effect		Two Step GMM	
	OLS	OLS	FE	FE	GMM	GMM
	(1)	(2)	(3)	(4)	(5)	(6)
GDP_GrowthRate	0.001	-0.097**	0.044***	-0.002	0.031***	-0.061**
	(0.042)	(-2.178)	(3.876)	(-0.099)	(6.577)	(-2.426)
FD	0.859	-0.001	2.578**	2.075*	0.076	-0.776***
	(1.208)	(-0.001)	(2.233)	(1.779)	(0.341)	(-2.775)
CostofBusStartupPro	-0.009***	-0.009***	-0.004**	-0.003**	-0.002***	-0.001*
	(-3.819)	(-3.682)	(-2.169)	(-1.973)	(-3.310)	(-1.705)
LaborFPR_Female	0.040***	0.042***	0.078***	0.081***	0.004**	0.003*
	(5.347)	(5.559)	(3.875)	(4.022)	(2.315)	(1.665)
ForeignDirectInvest	0.184***	0.182***	-0.001	-0.002	0.005**	0.003
	(13.809)	(13.596)	(-0.134)	(-0.219)	(1.999)	(0.783)
RuleofLaw	0.064***	0.064***	0.025***	0.026***	0.003	0.004
	(8.941)	(8.951)	(2.868)	(2.994)	(1.210)	(1.310)
PoliticalStability	0.003	0.002	-0.009*	-0.010*	0.002	0.003
	(0.474)	(0.408)	(-1.804)	(-1.922)	(0.467)	(0.863)
GDP_Capita	0.000	0.000	0.000***	0.000***	0.000	0.000**
	(1.078)	(1.115)	(3.889)	(3.747)	(1.407)	(2.255)
GDP_GrowthRate*FD		0.305***		0.143***		0.332***
		(2.667)		(2.756)		(5.097)
L.NewBusinessDensity					0.894***	0.876***
					(77.354)	(54.864)
_cons	-3.508***	-3.241***	-3.176***	-3.138***	-0.287***	-0.074
	(-7.774)	(-7.024)	(-2.731)	(-2.704)	(-2.699)	(-0.620)
Observations	1606	1606	1606	1606	1473	1473
R Square (R^2)	0.3971	0.3998	0.2654	0.2671	-	-
F-Statistics/Wald Chi^2	131.48***	118.11***	9.07***	8.94***	42083.34***	72383.29***
Number of Instruments					57	57
Number of Groups					144	144
Hansen test(p-value)					0.067	0.517
Arellano-Bond AR (1)					0.005	0.004
Arellano-Bond AR (2)					0.574	0.489

*t-values are in parentheses *** p<.01, ** p<.05, * p<.1*

Table 4.2 presents the moderating role of financial development in the nexus of economic growth and entrepreneurial activities. This table displays the interaction between the GDP growth rate and financial development and their interaction shows the moderating effects. This interaction term investigates how the relationship between the GDP growth rate and the density of new businesses evolves in terms of financial development. The results depict that it is positive and statistically significant across all models, implying that the combined effect of GDP growth rate and financial development has a favourable impact on new business density, which stimulates entrepreneurial activities. To investigate the relationship between GDP growth rate and new business density and the impact of the interaction term with financial development, the study used three independent regression models: Ordinary Least Squares (OLS), Fixed Effects (FE), and Generalized Method of Moments (GMM). The

results of OLS model found a positive but insignificant relationship, with a coefficient of 0.001, indicating just a slight rise in new firm density per unit increase in GDP growth rate. Furthermore, the variable was declared statistically insignificant (p-value > 0.1) within this framework, implying a weak and non-significant relationship between GDP growth rate and new business density. The FE model, on the other hand, showed a more pronounced positive association with a coefficient of 0.044 and a high statistical significance (p-value 0.001). This model, which included fixed factors, demonstrated that greater GDP growth rates increased new business density positively. Furthermore, the GMM model confirmed this tendency, exhibiting a strong positive connection with a coefficient of 0.031 and a high statistical significance (p-value 0.001). While the OLS model suggested a modest correlation, the FE and GMM models give substantial evidence supporting the assumption that greater GDP growth rates have a meaningful and statistically significant impact on the density of new businesses to instigate entrepreneurial activities.

Whereas while incorporating the interaction term and investigating the relationship between GDP growth rate and new business density it seems that the interaction term has positive and highly significant results but it reduces the impact of economic growth, which shows the importance of financial development as a moderator. The cost of business startup procedures is negative and highly significant as required related to entrepreneurial activities across all the models. It indicates that the low cost of business startup procedures promotes entrepreneurship and the high cost of business startup procedures reduces the chances for the promotion of entrepreneurship, cost cost-effective strategy always provides entrepreneurs the opportunities to take initiative for startups. The labor force female participation rate and the rule of law have a positive and significant effect across all the models on entrepreneurial activities, it shows that the increasing number of female participations in the labor force, an appropriate operationalization for the rule of law, and enhances the chances for entrepreneurial activities. GDP per capita growth rate is also positive and significant for the fixed effect and GMM models but positive and insignificant for the OLS results for entrepreneurial activities across countries, this designates that per capita growth promotes entrepreneurial activities across countries. Gross domestic product per person also enhances the chances to boost the entrepreneurship. Across all models, the significance level of F-statistics and Wald chai square is shown to be quite high.

The high and significant value of F-stats reveals the overall fit of multiple models and the high value of Wald chai square shows that all the predictors of each model have a significant effect on the outcome variable. According to the findings of the two-stage GMM, the number of instruments is smaller than the number of groups. Arellano-Bond AR (1) is assumed to have a significant value, while AR (2) is assumed to have an insignificant value, which is found true in these results. The Hansen test's p-value is similarly statistically significant, supporting the validity of this study's findings. Using the fixed effect and GMM results, we find that, after controlling for other factors, a higher rate of economic growth is connected with a higher rate of entrepreneurial activities. The value of lag dependent variable is also positive and highly significant. We rely on GMM results which are presented in columns 5 and 6 and show the significance of these results for entrepreneurial activities. Following the positive and highly significant results of the two-step system GMM, with the positive support of fixed effect and positive and significant support of pooled ordinary least square, we find that a higher level of economic growth is associated with a higher level of entrepreneurial activities.

It is also clear from the results that financial development is a strong moderator among the nexus of economic growth and entrepreneurial activities.

POLICY RECOMMENDATIONS

The policymakers should stimulate research and development in crucial areas, establish innovation centers, and offer incentives for fledgling enterprises to embrace risks and pursue groundbreaking concepts. The government should focus on to upsurge its GDP growth rate for its economic growth. Policymakers should focus for better augmentation of its financial institutions and financial markets to make them accessible for the entrepreneurs and to augment its financial development to boost entrepreneurship. The provision of better financial services, economic growth, and financial ecosystems is crucial to accomplish the anticipated objectives in taking initiatives for entrepreneurial activities.

CONCLUSION

In conclusion, developing a healthy environment for entrepreneurial activities requires a holistic approach. A holistic approach that synergistically maximizes the interplay of sustainable economic growth and financial development which is required in order to nurture a healthy environment for entrepreneurial activities. The findings of the study have addressed the inquiries and validated the policy implications of the present study. Sustainable economic growth instigates entrepreneurial activities whereas financial development strengthens this relationship. The results of the study show that the economic growth plays positive and significant role to instigate entrepreneurial activities whereas the interaction terms of financial development with economic growth also shows positive and significant change in entrepreneurial activities for global sustainability. These findings indicate that economic growth is the predictor of entrepreneurial activities and financial development plays an essential moderating role in instigating these entrepreneurial activities. Sustainable economic growth cultivates an environment conducive to entrepreneurial activities by stimulating innovation, generating market opportunities, and advocating policy assistance. Financial development enhances entrepreneurial activities for sustainability by facilitating entrepreneurs' access to finance, risk management tools, and investment possibilities. This, in turn, strengthens the positive effects of sustainable economic growth on entrepreneurship. The study provides guidance to the individuals, institutions, policymakers, researchers and all the stakeholders who want to take initiatives for business activities.

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