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Does financial development boost entrepreneurship? Evidence from transitory economies

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ABSTRACT

The transition from planned to market-oriented economies presents a unique landscape for the study of entrepreneurship. Entrepreneurship is crucial to reducing unemployment, mitigating poverty, and promoting economic growth across the world, especially in the economies of the global South. Some people opine that not having enough money is a big reason why more people don't start their own businesses. On the other hand, a well-developed financial system with strong financial institutions and markets can help people start their own businesses, which is good for the country's economy. This study analyzes the liaison between financial developments and entrepreneurship in these transitioning countries. The empirical analysis uses the panel fixed effects, Driscoll and Kraay standard errors (DKSEs), feasible generalized least-squares (FGLS), and panel-corrected standard errors (PCSEs) models. The results reveal an inverted U-shaped relationship between financial development and entrepreneurship in the transitory economies. We also use sub-indices of financial development and find similar results. The relationship between financial institutions and entrepreneurship is an inverted U shape. The relationship between financial markets (FM) and entrepreneurship yields similar but insignificant results. The role of foreign direct investment (FDI) and technological innovations is positive in promoting entrepreneurial activities in these economies. The findings of the study will help the governments and policymakers of these countries to devise such policies as are required, as they reduce the financial constraints and boost entrepreneurial activity that leads to economic decolonization.

Contribution/ Originality: This study adds to literature in the case of transitory economies by investigating the impact of financial development on entrepreneurship. We further examine the impact of the development of institutions and markets on entrepreneurship. We use better measures of financial development and entrepreneurship as compared to existing literature.

1. INTRODUCTION

Entrepreneurship is considered the essential support of a country's economic development (ED), as it plays a critical role in the business competitiveness and economic growth of an economy (Munemo, 2018). By creating new and more efficient firms and exerting competitive pressure on other firms, entrepreneurs enhance productivity and promote economic growth (Klapper, Laeven, & Rajan, 2006). It is a source of job creation and poverty reduction (Klapper et al., 2006). It is a source of job creation and poverty reduction (Adusei, 2016). It also endorses new job ideas that have consequences in economic structural reforms (Fritsch, 2008). Moreover, entrepreneurship promotes innovation, implements innovative business ideas, and transforms the economic structures (Peprah & Adekoya, 2020). The economic performance of a country is determined by innovations that result from entrepreneurial activities or investments (Aghion, 2017; Wong, Ho, & Autio, 2005). Most of the existing studies have documented the positive relationship between entrepreneurship and economic growth (Adusei, 2016; Ayyagari, Demirgüç-Kunt, & Maksimovic, 2011). Although the activities of entrepreneurs are associated with a country's growth and prosperity, they are affected by the lack of funds and the unwarranted constraints on trading activities and transactions (Ehigiamusoe & Samsurijan, 2021). It is shown that entrepreneurs' investment choices depend on financial development (FD). A strong financial sector that provides credit, closes information gaps, and increases investment flows leads to better project allocation, the creation of new products, and more entrepreneurship (Amin, Khan, & Maqsood, 2023) and is an important thing to have.

Financial development plays a significant role in promoting entrepreneurial activities and economic development. The resources entrepreneurs engage for productive purposes strongly depend on the availability of sufficient funds (Hameli, Kampouris, Machaal, & Mertzanis, 2021; Sohail & Arshed, 2024). Schumpeter (1934) emphasized the importance of the financial sector in stimulating both structural transformation and entrepreneurial activities. Later, Patrick (1966) argued that the relationship between financial development and monetary framework influences the supply side of an economy. The financial development ensuring hypothesis contends that domestic financial factors can signal the increasing rate of return of real assets, influencing entrepreneurial activity (Hameli et al., 2021; Kar & Özşahin, 2016). The development of the financial sector is essential for progress as it enhances the productivity of other inputs (Hassan & Kalim, 2017) and creates new business opportunities (Arshed & Kalim, 2021). Achieving a financing decision is critical for entrepreneurs, as it determines the life of their products or ideas. In addition, cash availability is an important factor in starting and running a business, as well as developing new products (Lawal, Iyiola, & Adegbuyi, 2018). This process requires access to financial, human, and labor capital (Fatoki & Asah, 2011). According to Amadasun and Mutezo (2022) and Sonita, Miswardi, and Nasfi (2021), approximately 70% of all small and medium-sized enterprises (SMEs) in developing countries lack access to finance. A large number of studies have discussed the importance of financial development for entrepreneurial activities (Bianchi, 2010; Carree & Thurik, 2010).

Financial factors are crucial, particularly in the initial stages of entrepreneurship (Liu, Wu, & Wu, 2019). Financing entrepreneurs can be considered the financial system's responsibility (Dehejia & Gupta, 2022) which accepts financial resources from surplus agents and provides these resources to deficient aspirants for investment. Through financial development, individuals can gain access to affordable financial intermediaries, tools, markets, and services. In established financial markets, principles such as transparency of information and freedom of choice are observed, and aspirants and suppliers of financial services can purchase and sell their preferred services with complete awareness and freedom at a low cost and risk (Ansari Samani, Mahmudi, & Namdari, 2017). Moreover, financial systems can enable innovative financing in entrepreneurial businesses by providing specific functions such as facilitating payments, allocating and equipping the resources, and covering uncertainties (Ansari Samani, Mirzapour, & Dalvandi, 2022).

The transition from planned to market-oriented economies in formerly centrally-controlled countries presents a unique landscape for the study of entrepreneurship (De Melo, Cevdet, & Gelb, 1996; Gurkov, 2015).

Decolonization theory provides a critical framework to understand the economic transformation in transitory nations. These countries were integrated into a centrally planned system that suppressed individual enterprise and innovation. The decolonization process involves not only political and cultural liberalization but also economic reformation and reclamation of economic autonomy. Financial development in this context is a decolonizing act that dismantles the remnants of centralized control, enabling local entrepreneurship to grow. This study therefore underscores the importance of tailored financial policies that acknowledge the historical context and current economic realities of these transitioning nations. By doing so, it provides insights into the broader implications for other countries undergoing similar transitions.

This study contributes to existing literature in the case of transitory economies in many ways: first, it investigates the impact of FD on entrepreneurship in Transitory economies (i.e., Armenia, Azerbaijan, Bulgaria, Czechia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Moldova, Poland, Romania, Russia, Slovakia, Tajikistan, and Ukraine) Second, our study uses a comprehensive measure of entrepreneurship (i.e., the Global Entrepreneurship Index (GEI)), developed by the Global Entrepreneurship and Development Institute (GEDI), to quantify the level of entrepreneurship of an economy as the proxy for entrepreneurship. This proxy is a better measure of entrepreneurship than previous ones, such as the 15 business ownership, rate of new start-ups, rate of self-employment, and entry density (i.e., the number of newly registered limited liability companies per 1,000 working-age population) (Naudé, 2010). Third, the financial development index constructed by the International Monetary Fund (IMF) to capture the dimensions of financial institutions and financial markets is used as a proxy for financial development. Fourth, following Ajide and Osinubi (2022) this study uses three measures of financial development, including financial development index, financial institutions, and financial markets (Munemo, 2018).

The rest of this paper is prepared as follows: section 2 describes the conceptual framework, section 3 demonstrates the literature review, section 4 is about data & methodology, section 5 presents results & discussion, and last section, 6, concludes the study.

2. CONCEPTUAL FRAMEWORK

Entrepreneurship introduces new products to the market, which leads to business success and the creation of new jobs in an economy. Entrepreneurship often requires both creative and innovative ideas as well as capital (Ansari Samani et al., 2022). Entrepreneurship is characterized by initiative and risk-taking behavior, as well as a socioeconomic reform mechanism that converts benefits and opportunities into profit. The Global Entrepreneurship Monitor (GEM) report defines entrepreneurship as an organization, group, or individual's endeavor to start or manage a new business or promote an existing one (Baumol, 1996). Numerous factors affect the quality and quantity of entrepreneurial activities in an economy, including organizational factors, financial factors, and economic conditions and framework (Fasano, La Rocca, La Rocca, & Marozzo, 2020). Financial factors play a crucial role, particularly in the initial stages of entrepreneurship, and the shortage of funds has been acknowledged as the major hurdle for entrepreneurs (Pan & Yang, 2019).

Financial development entails the provision of a large volume of financial services by financial institutions in the interest of the entire society that benefits from a range of services. It can be described as fragmented financial market integration, in which households and firms are isolated and financial services face varying levels of effectiveness (Bilir, Chor, & Manova, 2019). A stronger financial system transfers capital from savers to the borrowers at minimum cost. In addition, resources are shifted to profitable and productive investment projects, making the financial sector development essential for providing the financial resources for investment purposes and enhancing the resource allocation mechanism (Allen, Qian, & Xie, 2019). In advanced financial markets, entrepreneurs can obtain the financial resources they require from external sources, such as issuing shares and borrowing at the lowest possible cost. In addition, the financial system can help entrepreneurs come up with new ideas by doing things like making payments easier, allocating resources, providing tools, and covering uncertainty.

It also provides cost-effective access to financial instruments, markets, services, and financial intermediaries (Mills, 2019).

3. LITERATURE REVIEW

3.1. Financial Development and Entrepreneurship

How financial development influences entrepreneurship is the main objective of this study. In this context, the seminal work by Schumpeter (1912) introduced the banking sector's role in the process of entrepreneurship as a credit provider for the start-up of innovative activities. Additionally, borrowers selected on the basis of the risk associated with their venture influence the opportunities and intentions of entrepreneurs. This link was later confirmed by Patrick (1966) who argued that by providing resources from traditional to the modern sector, the financial system promotes entrepreneurial initiatives in an economy. In addition, the level of entrepreneurial activity depends on the interplay between human capital, the level of development, and the institutions. Ghosh (2022) and Kantis, Federico, and García (2020) demonstrated that the entrepreneurs require complete access to financing sources to grow their businesses. Further, Assmann and Ehrl (2021) and Li (2021) recommend that capital infrastructure, institutional systems, and the product market regulations considerably influence how individuals establish and shape entrepreneurial activities. Financial intermediaries do not only help in the efficient resource allocation but also enhance the rate of technical innovation by detecting entrepreneurs along with latest innovative goods and processes (Ahmad, Abbas, & Shah, 2020). On the other side, poor institutions cause restraints for entrepreneurs operating in the formal economy (Ajide & Osinubi, 2022; Urbano, Audretsch, Aparicio, & Noguera, 2020).

Existing literature on the influence of FD on entrepreneurship shows contradicting evidence. Constraints on the flow of funds to a newly established business are anticipated to be the main deterrent to the success of the entrepreneurial activities (Omri, Frikha, & Bouraoui, 2015), while a less developed institutional environment leads to unproductive entrepreneurship (Samadi, 2019). FD effectively stimulates capital allocation by easing credit conditions. As established by Klapper and Love (2011), strong FD successfully enhances entrepreneurial activities. The study by Aghion, Fally, and Scarpetta (2007) demonstrated that loan constraints significantly impacted newly registered businesses in OECD economies. Omri and Ayadi-Frikha (2014) highlighted that the financing requirements for entrepreneurship strongly depend on banks. Moreover, Bianchi (2010) emphasized the importance of FD as an initial step for firms because it facilitates access to credit. The Asian economies have introduced unique financial innovations to improve FD and guarantee a consistent flow of funds to entrepreneurs (Nazir, Tan, & Nazir, 2021). In Africa, Ajide and Osinubi (2022) found strong support that robust FD promotes the entrepreneurial activities. Better FD leads to more financial activity, as noted by Dutta and Meierrieks (2021) particularly when the political and economic institutions are sound. Kar and Özşahin (2016) also found the same results for 17 emerging economies, while Wujung and Fonchamnyo (2016) observed similar results for Cameroon. Based on the above discussion, we hypothesize that

H_1: Financial development positively affects entrepreneurship.

3.2. Foreign Direct Investment and Entrepreneurship

The study by Kim and Li (2014) was the first to explore the spillover impacts of foreign direct investment (FDI) on entrepreneurship. Starting with the works of MacDougall (1960) researchers have shown interest in establishing the relationship between FDI and numerous economic development indicators in an economy, involving the local firms' activity. The literature has indicated the important role of FDI in promoting productivity of labor (Liu, Siler, Wang, & Wei, 2000) and enhancing the production capabilities of local firms (Hejazi & Safarian, 1999). Some studies have focused on entrepreneurial activity determinants (Ayyagari & Kosová, 2010) while others have emphasized the role of inward FDI in promoting entrepreneurial activity. Academic arguments are

inconclusive, as FDI shows both negative and positive spillover effects on newly established firms (Meyer & Sinani, 2009). FDI has also been shown to have positive effects on the economies that receive it through the spread of new technologies, the opening of new markets, and the availability of important resources, the management styles of foreign-owned companies, and the hiring of subcontractors. Foreign investment introduces novel products and services to the host country, creating demand for them. Positive spillovers have numerous recommendations (Javorcik, 2004): First, new products create new markets and entrepreneurial opportunities (i.e., horizontal effects). Newly established domestic firms can provide similar goods by imitating foreign competitors. Second, newly established firms tend to capitalize on niche opportunities within sectors that foreign-owned firms overlook. Third, newly established firms can learn from the unsuccessful challenges of foreign-owned firms to meet customer expectations and introduce more appealing alternatives (i.e., the demonstration effect) (Caves, 1996; Pitelis & Teece, 2010).

FDI provides managerial skills to firms in the host economy through the process of diffusion, which may occur directly through the mobility of workers and managers hired by foreign-owned firms, who then move on to other local firms (Fu, 2012). In addition, FDI promotes trade flows, export competitiveness, and import competition (Christiansen, 2002). Moreover, it creates informational and technical externalities (Meyer, 2004) and allows access to the financial resources (De Maeseneire & Claeys, 2012). Lastly, FDI can enable new firms to expand their activities through subcontracting activities (vertical effects). Inverse spillover effects can occur when foreign-owned firms compete for the same customers and "crowd out" domestic firms (De Backer & Sleuwaegen, 2003). The presence of foreign firms in the industry can have the opposite effect on local firm entry due to technological barriers to entry (Ayyagari & Kosová, 2010). The barrier effect increases as foreign firms are more advanced than local firms, particularly in emerging markets, and can better leverage economies of large scale production. The presence of foreign investment may also stimulate additional upstream and downstream demand along the supply chain (Kim & Li, 2014). Based on existing evidence, we hypothesize that:

H_2: Foreign direct investment positively affects entrepreneurship.

3.3. Technological Innovations and Entrepreneurship

Technological innovation is a key engine of enterprise. It entails completing tasks in a specific manner or engaging in various activities to provide the entrepreneur with an exclusive value mix. Technological innovations enable entrepreneurs to actively seek opportunities to do things in new ways. So, whatever new paths are opened up by market conditions and customer needs, innovation and creativity propel exceptional entrepreneurship in running businesses and showing appreciation for customers, which is good for everyone. In the context of entrepreneurship, this becomes value creation (Korsgaard & Anderson, 2011). Van Dong, Ghi, and Thu (2023) investigated the impact of technological advancements on business model innovation and startup performance and found a positive relationship. Using the sample of 310 Spanish SMEs, García-Lopera, Santos-Jaén, Palacios-Manzano, and Ruiz-Palomo (2022) investigated the influence of technological innovation, risk-taking, and professionalization on business performance. The findings indicated that business performance is influenced by technological innovation, risk-taking, and professionalization. Pandey, Pandey, Shrivastava, and Soni (2021) investigated how technological change affected entrepreneurship in Rajasthan. The findings suggest that technology plays three major roles: it provides innovation in jobs to be done, boosts entrepreneurship, and aids in the promotion of economic development. The study by Hussain, Afzal, Asif, Ahmad, and Bilal (2011) explored the impact of technology, economic growth, and innovation on entrepreneurship. The main purpose of the study was to find how technology, creativity, and economic growth promoted entrepreneurship. The study demonstrated that the three factors considered have a positive relationship with entrepreneurship. Balachandran and Sakthivelan (2013) investigated the relationship between information technology and e-entrepreneurship and found that the internet, as a more

scientific and technological development, has benefited society in a variety of ways, including politically, economically, and culturally. Based on the available evidence, we propose the following hypothesis:

H_5: Technological innovations positively affect entrepreneurship.

4. DATA AND MODEL DESCRIPTION

4.1. Entrepreneurship

Entrepreneurship is the dependent variable of this study and is measured by the Global Entrepreneurship Index (GEI), developed by the Global Entrepreneurship and Development Institute (GEDI), to quantify the level of entrepreneurship of an economy. The Global Entrepreneurship Index is appealing because it depicts the key aspect of entrepreneurship. This proxy is better than previously used measures such as rate of new start-ups, business ownership, the rate of self-employment, the Global Entrepreneurship Monitor, and entry density (Munemo, 2018; Naudé, 2010). They have several disadvantages, including entry density and coverage limited to the formal sector. In developing economies, the informal sector, which is an important component of entrepreneurship, is excluded due to a lack of data on firms operating in that sector. The formal sector only focuses on firms with limited liability because other types of formal businesses, such as sole proprietorships and partnerships, differ in terms of definition and regulation, making cross-country comparison difficult. Table 1 and Table 2 provide an explanation for the variable in descriptive statistics.

4.2. Financial Development

Financial development is the core independent variable of this study, and it is measured as the financial development (FD) index constructed by the International Monetary Fund (IMF) to capture the dimensions of financial institutions and financial markets. Further, we also used sub-indices of FD, such as financial institutions and financial markets. The proxy for financial development outperforms the past ones. In literature, the most commonly used measure is domestic credit to the private sector. The problem with this proxy is that it only considers financial depth, but not the other financial development dimensions like companies and individuals access to financial services and institutions ability to supply financial services efficiently.

4.3. Foreign Direct Investment

FDI, considered to be a key engine for promoting entrepreneurship (Ayyagari & Kosová, 2010) is used as a control variable in this study. Its influence is anticipated to be two-fold (Doytch, 2012). On the one hand, domestic firms are anticipated to benefit from the expertise that multinational enterprises transfer and also from demand creation (positive spillovers). On the other hand, domestic entrepreneurs are anticipated to suffer from the negative externalities resulting from increased competition and technological entry barriers (negative spillovers).

4.4. Technological Innovation

Technological innovation is another control variable, as it is believed to be one of the driving factors of entrepreneurship. This has also been confirmed by Tirupati (2008) who found that technological development was crucial for entrepreneurship. Theoretical, technological advancement improves efficiency in material use throughout manufacturing process, promoting entrepreneurship (Juliana, Hui, Clement, Solomon, & Elvis, 2021). Moreover, advancement in technology not only modernizes the existing industrial goods but also creates new ones. Additionally, the combination of inputs and other activities relating to entrepreneurs may change as technology advances (Pandey et al., 2021).

Table 1. Study variables description.

Variables	Code	Description	Sources
		Dependent	
Entrepreneurship	ENTRP	The global entrepreneurship index (GEI), developed by the global entrepreneurship and development institute (GEDI), quantifies the level of entrepreneurship of an economy	GEDI (2019)
Independent			
Financial development	FD	Financial development index	IMF (2022)
Financial institution	FI	Financial institutions' development index	IMF (2022)
Financial management	FM	Financial market development	IMF (2022)
Control			
Foreign direct investment	FDI	FDI, net inflows (% of GDP)	WDI (2022)
Technological innovations	TI	Number of domestic invention patent applications accepted (Items) (In log)	WDI (2022)

Table 2. Descriptive statistics.

Variables	N	Average	S.D	Min	Max
ENTRP	76	34.511	9.599	19.2	50.4
FD	108	0.277	0.120	0.082	0.508
FI	108	0.416	0.140	0.158	0.677
FM	108	0.127	0.144	0.003	0.413
FDI	108	4.252	9.063	-40.086	60.031
TI	95	6.165	1.673	0	10.284

This study investigates the role of financial FD, FDI, and technological innovations on entrepreneurship in transitory economies, using the data for the period 2014-2019. The study employs the following panel model:

$$ENTRP_{jz} = \beta_0 + \beta_1 FD_{jz} + \beta_2 FD^2{}_{jz} + \beta_3 FDI_{jz} + \beta_4 TI_{jz} + \varepsilon_{jz} \quad (1)$$

$$ENTRP_{jz} = \beta_0 + \beta_1 FI_{jz} + \beta_2 FI^2{}_{jz} + \beta_3 FDI_{jz} + \beta_4 TI_{jz} + \varepsilon_{jz} \quad (2)$$

$$ENTRP_{jz} = \beta_0 + \beta_1 FM_{jz} + \beta_2 FM^2{}_{jz} + \beta_3 FDI_{jz} + \beta_4 TI_{jz} + \varepsilon_{jz} \quad (3)$$

Subscript z indicates time (i.e., 2014-2019) and j indicates country (i.e., Transitory). ENTRP represent entrepreneurship. FD is financial development, FI is financial institution, and FM denotes financial markets. FDI and TI (control variables) represent foreign direct investment and technological innovations, respectively. ε_{jz} is the error term. β_0 is the intercept, and measures the average entrepreneurship when financial development has no effect. The β_1 to $\beta_4$are the parameters of the predictor variables to be estimated. This research anticipates the β_1 to be positive, revealing the positive relationship between FD and entrepreneurship, and β_2 to be negative, to indicate the negative, validating the inverted U-shaped relationship between FD and ENTRP. Further, the coefficient of FDI is expected to positive, demonstrating the direct relation between FDI and entrepreneurship as demonstrated in literature (Albulescu & Tămăşilă, 2014). Furthermore, we anticipated that the relationship between TI and entrepreneurship is positive. To empirically estimate the impact of FD on entrepreneurship, his study uses the FE-DKSE method. To produce a reliable result, FE-DKSE method is appropriate because it overcomes the problem of cross-sectional dependence (CSD). Moreover, it ponders error structure to be heteroscedasticity and autocorrelated up to a certain lag. The DKSE for pooled estimation is given as:

$$y_{i,t} = x'_{it}\beta + \varepsilon_{i,t}, i = 1, \dots, N;\ t = 1, \dots, T$$

Where, outcome variable $y_{i,t}$ represents entrepreneurship, the independent variable (financial development, financial institutions, financial markets, foreign direct investment, and technological innovation) are represented by

(K + 1) × 1 vector x'_{it}, whose first element is 1. The (K + 1) × 1vector β is the vector of the coefficients to be estimated. The cross-sectional units is denoted by i at time t. Subsequently layering of the formulation gives:

$$y = \left[y_{1,t_{1,1}}, \ldots\ldots, y_{1,T_1} \quad y_{2,t_{2,1}}, \ldots\ldots, y_{N,T_N}\right]'$$

and

$$X = \left[x_{1,t_{1,1}}, \ldots\ldots, x_{1,T_1} \quad x_{2,t_{2,1}}, \ldots\ldots, x_{N,T_N}\right]'$$

This is contingent upon the premise that the scalar error terms εis are not correlated with $x_{i,\,t}$ for all s, t (strong exogeneity). $\varepsilon_{i,}$ can exhibit heteroscedasticity, autocorrelation and cross-sectional dependence. On the grounds of the stated assumptions, β can be estimated consistently using OLS regression resulting in Hoechle (2007):

$$\widehat{\beta} = (X'X)^{-1}X'y$$

The DKSE coefficient estimates are exposed as "square roots of diagonal elements of the asymptotic covariance matrix"(Driscoll & Kraay, 1998).

$$V(\hat{\beta}) = (X'X)^{-1}\hat{S}_T(X'X)^{-1}$$

For robustness checks, this research also adopted the FGLS and PCSE techniques, in which the variance in a cross section (unnoticed heteroscedasticity) is combined utilizing the variations in the standard error estimates. As compared to the RE & FE methods, though CSD is only explained by the intercept variations, FGLS outstandingly perform in controlling the heteroscedasticity. However, by varying the cross-sectional specific standard errors, the FGLS technique can be made reliable to serial correlation, heteroscedasticity, and CSD. The consistent and reliable FGLS model is presented as:

$$B_{GLS} = \left(\acute{X}\Omega^{-1}X\right)^{-1}\acute{X}\Omega^{-1}y$$

$$Var(B_{GLS}) = \left(\acute{X}\Omega^{-1}X\right)^{-1}$$

$$\Omega = \sum\nolimits_{n*n} \Theta I_{T_i*T_i}$$

$$\sum \hat{\imath},\hat{\jmath} = \frac{\hat{\varepsilon}_i\hat{\varepsilon}_j}{T}$$

The Identity matrix (symbolized by Ω) is adjusted to take into consideration heteroscedasticity and serial correlation when calculating the βs and the standard errors. Furthermore, PCSE technique is also utilized to evaluate the empirical model.

5. RESULT AND DISCUSSION

Before estimation, diagnostics tests are essential for accurate results. This is why the modified Wald test was used in our study to look for heteroscedasticity, which happens when the error term's variance doesn't stay the same. We also employ the Wooldridge test to identify serial correlation. Serial correlation leads to inefficient estimates. The findings of both tests are presented in Table 3. Furthermore, we use the Variance Inflation Factor (VIF) test to detect multicollinearity, and Table 4 presents the results. The VIF test indicates that all the values are less than 10, suggesting no issues of multicollinearity.

Table 3. Diagnostics tests.

Test	FD	FI	FM
Modified Wald test	5121.69***	1463.59***	4194.42***
Wooldridge test	25.554***	24.144***	24.373***

Note: ***show 0.001.

Table 4. VIF test.

Financial development (FD)			Financial institution (FI)			Financial markets (FM)		
	VIF	1/VIF		VIF	1/VIF		VIF	1/VIF
FD	1.35	0.741	TI	1.02	0.981	TI	1.02	0.981
TI	1.35	0.743	FI	1.02	0.983	FI	1.02	0.983
FDI	1.02	0.981	FDI	1.01	0.994	FDI	1.01	0.994
Mean VIF		1.24		1.01			1.01	

In Table 5, columns (1) to (5) summarize the findings from DKSE, PCSE, and FGLS regressions with robust standard errors as shown in parentheses. In this model, IMF index of financial development is used. Financial development (FD) has a positive and statistically significant impact on entrepreneurship. Further, the square of financial development (FD^2) has a negative coefficient and is statistically significant at the 5% level. Thus, this study finds an inverted U-shaped relationship between FD and entrepreneurship in the sampled transitory economies. These findings support the phenomenon that at the initial stages of entrepreneurship, financial development plays a critical role.

Table 5. Impact of financial development on entrepreneurship in transitory countries.

Variable	DKSE	DKSE	DKSE	FGLS	PCSE
FD	136.6***	135.1***	200.7***	124.2***	200.7***
	-32.78	-33.21	-43.32	-40.55	-55.4
FD^2	-140.7**	-139.2**	-243.8**	-109.3*	-243.8***
	-50.39	-51.41	-64.41	-63.24	-88.13
FDI		0.0807**	0.0870*	0.0875**	0.0870**
		-0.0313	-0.0347	-0.0362	-0.0401
TI			0.884*	1.210**	0.884
			-0.407	-0.509	-0.723
Constant	6.756*	6.762*	-8.214	-0.355	-8.214
	-3.191	-3.174	-7.103	-7.183	-9.251
N	76	76	70	70	70

Note: Entrepreneurship is the dependent variable, financial development in all columns as an independent variable. N shows the number of observations. Asterisks indicates significance levels; *** for 1%, ** for 5%, and * for 10%

For robustness checks, this research expands the study's core model to include FDI and TI as control variables. Columns (2-5) report the robustness results. After including foreign direct investment and technological innovations, the core findings remain robust.

The estimates of the FE-DKSE in columns (1-3), FGLS, and PCSE in columns (4-5) indicate an inverted U-shaped link between FD, FI, FM, and entrepreneurship, respectively. Thus, the core results remain the same and statistically significant in all cases. Further, the impact of FD on entrepreneurship is positive and statistically significant. The result shows that as FDI increases, entrepreneurship goes up. Thus, FDI promotes entrepreneurship. This finding is consistent with Albulescu and Tămăşilă (2014) who found that FDI positively influenced entrepreneurship.

The recommendation from this empirical finding is that policy-makers should adopt policies that can increase FDI if entrepreneurship must be promoted. Furthermore, the relationship between technological innovations and entrepreneurship is positive and statistically significant. An increase in technological innovation promotes entrepreneurship. This study highlights that the technological advancement is a support for entrepreneur development. Technological innovation is an essential element that affects entrepreneurship. The positive aspect of technology on entrepreneurs is that it helps to lower the entry barrier and enhances opportunities entrepreneurship. Our findings are in line with literature.

Table 6. Impact of financial institutions on entrepreneurship in transitory countries.

Variable	DKSE	DKSE	DKSE	FGLS	PCSE
FI	147.8*** -12.48	146.1*** -11.19	175.8*** -22.83	157.7*** -43.32	175.8*** -32.63
FI^2	-131.2*** -6.352	-129.6*** -4.314	-162.0*** -15.79	-133.5*** -51.08	-162.0*** -38.15
FDI		0.100** -0.0308	0.110** -0.0308	0.101* -0.0598	0.110*** -0.0178
TI			1.229** -0.338	1.307** -0.644	1.229*** -0.452
Constant	-4.07 -2.75	-4.027 -2.575	-18.49** -4.662	-15.78** -7.21	-18.49*** -6.881
N	76	76	70	70	70

Note: Entrepreneurship is the dependent variable, financial institutions in all columns as an independent variable. N shows the number of observations. Asterisks indicates significance levels; *** for 1%, ** for 5%, and * for 10%

Further, we use the sub-indices of financial development (i.e., financial institutions and financial markets). In Table 6, financial intuitions and entrepreneurship are positively related, and FI^2 shows a negative association between them. There is an inverted U-shaped relationship between financial institutions and entrepreneurship. Furthermore, in Table 7, financial markets are the independent variable, and the results of the relationship between financial markets (FM) and entrepreneurship are same but insignificant. The policy recommendations are that, if the country desires to boost domestic entrepreneurship at a higher level, top priority should be set to enhance financial development quality to encourage entrepreneurship. Also, financial development serves as a significant channel through which FDI affects domestic investment (Boateng, Amponsah, & Annor Baah, 2017). Raising the financial development quality will also promote entrepreneurship by relaxing constraints facing the SMEs on finance access (Alemu & Adesina, 2017). Measures to relax constraints (such as potential workers and entrepreneurs training) for entrepreneurship are also helpful to stimulate the absorptive capacity for FDI (Brixiova, 2010).

Table 7. Impact of financial markets on entrepreneurship in transitory countries.

Variable	DKSE	DKSE	DKSE	FGLS	PCSE
FM	54.82 (31.03)	53.58 (30.52)	22.46 (41.88)	22.46 (38.91)	22.46 (17.62)
FM^2	-73.02 (65.79)	-71.14 (64.82)	-13.22 (88.96)	-13.22 (92.70)	-13.22 (37.14)
FDI		0.0940** (0.0274)	0.102*** (0.0220)	0.102 (0.0942)	0.102*** (0.0250)
TI			0.712 (0.596)	0.712 (0.746)	0.712 (0.764)
Constant	29.21*** (3.784)	28.95*** (3.905)	27.26*** (4.012)	27.26*** (4.356)	27.26*** (4.479)
N	76	76	70	70	70

Note: Entrepreneurship is the dependent variable, financial markets in all columns as an independent variable. N shows the number of observations. Asterisks indicates significance levels; *** for 1% and ** for 5%.

In comparison to this study of Šlogar, Morić Milovanović, and Hrvatin (2023) our study findings are reliable, as the study findings indicate a inverter U-shaped relationship between financial development and entrepreneurship. According to the findings of Šlogar et al. (2023) an inverted U-shaped relation does not exist, which may not be exact as financial development is a critical factor that promotes entrepreneurship. Thus, this research provides a more reliable finding, which is beneficial for policy-makers in policy making. Our findings contrast those of Gaies, Najar, Maalaoui, Kraus, and El Tarabishy (2023) who found a U-shaped relationship between financial development and entrepreneurship.

6. CONCLUSION AND POLICY RECOMMENDATIONS

Financial resources are important, especially in the early stages of entrepreneurship, and a lack of funds is commonly acknowledged as the most significant barrier for entrepreneurs. To confirm this assertion, this study investigates the effect of FD on entrepreneurship in transitory economies using data from 2014 to 2019. The Global Entrepreneurship Index, developed by the Global Entrepreneurship and Development Institute, to quantify the level of an economy's entrepreneurship, is used as a proxy for entrepreneurship, while the FD index, constructed by the IMF to capture the dimensions of financial institutions and financial markets, is used as a proxy for financial development. Further, this study also uses sub-indices of FD, namely financial institutions and financial markets. For robustness purposes, this study uses FDI and technological innovation as control variables.

The findings show that FD, FI, and FM have a positive and statistically significant impact on entrepreneurship. Furthermore, the study's main findings remained robust and significant after including FDI and technological innovation in the empirical model. Besides, the relationship between FDI, TI, and entrepreneurship is positive, implying that increasing FDI and enhancing technological innovation, will promote entrepreneurship.

This finding suggests that greater financial development in terms of more access, depth, and efficiency in financial institutions and markets will stimulate entrepreneurial activity in terms of concentration and size. Deeper, more efficient, and tolerant financial policies by institutions and markets in the economy would stimulate entrepreneurs to transform the business opportunities into actual businesses. The study's results make a strong policy suggestion: to move unstable economies toward stronger private sector growth, financial systems and institutions must grow in many ways. These are necessary to encourage people to start their own businesses. Moreover, increasing access to financing and incomes are effective ways to boost private entrepreneurship in these transitory economies. These factors will eventually have a mutually reinforcing effect that increases demand and saving, which will then spread the creation of private enterprises to meet the increased demand.

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REFERENCES

Adusei, M. (2016). Does entrepreneurship promote economic growth in Africa? *African Development Review*, *28*(2), 201-214. https://doi.org/10.1111/1467-8268.12190

Aghion, P. (2017). Entrepreneurship and growth: Lessons from an intellectual journey. *Small Business Economics*, *48*, 9-24. https://doi.org/10.1007/s11187-016-9812-z

Aghion, P., Fally, T., & Scarpetta, S. (2007). Credit constraints as a barrier to the entry and post-entry growth of firms. *Economic Policy*, *22*(52), 732-779. https://doi.org/10.1111/j.1468-0327.2007.00190.x

Ahmad, W., Abbas, Z., & Shah, Z. A. (2020). Access to finance, financial development and firm performance–evidence from Pakistan. *NICE Research Journal*, *13*(2), 49-68. https://doi.org/10.51239/nrjss.v0i0.173

Ajide, F. M., & Osinubi, T. T. (2022). Foreign aid and entrepreneurship in Africa: The role of remittances and institutional quality. *Economic Change and Restructuring*, *55*(1), 193-224. https://doi.org/10.1007/s10644-020-09305-5

Albulescu, C. T., & Tămăşilă, M. (2014). The impact of FDI on entrepreneurship in the European countries. *Procedia-Social and Behavioral Sciences*, *124*, 219-228. https://doi.org/10.1016/j.sbspro.2014.02.480

Alemu, A. E., & Adesina, J. O. (2017). In search of rural entrepreneurship: Non-farm household enterprises (NFEs) as instruments of rural transformation in Ethiopia. *African Development Review*, *29*(2), 259-271. https://doi.org/10.1111/1467-8268.12255

Allen, F., Qian, M., & Xie, J. (2019). Understanding informal financing. *Journal of Financial Intermediation*, *39*, 19-33. https://doi.org/10.1016/j.jfi.2018.06.004

Amadasun, D. O., & Mutezo, A. T. (2022). Influence of access to finance on the competitive growth of SMEs in Lesotho. *Journal of Innovation and Entrepreneurship*, *11*(1), 56. https://doi.org/10.1186/s13731-022-00244-1

Amin, A., Khan, R. U., & Maqsood, A. (2023). Financial development, entrepreneurship and financial openness: Evidence from Asia. *Journal of Economic and Administrative Sciences*, *39*(3), 671-686. https://doi.org/10.1108/jeas-05-2021-0080

Ansari Samani, H., Mahmudi, Z., & Namdari, S. (2017). The relationship between risk and foreign direct investment in selected developing countries: Dynamic panel data approach. *The Journal of Economic Studies and Policies*, *3*(2), 71-104.

Ansari Samani, H., Mirzapour, M., & Dalvandi, H. (2022). The effect of political risk on entrepreneurship: Evidence from selected countries of the world. *Journal of Innovation Ecosystem*, *2*(3), 63-86.

Arshed, N., & Kalim, R. (2021). Exploration of the equilibrium level of Musharaka financing in full-fledged Islamic banks. *Journal of Islamic Accounting and Business Research*, *12*(3), 340-361. https://doi.org/10.1108/jiabr-02-2020-0048

Assmann, D., & Ehrl, P. (2021). Individualistic culture and entrepreneurial opportunities. *Journal of Economic Behavior & Organization*, *188*, 1248-1268. https://doi.org/10.1016/j.jebo.2021.06.035

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2011). Small vs. young firms across the world: Contribution to employment, job creation, and growth. *World Bank Policy Research Working Paper*, No. 5631.

Ayyagari, M., & Kosová, R. (2010). Does FDI facilitate domestic entry? Evidence from the Czech Republic. *Review of International Economics*, *18*(1), 14-29. https://doi.org/10.1111/j.1467-9396.2009.00854.x

Balachandran, V., & Sakthivelan, M. S. (2013). Impact of information technology on entrepreneurship (e-entrepreneurship). *Journal of Business Management & Social Sciences Research*, *2*(2), 51-56.

Baumol, W. J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of Business Venturing*, *11*(1), 3-22. https://doi.org/10.1016/0883-9026(94)00014-x

Bianchi, M. (2010). Credit constraints, entrepreneurial talent, and economic development. *Small Business Economics*, *34*, 93-104. https://doi.org/10.1007/s11187-009-9197-3

Bilir, L. K., Chor, D., & Manova, K. (2019). Host-country financial development and multinational activity. *European Economic Review*, *115*, 192-220. https://doi.org/10.1016/j.euroecorev.2019.02.008

Boateng, E., Amponsah, M., & Annor Baah, C. (2017). Complementarity effect of financial development and FDI on investment in Sub-Saharan Africa: A panel data analysis. *African Development Review*, *29*(2), 305-318. https://doi.org/10.1111/1467-8268.12258

Brixiova, Z. (2010). Unlocking productive entrepreneurship in Africa's least developed countries. *African Development Review*, *22*(3), 440-451. https://doi.org/10.1111/j.1467-8268.2010.00255.x

Carree, M. A., & Thurik, A. R. (2010). *The impact of entrepreneurship on economic growth*: Springer. https://doi.org/10.1007/978-1-4419-1191-9_20

Caves, R. E. (1996). *Multinational enterprise and economic analysis*. Cambridge: Cambridge University Press.

Christiansen, H. (2002). *Foreign direct investment for development: Maximising bebefits, minimising costs*. Paris, France: OECD.

De Backer, K., & Sleuwaegen, L. (2003). Does foreign direct investment crowd out domestic entrepreneurship? *Review of Industrial Organization*, *22*(1), 67-84. https://doi.org/10.1023/A:1022180317898

De Maeseneire, W., & Claeys, T. (2012). SMEs, foreign direct investment and financial constraints: The case of Belgium. *International Business Review*, *21*(3), 408-424. https://doi.org/10.1016/j.ibusrev.2011.03.004

De Melo, M., Cevdet, D., & Gelb, A. (1996). Patterns of transition from plan to market. *The World Bank Economic Review*, *10*(3), 397–424. http://www.jstor.org/stable/3990052

Dehejia, R., & Gupta, N. (2022). Financial development and micro-entrepreneurship. *Journal of Financial and Quantitative Analysis*, *57*(5), 1834-1861. https://doi.org/10.1017/S0022109021000569

Doytch, N. (2012). FDI and entrepreneurship in developing countries. *GSTF Business Review*, *1*(3), 120.

Driscoll, J. C., & Kraay, A. C. (1998). Consistent covariance matrix estimation with spatially dependent panel data. *Review of Economics and Statistics*, *80*(4), 549–560. https://doi.org/10.1162/003465398557825

Dutta, N., & Meierrieks, D. (2021). Financial development and entrepreneurship. *International Review of Economics & Finance*, *73*, 114-126. https://doi.org/10.1016/j.iref.2021.01.002

Ehigiamusoe, K. U., & Samsurijan, M. S. (2021). What matters for finance-growth nexus? A critical survey of macroeconomic stability, institutions, financial and economic development. *International Journal of Finance & Economics*, *26*(4), 5302-5320. https://doi.org/10.1002/ijfe.2066

Fasano, F., La Rocca, M., La Rocca, T., & Marozzo, V. (2020). Does financial institution proximity affect the development of entrepreneurship? In *Entrepreneurship-Contemporary Issues* (pp. 131): IntechOpen.

Fatoki, O., & Asah, F. (2011). The impact of firm and entrepreneurial characteristics on access to debt finance by SMEs in King Williams' town, South Africa. *International Journal of Business and Management*, *6*(8), 170-179. https://doi.org/10.5539/ijbm.v6n8p170

Fritsch, M. (2008). How does new business formation affect regional development? Introduction to the special issue. *Small Business Economics*, *30*, 1-14.

Fu, X. (2012). Foreign direct investment and managerial knowledge spillovers through the diffusion of management practices. *Journal of Management Studies*, *49*(5), 970-999. https://doi.org/10.1111/j.1467-6486.2011.01036.x

Gaies, B., Najar, D., Maalaoui, A., Kraus, S., & El Tarabishy, A. (2023). Does financial development really spur nascent entrepreneurship in Europe?—A panel data analysis. *Journal of Small Business Management*, *61*(6), 2440-2487. https://doi.org/10.1080/00472778.2021.1896722

García-Lopera, F., Santos-Jaén, J. M., Palacios-Manzano, M., & Ruiz-Palomo, D. (2022). Exploring the effect of professionalization, risk-taking and technological innovation on business performance. *Plos One*, *17*(2), e0263694. https://doi.org/10.1371/journal.pone.0263694

GEDI. (2019). *The global entrepreneurship index (GEI). Global Entrepreneurship and Development Institute (GEDI)*. Retrieved from https://thegedi.org/datasets/

Ghosh, A. (2022). Banking sector openness and entrepreneurship. *Journal of Financial Economic Policy*, *14*(1), 1-23. https://doi.org/10.1108/JFEP-03-2020-0042

Gurkov, I. (2015). Transition economy. In Wiley Encyclopedia of Management (eds C.L. Cooper, M. Vodosek, D.N. Hartog and J.M. McNett). https://doi.org/10.1002/9781118785317.weom060204

Hameli, A., Kampouris, I., Machaal, A. K., & Mertzanis, C. (2021). Financial development, institutions, gender and entrepreneurship in the United Arab Emirates. *Asian Journal of Empirical Research*, *11*(2), 11-22. https://doi.org/10.18488/journal.1007.2021.112.11.22

Hassan, M. S., & Kalim, R. (2017). Stock market and banking sector. *Pakistan Economic and Social Review*, *55*(1), 1-30.

Hejazi, W., & Safarian, A. E. (1999). Trade, foreign direct investment, and R&D spillovers. *Journal of International Business Studies*, *30*, 491-511. https://doi.org/10.1057/palgrave.jibs.8490080

Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The Stata Journal*, *7*(3), 281-312. https://doi.org/10.1177/1536867X0700700301

Hussain, M. F., Afzal, A., Asif, M., Ahmad, N., & Bilal, R. M. (2011). Impact of innovation, technology and economic growth on entrepreneurship. *American International Journal of Contemporary Research*, *1*(1), 45-51.

IMF. (2022). *Financial development index-international monetary fund.* Retrieved from https://data.imf.org/?sk=f8032e80-b36c-43b1-ac26-493c5b1cd33b

Javorcik, B. S. (2004). Does foreign direct investment increase the productivity of domestic firms? In search of spillovers through backward linkages. *American Economic Review*, *94*(3), 605-627. https://doi.org/10.1257/0002828041464605

Juliana, N. O., Hui, H. J., Clement, M., Solomon, E. N., & Elvis, O. K. (2021). The impact of creativity and innovation on entrepreneurship development: Evidence from Nigeria. *Open Journal of Business and Management*, *9*(4), 1743-1770. https://doi.org/10.4236/ojbm.2021.94095

Kantis, H. D., Federico, J. S., & García, S. I. (2020). Entrepreneurship policy and systemic conditions: Evidence-based implications and recommendations for emerging countries. *Socio-Economic Planning Sciences*, *72*, 100872. https://doi.org/10.1016/j.seps.2020.100872

Kar, M., & Özşahin, Ş. (2016). Role of financial development on entrepreneurship in the emerging market economies. *Eskişehir Osmangazi Üniversitesi İibf Dergisi*, *11*(3), 131-152. https://doi.org/10.17153/oguiibf.272723

Kim, P. H., & Li, M. (2014). Injecting demand through spillovers: Foreign direct investment, domestic socio-political conditions, and host-country entrepreneurial activity. *Journal of Business Venturing*, *29*(2), 210-231. https://doi.org/10.1016/j.jbusvent.2012.10.004

Klapper, L., Laeven, L., & Rajan, R. (2006). Entry regulation as a barrier to entrepreneurship. *Journal of Financial Economics*, *82*(3), 591-629. https://doi.org/10.1016/j.jfineco.2005.09.006

Klapper, L. F., & Love, I. (2011). Entrepreneurship and development: The role of information asymmetries. *The World Bank Economic Review*, *25*(3), 448-455. https://doi.org/10.1093/wber/lhr044

Korsgaard, S., & Anderson, A. R. (2011). Enacting entrepreneurship as social value creation. *International Small Business Journal*, *29*(2), 135-151. https://doi.org/10.1177/0266242610391936

Lawal, F. A., Iyiola, O. O., & Adegbuyi, O. A. (2018). Exploring alternative financing for entrepreneurship development in Nigeria: Surmounting challenges. *Journal of Entrepreneurship Education*, *21*(2), 1-11.

Li, T. (2021). Institutional environments and entrepreneurial start-ups: An international study. *Management Decision*, *59*(8), 1929-1953. https://doi.org/10.1108/MD-01-2020-0031

Liu, X., Siler, P., Wang, C., & Wei, Y. (2000). Productivity spillovers from foreign direct investment: Evidence from UK industry level panel data. *Journal of International Business Studies*, *31*(3), 407-425. https://doi.org/10.1057/palgrave.jibs.8490914

Liu, Z., Wu, H., & Wu, J. (2019). Location-based tax incentives and entrepreneurial activities: Evidence from Western Regional development strategy in China. *Small Business Economics*, *52*, 729-742. https://doi.org/10.1007/s11187-017-9982-3

MacDougall, G. (1960). The benefits and costs of private investment from abroad: A theoretical approach. *Economic Record*, *36*(73), 13–35. https://doi.org/10.1111/j.1475-4932.1960.tb00491.x

Meyer, K. E. (2004). Perspectives on multinational enterprises in emerging economies. *Journal of International Business Studies*, *35*(4), 259-276. https://doi.org/10.1057/palgrave.jibs.8400084

Meyer, K. E., & Sinani, E. (2009). When and where does foreign direct investment generate positive spillovers? A meta-analysis. *Journal of International Business Studies*, *40*(7), 1075-1094. https://doi.org/10.1057/jibs.2008.111

Mills, R. (2019). Effects of government reform and creative clusters on Chinese entrepreneurship.

Munemo, J. (2018). Entrepreneurial success in Africa: How relevant are foreign direct investment and financial development? *African Development Review*, *30*(4), 372-385. https://doi.org/10.1111/1467-8268.12345

Naudé, W. (2010). Promoting entrepreneurship in developing countries: Policy challenges. UNU-WIDER Policy Brief, No. 4. *United Nations University World Institute for Development Economics Research.*

Nazir, M. R., Tan, Y., & Nazir, M. I. (2021). Financial innovation and economic growth: Empirical evidence from China, India and Pakistan. *International Journal of Finance & Economics*, *26*(4), 6036-6059. https://doi.org/10.1002/ijfe.2107

Omri, A., & Ayadi-Frikha, M. (2014). Constructing a mediational model of small business growth. *International Entrepreneurship and Management Journal*, *10*, 319-342.

Omri, A., Frikha, M. A., & Bouraoui, M. A. (2015). An empirical investigation of factors affecting small business success. *Journal of Management Development*, *34*(9), 1073-1093. https://doi.org/10.1108/JMD-07-2013-0088

Pan, F., & Yang, B. (2019). Financial development and the geographies of startup cities: Evidence from China. *Small Business Economics*, *52*, 743-758. https://doi.org/10.1007/s11187-017-9983-2

Pandey, D. K., Pandey, M., Shrivastava, A. K., & Soni, K. (2021). A study to determine impact of technological changes on entrepreneurs. *Academy of Entrepreneurship Journal*, *27*, 1-9.

Patrick, H. T. (1966). Financial development and economic growth in underdeveloped countries. *Economic Development and Cultural Change*, *14*(2), 174-189. https://doi.org/10.1086/450153

Peprah, A. A., & Adekoya, A. F. (2020). Entrepreneurship and economic growth in developing countries: Evidence from Africa. *Business Strategy & Development*, *3*(3), 388-394. https://doi.org/10.1002/bsd2.104

Pitelis, C. N., & Teece, D. J. (2010). Cross-border market co-creation, dynamic capabilities and the entrepreneurial theory of the multinational enterprise. *Industrial and Corporate Change*, *19*(4), 1247-1270. https://doi.org/10.1093/icc/dtq030

Samadi, A. H. (2019). Institutions and entrepreneurship: Unidirectional or bidirectional causality? *Journal of Global Entrepreneurship Research*, *9*(1), 3. https://doi.org/10.1186/s40497-018-0129-z

Schumpeter, J. A. (1912). The theory of economic development, tenth printing 2004. *Transaction Publishers, New Brun swick, New Jersey*, *117*, 118.

Schumpeter, J. A. (1934). The theory of economic development. Oxford: Oxford University Press.

Šlogar, H., Morić Milovanović, B., & Hrvatin, S. (2023). Does the relationship between entrepreneurial orientation and subjective financial firm performance have an inverted U-shape? Evidence from Southeast European SMEs. *Administrative Sciences*, *13*(2), 26. https://doi.org/10.3390/admsci13020026

Sohail, H., & Arshed, N. (2024). The potential of Islamic financing in making financial development more entrepreneurship friendly. *Journal of Islamic Accounting and Business Research*. https://doi.org/10.1108/jiabr-07-2023-0206

Sonita, E., Miswardi, M., & Nasfi, N. (2021). The role of Islamic higher education in improving sustainable economic development through Islamic entrepreneurial university. *International Journal of Social and Management Studies*, *2*(2), 42-55.

Tirupati, D. (2008). Role of technological innovations for competitiveness and entrepreneurship. *The Journal of Entrepreneurship*, *17*(2), 103-115. https://doi.org/10.1177/097135570801700201

Urbano, D., Audretsch, D., Aparicio, S., & Noguera, M. (2020). Does entrepreneurial activity matter for economic growth in developing countries? The role of the institutional environment. *International Entrepreneurship and Management Journal*, *16*(3), 1065-1099. https://doi.org/10.1007/s11365-019-00621-5

Van Dong, V., Ghi, T. N., & Thu, N. Q. (2023). The impact of technological innovation on business model innovation and start-up performance. *Journal of Human, Earth, and Future*, *4*(3), 257-273. https://doi.org/10.28991/hef-2023-04-03-01

WDI. (2022). *World development indicators-world-bank*. Retrieved from https://databank.worldbank.org/source/world-development-indicators#

Wong, P. K., Ho, Y. P., & Autio, E. (2005). Entrepreneurship, innovation and economic growth: Evidence from GEM data. *Small Business Economics*, *24*, 335-350. https://doi.org/10.1007/s11187-005-2000-1

Wujung, V. A., & Fonchamnyo, D. C. (2016). The role of financial development on private entrepreneurship in Cameroon. *Journal of Economics and Sustainable Development*, *7*(21), 118-124.